Koleksi Soalan Kertas 1
2009, 2010, 2011 & 2012

- SM Sains Kuala Selangor
- Kelantan
- Melaka
- MRSM
- Negeri Sembilan
- Pahang
- Pulau Pinang
- Perak
- SBP
- Perlis
- Selangor
- Sarawak
- Terengganu
- Wilayah Persekutuan
- Sabah
- Johor
- Kedah

Nama: ……

Tingkatan: ……

N 9 09

1 Diagram 1 shows a hazardous symbol on a chemical bottle.

Rajah 1 menunjukkan satu simbol keselamatan pada botol bahan kimia

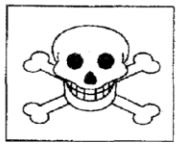

Diagram 1 / *Rajah 1*

Which of the following represent the symbol shows in Diagram 1?

Antara berikut, yang manakah mewakili simbol dalam Rajah 1?

A Poisonous
Beracun

B Irritating
Merengsa

C Corrosive
Mengkakis

D Flammable
Mudah terbakar

2 Diagram 2 shows a plant cell.

Rajah 2 menunjukkan sel tumbuhan.

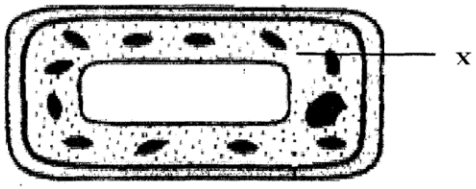

Diagram 2 / *Rajah 2*

What is the function of **X**?

Apakah fungsi **X**?

A Control the movement of materials in and out of cells
Mengawal pergerakan bahan keluar dan masuk daripada sel

B Support and gives shape to the cells
Menyokong dan memberi bentuk kepada sel

C Stores dissolve materials
Menyimpan bahan terlarut

D Control all cellular activities
Mengawal semua aktiviti sel

3 The following are informations about a system in human.

Maklumat berikut adalah mengenai satu sistem dalam manusia.

- It made up of brain and spinal cord
  Terbina daripada otak dan saraf tunjang
- Controls and coordinate bodies activities
  Mengawal dan mengkoordinasi aktiviti badan

Which of the following systems described the above statements?

Antara sistem berikut, yang manakah menerangkan pernyataan di atas?

A Nervous system
Sistem saraf

B Muscular system
Sistem otot

C Respiratory system
Sistem respirasi

D Digestive system
Sistem pencernaan

4 Diagram 3 shows examples of organisms.

Rajah 3 menunjukkan contoh-contoh organisma.

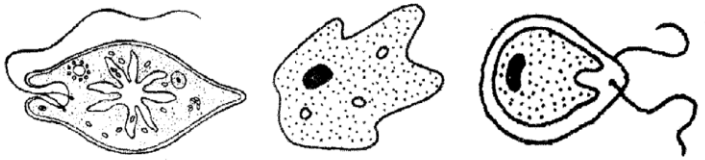

Diagram 3 / *Rajah 3*

Which of the following organism carry out photosynthesis?

Antara berikut, yang manakah menjalankan fotosintesis?

A P and Q only
P *dan* Q *sahaja*

B P and R only
P *dan* R *sahaja*

C Q and R only
Q *dan* R *sahaja*

D P, Q and R
P, Q *dan* R

5 Diagram 4 shows the measuring of mass and volume of a marble.

Rajah 4 menunjukkan pengukuran jisim dan isipadu sebiji guli.

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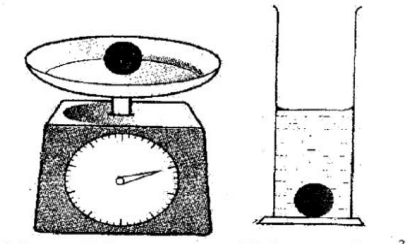


Mass = 2.0 g
Jisim = 2.0 g

Volume = 5 cm^3
Isipadu = 5 cm^3

Diagram 4 / *Rajah 4*

What is the density of the marble?

Apakah ketumpatan guli itu?

A 0.3 g cm^{-3}

B 0.4 g cm^{-3}

C 2.5 g cm^{-3}

D 10.0 g cm^{-3}

6 Diagram 5 shows a method of separation of a mixture.

Rajah 5 menunjukkan satu kaedah pengasingan sejenis campuran.

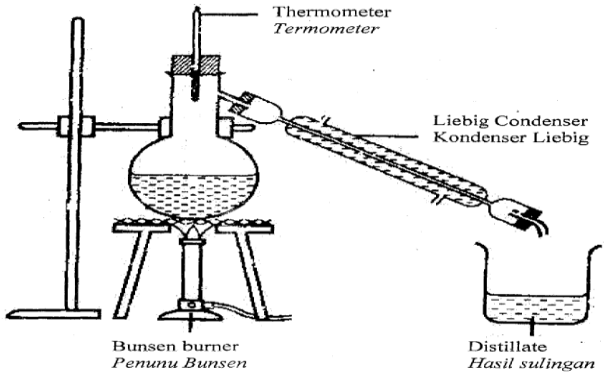


Diagram 5 / *Rajah 5*

What is the function of this method?

Apakah fungsi kaedah ini?

A To separate a mixture of solid and liquid

Untuk mengasingkan campuran pepejal dan cecair

B To separate a mixture of liquid that does not mix.

Untuk mengasingkan satu campuran cecair yang tidak bercampur

C To obtain dissolve substance from water

Untuk mendapatkan bahan terlarut daripada air

D To obtain pure water from a mixture

Untuk mendapatkan air tulen daripada satu campuran

7 What is the importance of fossil fuels?

Apakah kepentingan bahan api fosil?

A As a medium for chemical reaction and metabolism to take place

Sebagai medium untuk tindakbalas kimia dan metabolisma berlaku

B To provide energy for domestic use, factories, vehicles and power stations to generate electricity.

Untuk membekalkan tenaga bagi kegunaan domestik, kilang, kenderaan dan stesen janakuasa elektrik

C As a habitat for many types of living organism

Sebagai habitat pelbagai jenis organisma hidup

D Needed for the healthy growth of man, animals and plants

Diperlukan untuk pertumbuhan yang sihat bagi manusia, haiwan dan tumbuhan

8 Table 1 shows the observation of an experiment to study the effect of a gas on a glowing and burning splinter.

Jadual 1 menunjukkan pemerhatian bagi satu eksperimen untuk mengkaji kesan sejenis gas ke atas kayu uji berbara dan kayu uji menyala.

Glowing splinter ***Kayu uji berbara***	Relights glowing splinter *Kayu uji berbara akan menyala*
Burning splinter ***Kayu uji menyala***	Burning splinter burns brightly *Kayu uji menyala terbakar dengan terang*

Table 1 / *Jadual 1*

Which of the following gas causes this observation?

Antara berikut, gas manakah yang menyebabkan pemerhatian tersebut?

A Oxygen

Oksigen

B Nitrogen

Nitrogen

C Carbon dioxide

Karbon dioksida

D Hydrogen

Hidrogen

9 Which of the following action causes air pollution?

Antara berikut, tindakan manakah menyebabkan pencemaran udara?

A Education

Pendidikan

N 9 09

B Control deforestation

Mengawal penebangan hutan

C Legislation

Perundangan

D Industrialization

Perindustrian

10 Diagram 6 shows a simple pendulum is swinging.

Rajah 6 menujukkan bandul ringkas yang sedang berayun.

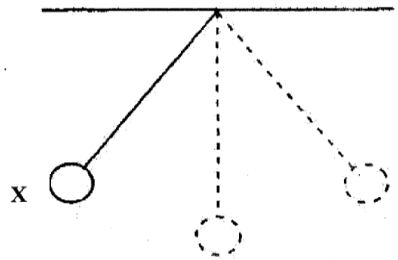


Diagram 6 / *Rajah 6*

Which of the following is **correct** about potential energy and kinetic energy at position **X**?

*Antara berikut, yang manakah **betul** mengenai tenaga keupayaan dan tenaga kinetik pada kedudukan **X**?*

	Potential Energy *Tenaga keupayaan*	**Kinetic Energy** *Tenaga kinetik*
A	Minimum *Minima*	Minimum *Minima*
B	Minimum *Minima*	Maximum *Maksima*
C	Maximum *Maksima*	Minimum *Minima*
D	Maximum *Maksima*	Maximum *Maksima*

11 Diagram 7 shows an experiment to study heat transfer in a solid.

Rajah 7 menunjukkan satu eksperimen untuk mengkaji pemindahan haba di dalam pepejal.

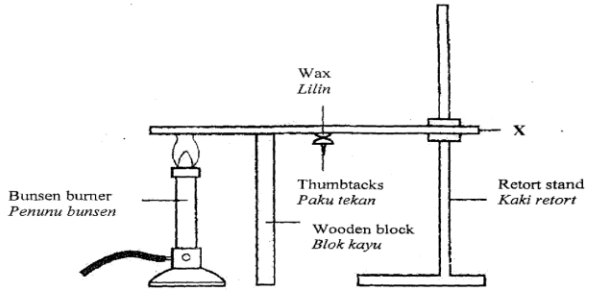


Diagram 7 / *Rajah 7*

Which of the following represent X that causes the thumbtack to drop faster?

*Antara yang berikut, manakah mewakili **X** yang menyebabkan paku tekan jatuh lebih cepat?*

A Copper

Kuprum

B Plastic

Plastik

C Glass

Kaca

D Wood

Kayu

12 Which of the following explain why the reading of a thermometer increases?

Antara berikut yang manakah menerangkan mengapa bacaan termometer meningkat?

A The mercury expands

Merkuri mengembang

B The bulb absorbs heat

Bebuli menyerap haba

C The thermometer tube expands

Tiub termometer mengembang

D The bulb contracts

Bebuli mengecut

13 Which of the following explained why an oil tanker is painted silver?

Antara berikut, yang manakah menerangkan mengapa lori tangki minyak dicat warna perak?

A A poor filter of cosmic rays

Penapis sinaran kosmik yang lemah

B A poor absorption of heat

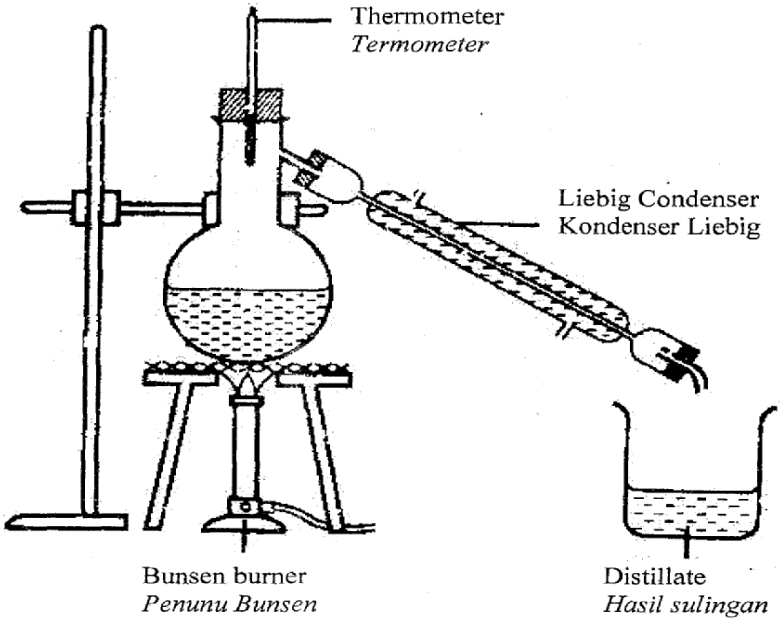
Penyerap haba yang lemah

C A good conductor of heat

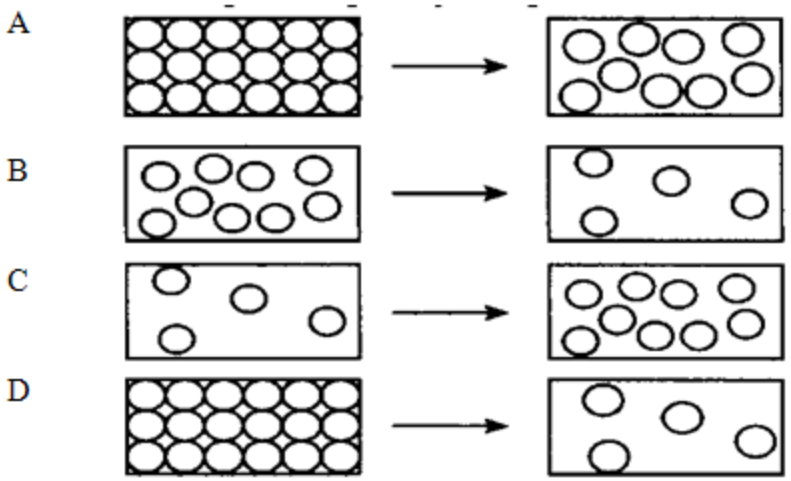
Pengalir haba yang baik

D A good reflector of heat

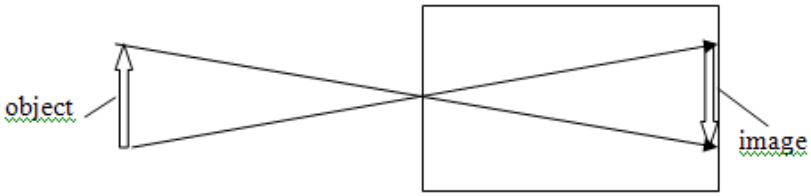
Pemantul haba yang baik



9. Which of the following A, B, C or D represents the process of sublimation?
Antara berikut, A, B, C dan D yang manakah mewakili proses pemejalwapan?

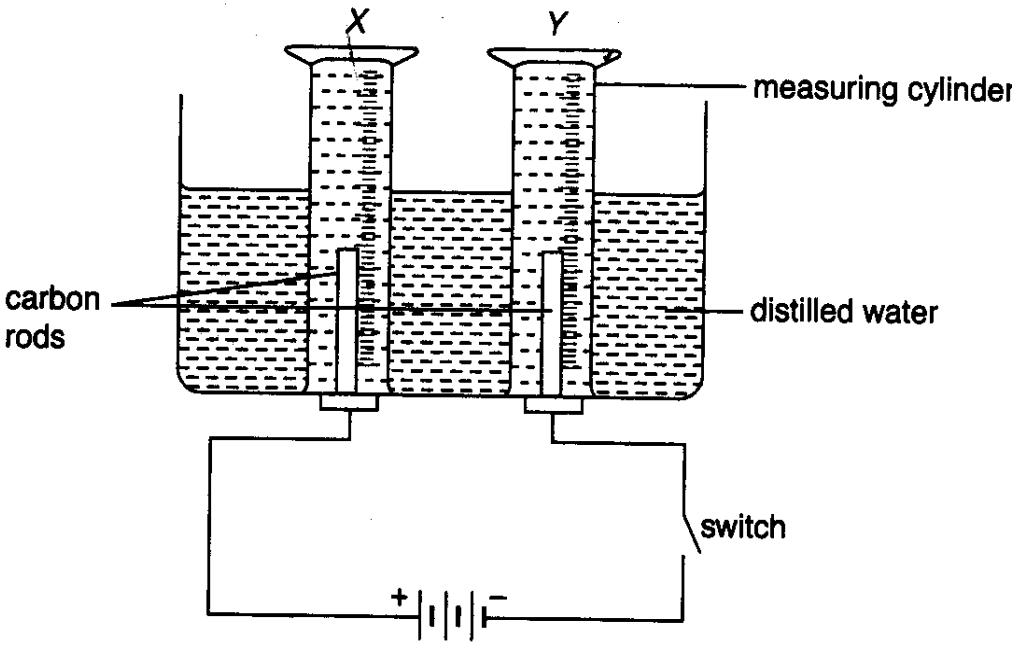


22. Diagram shows a pinhole camera
Rajah menunjukkan sebuah kamera lubang jarum



What happens to the image if the distance of the object is decreased?
Apakah yang berlaku pada imej jika jarak objek dikurangkan?

A Become smaller
Semakin kecil
B Become bigger
Semakin besar
C Nothing happens
Tiada perubahan
D Upright
Menegak



Kelantan 09

1.Diagram 1 shows a measuring tool
Rajah 1 menunjukkan satu alat ukuran

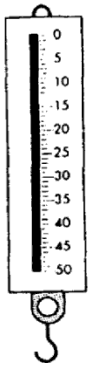


Diagram 1
Rajah 1

What is the use of this tool ?
Apakah kegunaan alat itu ?

A. Measure the mass of an object.
Mengukur jisim sesuatu objek

B. Measure the weight of an object
Mengukur berat sesuatu objek

C. Measure the area of an object.
Mengukur luas sesuatu objek

D. Measure the length of an object
Mengukur panjang sesuatu objek

2. Which is a unicellular organism?
Yang manakah organisma unisel?

A

C

B

D

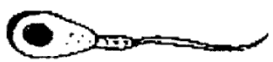
3. The informations shows various stages of a structural organisation of cells in the human body.
Maklumat menunjukkan peringkat struktur organisasi sel dalam tubuh manusia.

P	→	Tissue *Tisu*	→	Organ *Organ*	→	System *Sistem*	→	Organism *Organisma*

Which of the diagram below represents P ?
Antara rajah berikut yang manakah mewakili P?

A

C



B

D

4. Table 1 shows four types of materials with different masses and volumes at temperature 20^0C
Jadual 1 menunjukkan empat jenis bahan yang mempunyai jisim dan isipadu yang berlainan pada suhu 20^0C

$$\text{Density (g/cm}^3\text{)} = \frac{\text{Mass (g)}}{\text{Volume (cm}^3\text{)}}$$

Material *Bahan*	Mass(g) *Jisim*	Volume(cm^3) *Isipadu*
Aluminium *Aluminium*	135	50
Copper *Kuprum*	450	50
Iron *Besi*	395	50
Gold *Emas*	965	50

Which arrangement of the materials is in ascending order according to their densitie
Susunan bahan manakah adalah mengikut ketumpatan menaik

A Gold, Copper, Iron, Aluminium
Emas, Kuprum, Besi, Aluminium
B Iron, Copper, Gold, Aluminium
Besi, Kuprum, Emas, aluminium
C Copper, Aluminium, Iron, Gold
Kuprum, Aluminium, Besi, Emas
D Aluminium, Iron, Copper, Gold
Aluminium, besi, kuprum, emas

5. Diagram 2 shows a process to separate a substance from its mixture
Rajah 2 menunjukkan proses untuk memisahkan bahan dari campurannya

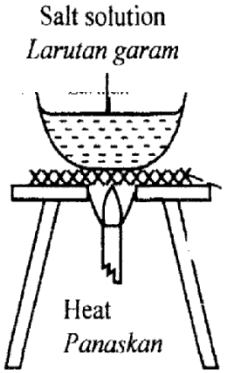


Diagram 2
Rajah 2

What is the method used?
Apakah kaedah yang digunakan.

A Filtration.
Penurasan

C. Distillation
Penyulingan

B Evaporation.
Penyejatan

D. Crystallization
Penghabluran

6. The information below shows the effect of increasing carbon dioxide in the atmosphere
Maklumat dibawah menunjukkan kesan peningkatan karbon dioksida dalam atmosfera

- Increase of Earth temperature
  Pertambahan suhu bumi
- Global warming
  Pemanasan global

What is the phenomenon called ?
Apakah nama fenomenon itu?

A Haze.
Jerebu

C. Green house effect
Kesan rumah hijau

B Acid rain
Hujan asid

D. Ultraviolet radiation
Radiasi ultra ungu

Kelantan 09

7. Diagram 3 shows a lighted candle under different size of beaker.
Rajah 3 menununjukkan sebatang lilin diletakkan dibawah bikar berlainan saiz

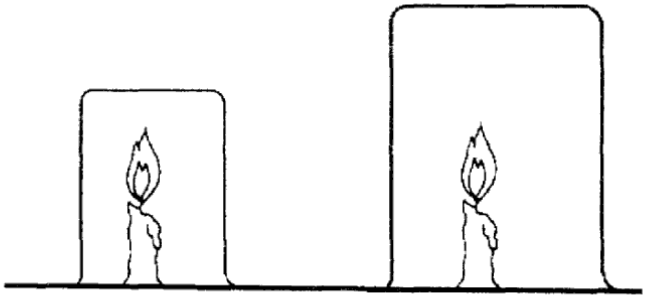


Diagram 3
Rajah 3

Which inference is **true?**
*Inferens yang manakah **benar***

A. Candle under beaker P extinguishes first
Lilin di bawah bikar P padam dahulu

B. Water droplet forms on the inner wall of the beaker
Titisan air terbentuk pada dinding dalam bikar

C. Combustion of candle releases carbon dioxide
Pembakaran petrol membebaskan karbon dioksida

D. Combustion of candle requires oxygen
Pembakaran lilin memerlukan oksigen

8. Different between candle in Beaker P and Beaker Q after 20 minutes.

9. Perbezaan antara logam S dan logam P

Kelantan 09

8. The word equation below represents cell respiration.
Persamaan perkataan di bawah mewakili respirasi sel

Glucose + *P* → water + *Q* + energy *Glukosa* + *P* → *air* + *Q* + *tenaga*

. What are the percentages of gases P and Q in the atmosphere?
Apakah peratus gas P dan Q dalam atmosfera?

	P	*Q*
A	78 %	21 %
B	21 %	0.03 %
C	16 %	4 %
D	21 %	4 %

9. Diagram 4 shows a lighted candle
Rajah 4 menunjukkan lilin menyala

Diagram 4
Rajah 4

What is the change of energy?
Apakah perubahan tenaga yang berlaku?

A	Light energy → nuclear energy + heat energy *Tenaga cahaya* *tenaga nuklear* + *tenaga haba*
B	Chemical energy → heat energy + light energy *Tenaga kimia* → *tenaga haba* + *tenaga cahaya*
C	Potential energy → kinetic energy → heat energy *Tenaga keupayaan* → *tenaga kinetik* → *tenaga cahaya*
D	Chemical energy → electrical energy → potential energy *Tenaga kimia* → *tenaga elektrik* → *tenaga keupayaan*

10. Diagram 5 shows a heated bimetallic strips.
Rajah 5 menunjukkan jalur dwilogam yang di panaskan

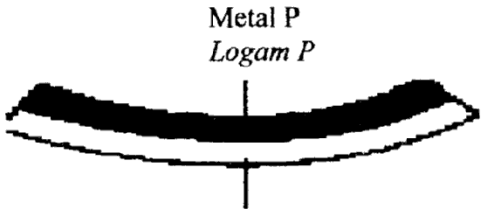


Diagram 5
Rajah 5

Which appliance uses the principle of expansion of the metals above?
Alatan manakah menggunakan prinsip pengembangan logam di atas?

A Fire alarm
Penggera kebakaran

B Alarm clock
Jam penggera

C. Door bell
Loceng pintu

D. Electric crane
Kren elektrik

11. Which solution is used to test for the presence of glucose?
Larutan manakah digunakan untuk menguji kehadiran glukosa?

A Salt solution
Larutan garam

B Millon's reagent
Reagen Millon

C. Iodine solution
Larutan Iodin

D. Benedict's solution
Larutan Benedict

SBP 09

1. Diagram 1 shows a hazard symbol.

Diagram 1

Which of the following substances is labelled with the symbol?

A Ethanol
B Mercury
C Ammonium solution
D Concentrated sulphuric acid

2. Diagram 2 shows the sequence of cell organisation in humans.

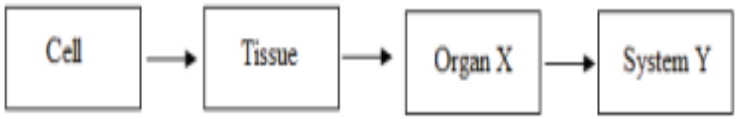


Diagram 2

Which pair of organ X and system Y is matched correctly?

	Organ X	System Y
A	Eye	Nervous
B	Lung	Respiratory
C	Liver	Skeletal
D	Kidney	Digestive

3. Diagram 3 shows the comparisons of mass among solid P, Q and R of the same volume.

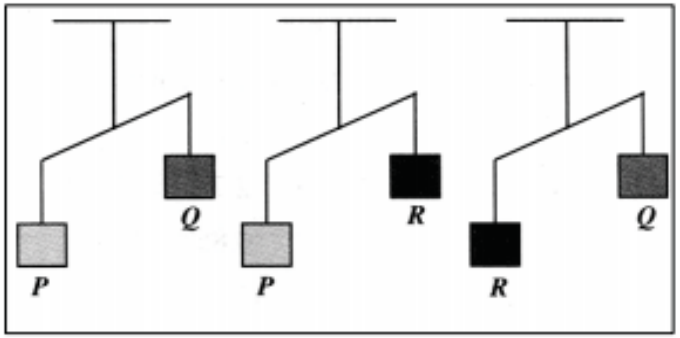
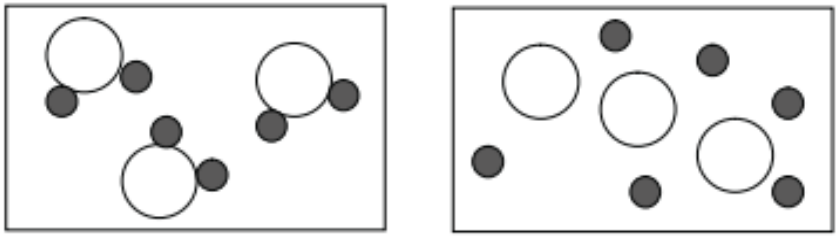


Diagram 3

Which of the following shows the arrangement of the densities of solids in increasing order?

A P, Q, R
B P, R, Q
C Q, P, R
D Q, R, P

4. Diagram 4 shows the particles of material M and material N.



M N

Diagram 4

Which of the following material is true about material M and material N?

	M	N
A	Orange juice	Gold
B	Gold	Sea water
C	Carbon dioxide	Sea water
D	Orange Juice	Carbon dioxide

SBP 09

5. Diagram 5 shows a pie chart that represents the composition of air in the atmosphere.

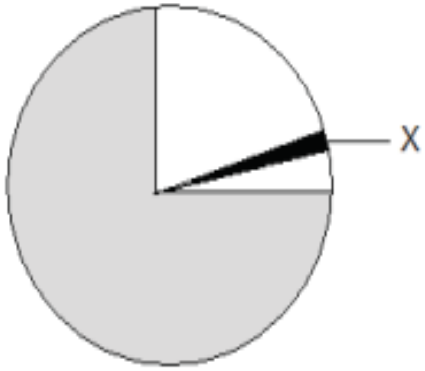


Diagram 5

Which of the following is true about gas X?

A Slightly soluble in water
B Turns lime water cloudy
C Soluble in alkaline pyrogallol solution
D Support combustion but does not burn

6. The information below shows the characteristics of energy.

- Can be radiated
- Can travel through a metal
- Can travel through a vacuum

Which form of energy has the characteristics shown above?

A Sound energy
B Heat energy
C Light energy
D Chemical energy

7. Diagram 6 shows a bimetallic strip being heated.

Diagram 6

Why would the bimetallic strip bend when it is heated?

A Metal Y is hotter than metal X
B Metal X expands more than metal Y
C The size of atoms increases more in metal X than that of metal Y
D The kinetic energy of the atoms in metal Y increases more than that of metal X

Perlis 09

1 Diagram 1 shows a measuring cylinder filled with sodium chloride solution.
Rajah 1 menunjukkan silinder penyukat yang berisi larutan sodium klorida.

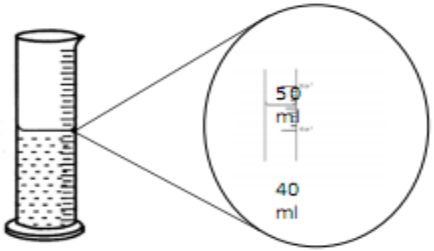


Diagram 1
Rajah 1

State the correct measurement shown in Diagram 1.
Nyatakan bacaan yang betul yang ditunjukkan dalam Rajah 1.

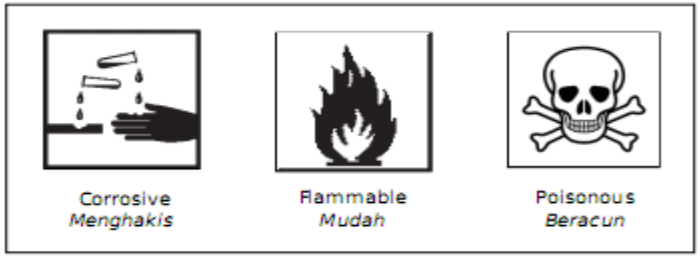
A 44 ml

B 45 ml

C 46 ml

D 47 ml

2 Diagram 2 shows some hazard warning symbols.
Rajah 2 menunjukkan simbol-simbol tanda amaran bahaya.



Corrosive
Menghakis

Flammable
Mudah

Poisonous
Beracun

Which of these symbols are **correctly** matched?
*Manakah antara symbol berikut adalah padanan yang **betul**?*

	Corrosive ***Menghakis***	**Flammable** ***Mudah Terbakar***	**Poisonous** ***Beracun***
A	Ethanol *Etanol*	Concentrated sulphuric acid *Asid sifurik pekat*	Mercury *Merkuri*
B	Concentrated sulphuric acid *Asid sifurik pekat*	Mercury *Merkuri*	Ethanol *Etanol*
C	Concentrated sulphuric acid *Asid sifurik pekat*	Ethanol *Etanol*	Mercury *Merkuri*
D	Mercury *Merkuri*	Concentrated sulphuric acid *Asid sifurik pekat*	Ethanol *Etanol*

3 Diagram 3 shows a plant cell.
Rajah 3 menunjukkan sel tumbuhan.

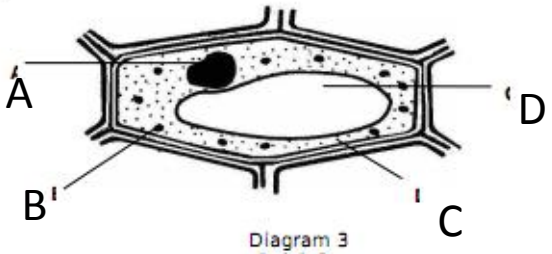


Diagram 3
Rajah 3

Which of the structure **A**,**B**, **C** or **D** contain chlorophyll?
*Manakah antara struktur **A**, **B**, **C** atau **D** mengandungi klorofil?*

4 Why does ice float on the lake surface during winter?
Mengapakah ais timbul pada permukaan tasik pada musim sejuk?

A Ice is less dense than water
Ais kurang tumpat daripada air

B Water changes its form from liquid to solid
Air berubah keadaannya daripada cecair ke pepejal

C The volume of ice decreases when water freezes into ice
Isipadu air berkurangan apabila air membeku kepada ais

D The distance between the water molecules become closer
Jarak antara molekul air semakin rapat

5 Diagram 4 shows a classification of matter.
Rajah 4 menunjukkan pengelasan jirim.

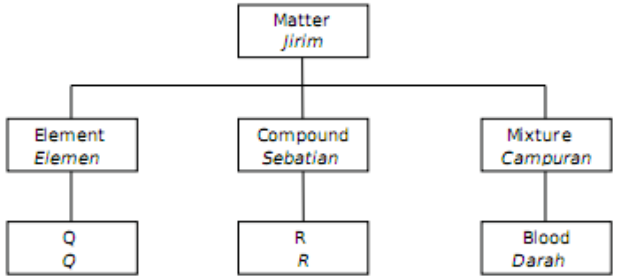


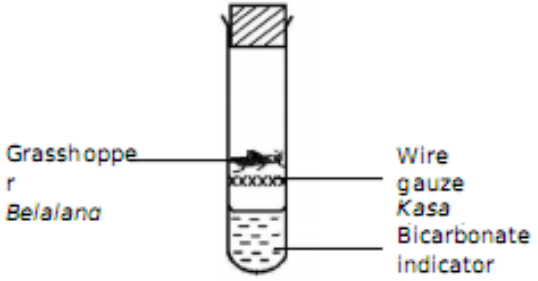
Diagram 4
Rajah 4

Which of the following represent Q and R?
Manakah antara berikut mewakili Q dan R?

	Q	**R**
A	Carbon dioxide *Karbon dioksida*	Salt *Garam*
B	Iron *Besi*	Sugar *Gula*
C	Air *Udara*	Water *Air*
D	Mecury *Merkuri*	Petroleum *Petroleum*

Perlis 09

6 Diagram 5 shows an apparatus set-up to study a gas released during respiration.
Rajah 5 menunjukkan susunan radas untuk mengkaji gas yang dibebaskan semasa respirasi.



Rajah 5

The colour of bicarbonate indicator in the boiling tube turns from red to yellow. What kind of gas is released during respiration?
Warna penunjuk bikarbonat di dalam tabung uji bertukar daripada merah ke kuning. Apakah jenis gas yang dibebaskan semasa respirasi?

A Oxygen
Oksigen
B Nitrogen
Nitrogen
C Carbon dioxide
Carbon dioksida
D Hydrogen
Hidrogen

7 Which of the following activities **does not** caused air pollution?
A The using of biological control to control crop pest
Penggunaan kawalan biologi untuk mengawal perosak tanaman
B Open burning
Pembakaran terbuka
C The burning of leaded petrol
Pembakaran petrol berplumbum
D The using of chlorofluorocarbon (CFC) in air conditioners
Penggunanaan klorofluorokarbon (CFC) dalam penghawa dingin

8 Diagram 6 shows a classification of energy sources.
Diagram 6 menunjukkan pengelasan sumber tenaga.

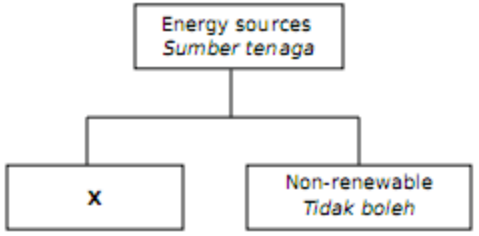


Diagram 6

Which of the following is an example of X?
Antara yang berikut, yang manakah merupakan contoh X?

A Petrol
Petrol
B Natural gas
Gas asli
C Geothermal
Geoterma
D Radioactive substances
Bahan radioaktif

9 Diagram 7 shows two thumbtacks are placed on surfaces X and Y, using a candle wax.
Rajah 7 menunjukkan dua paku tekan dilekatkan menggunakan lilin kepada permukaan X dan Y.

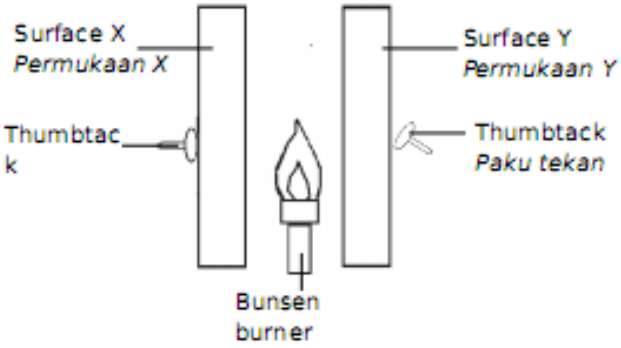


Diagram 7
Rajah 7

After a while, it is found that the thumbtack on surface Y falls first. Which of the following are probably surface of X and Y?
Selepas seketika, didapati paku tekan pada permukaan Y jatuh dahulu. Antara berikut, yang manakah kemungkinan permukaan X dan Y?

	X	Y
A	Black *Hitam*	White *Putih*
B	Black *Hitam*	Shinny *Berkilat*
C	White *Putih*	Shinny *Berkilat*
D	White *Putih*	Black *Hitam*

Perlis 09

1 Diagram 8 shows an effect of heat on liquid.
0 *Rajah 8 menunjukkan kesan haba ke atas cecair.*

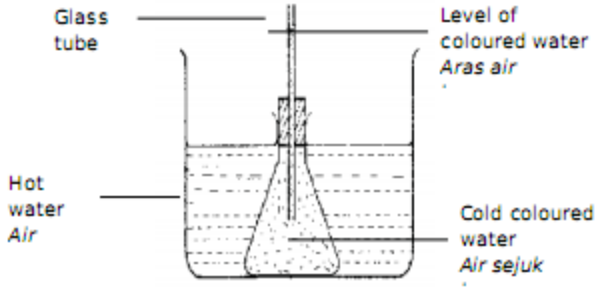


Diagram 8
Rajah 8

The level of coloured water in the glass tube is seen to rise after the apparatus is left for a while. This shows that
Aras air berwarna dalam tiub kaca kelihatan menaik apabila radas dibiarkan sementara waktu. Ini menunjukkan bahawa

A the glass tube expands
tiub kaca mengembang
B the coloured water expands
air berwarna mengembang
C heat from the hot water pushes the coloured water upwards
haba daripada air panas menolak air berwarna ke atas
D the glass tube becomes narrow
tiub kaca menjadi sempit

Sarawak 09

1 Which of the following is the ***best*** definition of science?
*Di antara yang berikut, yang manakah definisi sains yang **terbaik**?*

A Science is the study of the objects in the universe
Sains ialah kajian tentang objek di alam semesta

B Science is the natural phenomena happening around us
Sains ialah fenomena semulajadi yang berlaku di sekeliling kita

C Science is the study of nature and its implications on us
Sains ialah kajian tentang alam semulajadi dan implikasinya terhadap kita

D Science is the knowledge obtained from the study of human
Sains ialah pengetahuan yang diperoleh daripada kajian tentang manusia

4 Diagram 3 shows a plasticine lump shaped into a model that floats.
Rajah 3 menunjukkan satu ketul plastisin yang dibentuk menjadi satu model yang terapung.

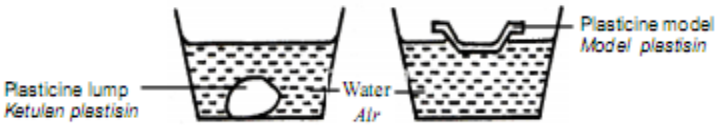


Diagram 3
Rajah 3

...lasticine model floats because
...l plastisin terapung kerana

A it is denser than water
ia lebih tumpat daripada air

B its volume has been increased
isipadunya telah bertambah

C its mass has been increased
jisimnya telah bertambah.

D its mass has been reduced
jisimnya telah dikurangkan

...iagram 2 shows a plant cell.
...ajah 2 menunjukkan sel tumbuhan

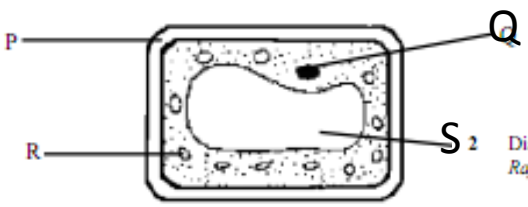


Diagram 2
Rajah 2

Which structure gives shape to the plant cell?
Struktur yang mana memberi bentuk kepada sel tumbuhan?

A P **C** R
B Q **D** S

2 Diagram 1 shows a chemical substance.
Rajah 1 menunjukkan satu bahan kimia.

Diagram 1
Rajah 1

Why is the chemical substance dangerous?
Mengapakah bahan kimia itu merbahaya?

A It is irritant
Ia adalah bahan merangsang

B It is explosive
Ia boleh meletup

C It is corrosive
Ia boleh mengakis

D It is poisonous
Ia adalah bahan racun

5 Diagram 4 shows the particles found in four different substances.
Rajah 4 menunjukkan jirim yang terdapat dalam empat bahan yang berlainan.

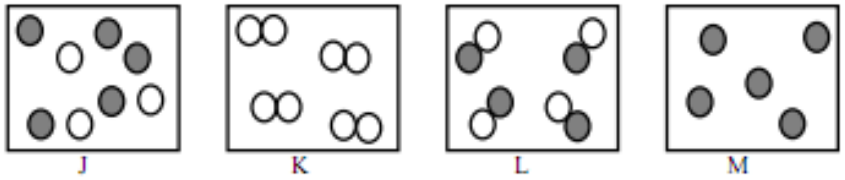


Diagram 4
Rajah 4

Sarawak 09

Which substance is a compound?
Bahan yang manakah sebatian?

A J

B K

C L

D M

6 Diagram 5 shows an experiment to determine the percentage of air used in the combustion of a candle.
Rajah 5 menunjukkan satu eksperimen untuk menentukan peratusan udara yang digunaka di dalam pembakaran lilin.

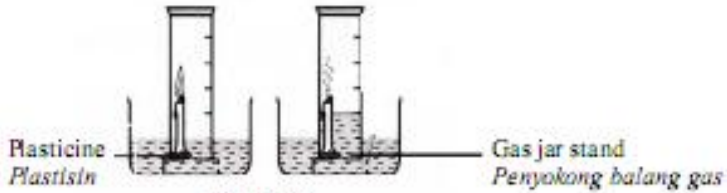


Diagram 5
Rajah 5

How many percent of air is used in the combustion of the candle?
Berapakah peratus udara yang digunakan dalam pembakaran lilin?

A 10%

B 20%

C 40%

D 50%

7 Diagram 6 shows apparatus set-up to study living things during respiration.
Rajah 6 menunjukkan susunan radas untuk mengkaji benda hidup semasa pernafasan.

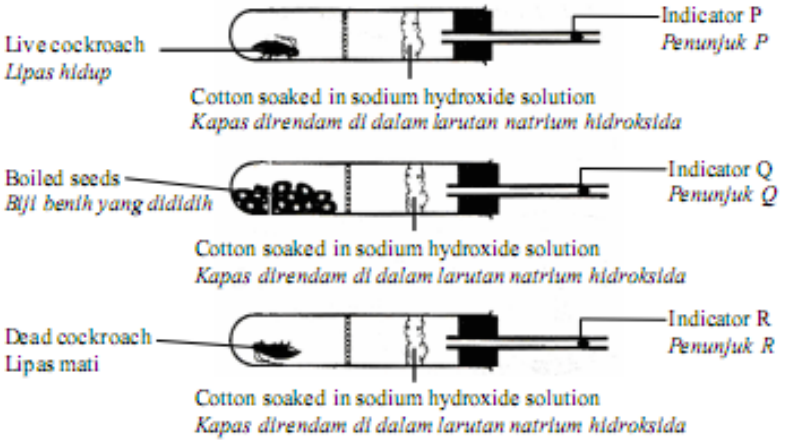


Diagram 6
Rajah 6

PMR 2011
K 2

Which of the following pairs is correct?
Yang manakah merupakan pasangan yang betul?

	Observation *Pemerhatian*	Inference *Inferens*
A	Indicator P moves towards the test tube. *Penunjuk P bergerak ke arah tabung uji*	Oxygen is used during respiration. *Oksigen digunakan semasa pernafasan.*
B	Indicator P moves away from the test tube. *Penunjuk P bergerak menjauhi tabung uji*	Carbon dioxide is released during respiration. *Karbon dioksida dibebaskan semasa pernafasan*
C	Indicator Q moves away from the test tube. *Penunjuk Q bergerak menjauhi tabung uji.*	Carbon dioxide is released during respiration. *Karbon dioksida dibebaskan semasa pernafasan.*
D	Indicator R moves towards the test tube. *Penunjuk R bergerak ke arah tabung uji*	Oxygen is used during respiration. *Oksigen digunakan semasa pernafasan.*

8 Which of the following conditions shows that an object has kinetic energy?
Di antara berikut, keadaan manakah yang menunjukkan bahawa sesuatu objek mempunyai tenaga kinetik?

A A lighted bulb
Mentol menyala

B A compressed spring
Spring yang dimampatkan

C A fast moving car
Kereta bergerak dengan laju

D A person on top of the roof
Seseorang yang berada di atas bumbung

Sarawak 09

9 Diagram 8 shows the sources of energy and their descriptions.
Rajah 8 menunjukkan sumber tenaga dan penerangannya.

Sources of energy *Sumber tenaga*	Description *Keterangan*
P	Energy obtained from the decomposition of organic waste products or dead organism. *Tenaga yang didapati daripada penguraian bahan buangan organik atau organisma yang mati.*
Q	Energy obtained from dead plants and animal deposited on the sea bed and compressed between rocks. *Tenaga yang diperolehi daripada tumbuhan dan haiwan mati terenap di dasar laut dan dimampatkan di antara batuan*
R	Energy obtained from the core of the earth. *Tenaga yang diperolehi daripada teras bumi*

Which of the following are represented by P, Q and R?
Antara berikut yang manakah diwakili oleh P, Q dan R?

	P	Q	R
A	Coal *Arang batu*	Natural gas *Gas asli*	Petroleum *Petroleum*
B	Coal *Arang batu*	Biomass *Biojisim*	Geothermal *Geoterma*
C	Biomass *Biojisim*	Petroleum *Petroleum*	Geothermal *Geoterma*
D	Biomass *Biojisim*	Natural gas *Gas asli*	Petroleum *Petroleum*

10 Which of the following has black and dull surfaces?
Di antara berikut, yang manakah mempunyai permukaan yang hitam dan pudar?

A Air conditioner
Alat Pendingin Hawa

B Electric fans
Kipas Elektrik

C Electric iron
Seterika Elektrik

D Car radiators
Radiator Kereta

11 Diagram 9 shows iron bobs of different mass put in boiling water.
Rajah 9 menunjukkan ladung besi berlainan jisim diletakkan dalam air mendidih

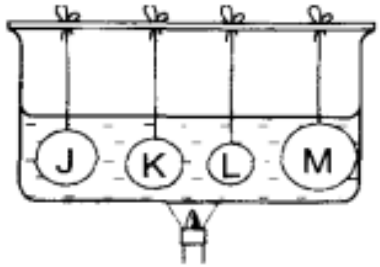


Diagram 9
Rajah 9

Arrange the iron bobs in order starting with the least heat content.
Susunkan ladung besi itu mengikut susunan bermula daripada kandungan haba yang terendah.

A L, K, J, M

B M, J, K, L

C J, K, L, M

D K, M, L, J

Sabah 09

1 Which of the following represents the SI unit for temperature and electric current?
Antara berikut, yang manakah mewakili unit SI bagi suhu dan arus elektrik?

	Temperature *Suhu*	Electric current *Arus electrik*
A	^{0}C	A
B	^{0}C	V
C	K	A
D	^{0}F	V

2 Diagram 1 shows four cells found in the human body.
Rajah 1 menunjukkan empat sel yang terdapat dalam badan manusia

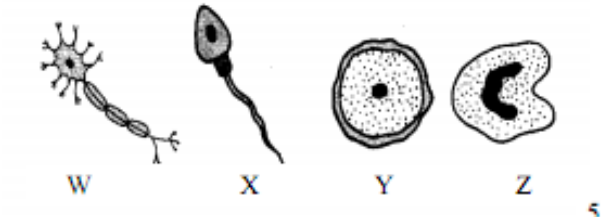


Diagram 1
Rajah 1

Which cells are involved in the process of reproduction?
Sel-sel yang manakah terlibat dalam proses pembiakan?

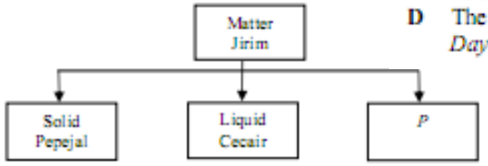
A W and X
W dan X

B Y and Z
Y dan Z

C X and Y
X dan Y

D W and Z
W dan Z

3 Diagram 2 shows the classification of matter.
Rajah 2 menunjukkan pengelasan jirim.



Rajah 2

Which of the following is true about *P*?
Antara berikut, yang manakah benar mengenai P?

A It has a definite volume.
Ia mempunyai isipadu yang tetap.

B It has a definite shape.
Ia mempunyai bentuk yang tetap.

C Its particles move freely at random.
Zarah-zarahnya bergerak bebas secara rawak.

D The force of attraction between its particles is very strong.
Daya tarikan antara zarah-zarahnya adalah sangat kuat.

Diagram 3 shows a human activity.
Rajah 3 menunjukkan satu aktiviti manusia.

Diagram 3

Which of the following shows the negative effect of this activity?
Antara berikut, yang manakah menunjukkan kesan negatif bagi aktiviti ini?

A Reduces the pests
Mengurangkan perosak

B Increases the yield
Menambahkan hasil

C Causes soil erosion
Menyebabkan hakisan tanah

D Pollutes the soil and air
Mencemarkan tanah dan udara

5 Which of the following are the ways to preserve and conserve Earth's resources?
Antara berikut, yang manakah cara-cara untuk memelihara dan memulihara sumber Bumi?

I Recyling substances
Kitar semula bahan

II Keeping forest reserves
Memelihara hutan simpanan

III Using Chlorofluorocarbon- free products
Menggunakan produk bebas Kloroflorokarbon

A I and II only
I dan II sahaja

B I and III only
I dan III sahaja

C II and III only
I dan III sahaja

D I, II and III
I, II dan III

Which of the following percentage of composition of gases in the air is **correct**?
Antara berikut, yang manakah peratus komposisi gas di udara yang **betul**?

	Gas ***Gas***	**Percentage (%)** ***Peratus***
A	Carbon dioxide *Karbon dioksida*	0.3
B	Inert gases *Gas nadir*	0.97
C	Oxygen *Oksigen*	16
D	Nitrogen *Nitrogen*	87

Sabah 09

7 The information below describes the characteristics of gas X.
Maklumat berikut menerangkan ciri-ciri gas X.

- Gas X turns limewater cloudy
  Gas X mengeruhkan air kapur
- Gas X is acidic.
  Gas X adalah berasid.

Which of the following proces needs gasX ?
Antara berikut, proses yang manakah memerlukan gas X?

A Decaying / *Pereputan*
B Respiration / *Respirasi*
C Combustion / *Pembakaran*
D Photosynthesis / *Fotosintesis*

8 The following equation shows the process of combustion.
Persamaan berikut menunjukkan proses pembakaran.

$$\text{Carbon} + P \xrightarrow{\text{Combustion / Pembakaran}} Q + \text{light energy} + R$$
$$\textit{Karbon} + P \xrightarrow{} Q + \textit{Tenaga cahaya} + R$$

What are P ,Q and R?
Apakah P, Q dan R ?

	P	Q	R
A	Oxygen / *Oksigen*	Heat energy / *Tenaga haba*	Carbon dioxide / *Karbon dioksida*
B	Oxygen / *Oksigen*	Chemical energy / *Tenaga kimia*	Carbon dioxide / *Karbon dioksida*
C	Carbon dioxide / *Karbon dioksida*	Heat energy / *Tenaga haba*	Oxygen / *Oksigen*
D	Carbon dioxide / *Karbon dioksida*	Water vapour / *Wap air*	Oxygen / *Oksigen*

9 Which of the following forms of energy increases when water is evaporated?
Antara bentuk tenaga berikut, yang manakah akan meningkat apabila air disejat?

A Solar energy / *Tenaga suria*
B Kinetic energy / *Tenaga kinetik*
C Heat energy / *Tenaga haba*
D Chemical energy / *Tenaga kimia*

10 Diagram 4 shows the condition of a bimetallic strip after being heated.
Rajah 4 menunjukkan keadaan jalur dwilogam selepas dipanaskan.

Diagram 4
Rajah 4

Which of the following explain the observation in Diagram 4 ?
Antara berikut, yang manakah menerangkan pemerhatian pada Rajah 4 ?

A Metal P is hotter than metal Q
Logam P lebih panas daripada logam Q.
B Metal Q is hotter than metal P
Logam Q lebih panas daripada logam P
C Metal P expands more than metal Q
Logam P mengembang lebih daripada logam Q
D Metal Q expands more than metal P
Logam Q mengembang lebih daripada logam P

Selangor 09

1. Diagram 1 shows an apparatus that is able to measure 11.5 cm^3 of a liquid.
Rajah 1 menunjukkan sebuah alat yang dapat menyukat 11.5 cm^3 suatu cecair.

Diagram 1 / *Raj*

What is the name of this apparatus ?
Apakah nama alat ini ?
A. Test tube / *Tabung uji*
B. Measuring cylinder / *Silinder penyukat*
C. Beaker / *Bikar*
D. Burette / *Buret*

2. Diagram 2 shows the level of water in a measuring cylinder.
Rajah 2 menunjukkan aras air di dalam satu silinder penyukat.

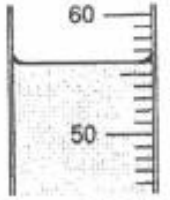


Diagram 2 / *Rajah 2*

What is the volume of the water in the measuring cylinder ?
Berapakah isi padu air dalam silinder penyukat tersebut ?
A. 50.5 ml
B. 50.6 ml
C. 55 ml
D. 56 ml

3. Diagram 3 shows a bottle containing substance X labelled with a hazard warning symbol.
Rajah 3 menunjukkan botol yang mengandungi bahan X yang berlabel simbol amaran berbahaya.

Diagram 3 / *Rajah 3*

Which of the following is **true** about X ?
*Antara berikut, yang manakah **benar** tentang X ?*
A. Irritant / *Merengsa*
B. Poisonous / *Beracun*
C. Corrosive / *Mengkakis*
D. Flammable / *Mudah terbakar*

4. Which of the following is a green unicellular organisms ?
Di antara berikut, yang manakah merupakan organisma unisel yang hijau ?

A 

B 

C 

D 

5. The information below shows some substances that are supplied by the Earth's resources
Maklumat berikut menunjukkan beberapa bahan yang dibekalkan oleh sumber Bumi.

- Oxygen / *Oksigen*
- Nitrogen / *Nitrogen*
- Water vapour / *Wap air*

What is the Earth's resources ?
Apakah sumber Bumi ini ?
A. Water / *Air*
B. Soil / *Tanah*
C. Air / *Udara*
D. Minerals / *Mineral*

6. Diagram 4 shows the arrangement of atoms in a substance. This substance is a type of
Rajah 4 menunjukkan susunan atom dalam suatu bahan. Bahan tersebut adalah sejenis

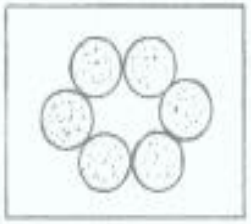


Diagram 4 / *Rajah 4*

A. Element / *Unsur*
B. Compound / *Sebatian*
C. Mixture / *Campuran*
D. Alloy / *Aloi*

7. Table 1 shows the classification of elements into metals and non-metals.
Jadual 1 menunjukkan pengelasan unsur-unsur kepada logam dan bukan logam.

Metals *Logam*	Non-metals *Bukan logam*
Aluminium / *Aluminium* Copper / *Kuprum* P	Sulphur / *Sulfur* Phosphorus / *Fosforus* Q

Table 1 / *Jadual 1*

Sabah 09

Which of the following represents P and Q ?
Antara berikut, yang manakah mewakili P dan Q ?

	P	Q
A.	Gold / *Emas*	Lead / *Plumbum*
B.	Zinc / *Zink*	Carbon / *Karbon*
C.	Iodine / *Iodin*	Silver / *Perak*
D.	Oxygen / *Oksigen*	Chlorine / *Klorin*

8. Diagram 5 shows an experiment.
Rajah 5 menunjukkan suatu eksperimen.

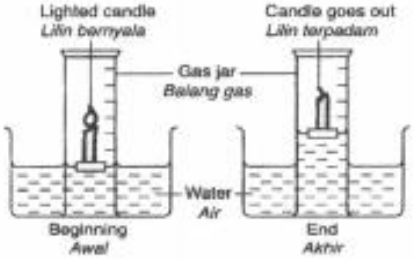


Diagram 5 / *Rajah 5*

As the candle burns, the water rises into the gas jar to fill up the space vacated by
Sewaktu lilin bernyala, air naik ke dalam balang gas untuk mengisi ruang yang ditinggalkan oleh
A. oxygen / *oksigen*
B. nitrogen / *nitrogen*
C. carbon dioxide / *karbon dioksida*
D. water vapour / *wap air*

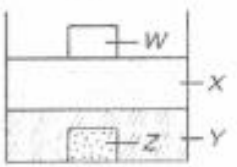
9. Table 2 states the densities of four substances, W, X, Y and Z.
Jadual 2 menyatakan ketumpatan empat bahan, W, X, Y dan Z.

Substance *Bahan*	Density (g/cm^3) *Ketumpatan* (g/cm^3)
W	1.33
X	13.50
Y	2.65
Z	0.97

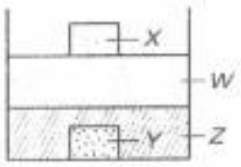
Table 2 / *Jadual 2*

Which of the following diagrams shows the correct positions of the four substances when placed in a container ?
Antara gambar rajah berikut, yang manakah menunjukkan kedudukan yang betul bagi empat bahan itu apabila diletakkan dalam suatu bekas ?

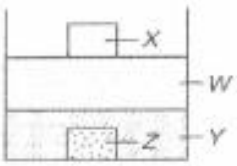
A



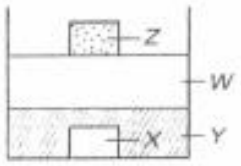
C



B



D



Sabah 09

Substance / *Bahan*	Density (g/cm³) / *Ketumpatan (g/cm³)*
W	1.33
X	13.50
Y	2.65
Z	0.97

10. Diagram 6 shows an experiment. After a while the thumbtack fall
Rajah 6 menunjukkan satu eksperimen. Selepas seketika, paku tekan j

Diagram 6 / *Rajah 6*

The heat energy reaches the thumbtack by
Tenaga haba sampai ke paku tekan melalui
A. sublimation / *pemejalwapan*
B. convection / *perolakan*
C. conduction / *konduksi*
D. radiation / *sinaran*

11. Which of the following shows the energy sources classified correctly ?
Antara berikut, yang manakah menunjukkan sumber-sumber tenaga dikelaskan dengan betul ?

	Energy sources / *Sumber tenaga*	
	Renewable / *Boleh diperbaharui*	Non-renewable / *Tidak boleh diperbaharui*
A.	Wind / *Angin*	Petroleum / *Petroleum*
B.	Wave / *Ombak*	Wind / *Angin*
C.	Coal / *Arang batu*	Wave / *Ombak*
D.	Petroleum / *Petroleum*	Coal / *Arang batu*

12. Which of the following processes are correctly matched with the gas released ?
Antara berikut, yang manakah menadankan dengan betul proses dengan gas yang dibebaskan ?

	Proses / *Process*	Gas released / *Gas dibebaskan*
I.	Combustion / *Pembakaran*	Oxygen / *Oksigen*
II.	Photosynthesis / *Fotosintesis*	Carbon dioxide / *Karbon dioksida*
III.	Combustion / *Pembakaran*	Carbon dioxide / *Karbon dioksida*
IV.	Photosynthesis / *Fotosintesis*	Oxygen / *Oksigen*

A. I and II
B. I and IV
C. II and III
D. III and IV

Langkah-langkah yang diberi di bawah adalah sebahagian daripada kaedah saintifik.

P: Making an observation
: Membuat pemerhatian

Q: Analysing and interpreting data.
: Menganalisa dan menginterpretasi data.

R: Making a rational conclusion
: Membuat kesimpulan yang munasabah

S: Collecting and recording data.
: Mengumpul dan merekod data.

Melaka 09

What is the correct sequence?
Yang manakah antara berikut turutan yang betul?

A. P,S,Q,R
B. P,S,R,Q
C. S,P,Q,R
D. S,P,R,Q

2. Diagram 1 shows a swinging pendulum.
Rajah 1 menunjukkan ayunan bandul

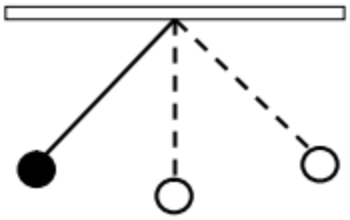


Diagram 1
Rajah 1

Which of the following affects the time taken to make one complete swing?
Yang manakah antara berikut mempengaruhi masa yang diambil untuk satu ayunan bandul yang lengkap?

A. The number of swings
Bilangan ayunan
B. The thickness of the string
Ketebalan benang
C. The length of the pendulum
Panjang bandul
D. The mass of the pendulum bob
Jisim bandul

Melaka 09

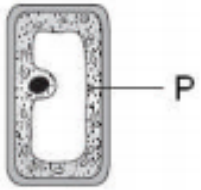


Diagram 2
Rajah 2

What is the function of structure P?
Apakah fungsi struktur P?

A. control all the cell activities.
mengawal semua aktiviti se
B. Traps sunlight to carry out photosynthesis
Memerangkap cahaya matahari untuk menjalankan proses fotosintesis.
C. Controls the movement of substances in and out of the cell.
Mengawal pergerakan bahan-bahan keluar masuk sel.
D. Dissolves food particles through chemical processes.
Melarut zarah-zarah makanan menerusi proses-proses kimia.

4. Nazira wants to determine the volume of one marble. She drops 20 marbles of equal size into a measuring cylinder.
Nazira hendak menentukan isipadu sebiji guli. Dia menjatuhkan 20 biji guli yang sama saiz ke dalam silinder penyukat.

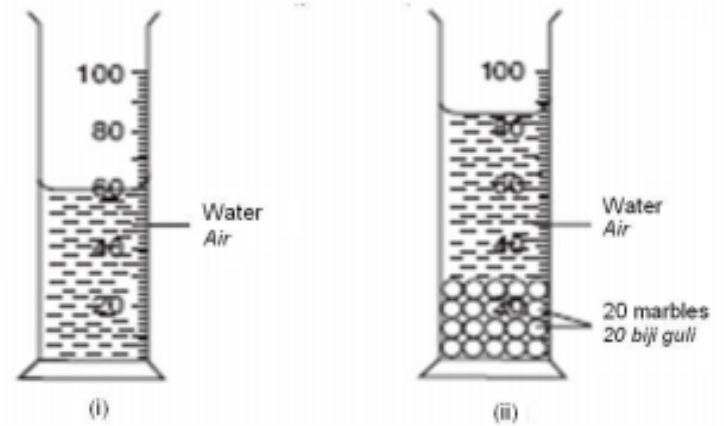


Diagram 3
Rajah 3

Based on diagram 3(i) and 3(ii), what is the volume of one marble?
Berdasarkan rajah 3(i) dan 3(ii), berapakah isipadu sebiji guli?

A. 1.20 cm^3
B. 1.30 cm^3
C. 1.00 cm^3
D. 1.50 cm^3

5. Diagram 4 shows the arrangement of particles of substance X.
Rajah 4 menunjukkan susunan zarah bagi bahan X.

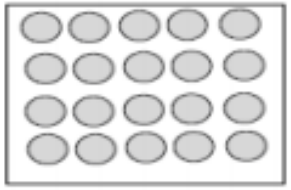


Diagram 4
Rajah 4

Which of the following is likely to be substance X?
Yang manakah antara berikut merupakan bahan X?

A. Iron
Besi
B. Water
Air
C. Alcohol
Alkohol
D. Hydrogen
Hidrogen

6. Diagram 5 shows an experiment
Rajah 5 menunjukkan satu eksperimen.

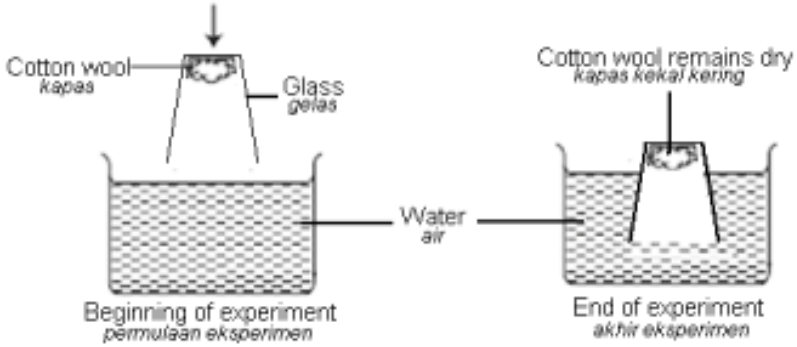


Diagram 5
Rajah 5

State the observation of the experiment.
Nyatakan pemerhatian eksperimen.

A. Air has mass
Udara mempunyai jisim
B. Air occupies space
Udara memenuhi ruang
C. Air dissolves in water
Udara larut dalam air
D. Air takes the shape of the glass
Udara mengambil bentuk gelas.

7. A live cockroach was placed in a gas jar as shown in diagram 6.
Seekor lipas hidup diletakkan di dalam balang gas seperti dalam rajah 6.

Diagram 6
Rajah 6

After a few hours, which of the following will be true of the air in the gas jar compared to at the start of the experiment?
Selepas beberapa jam, yang manakah antara berikut benar mengenai udara dalam balang gas berbanding dengan permulaan eksperimen?

	Amount of oxygen *Jumlah oksigen*	Amount of carbon dioxide *Jumlah karbon dioksida*	Amount of water vapour *Jumlah wap air*
A	More *Lebih*	Less *kurang*	More *Lebih*
B	Less *Kurang*	More *Lebih*	Less *Kurang*
C	Less *Kurang*	More *Lebih*	More *Lebih*
D	Less *Kurang*	More *Lebih*	Same *sama*

8. Diagram 7 shows a test tube containing oxygen that is inverted into a beaker containing water.
Rajah 7 menunjukkan tabung uji yang mengandungi oxygen ditelangkupkan ke dalam bikar yang mengandungi air.

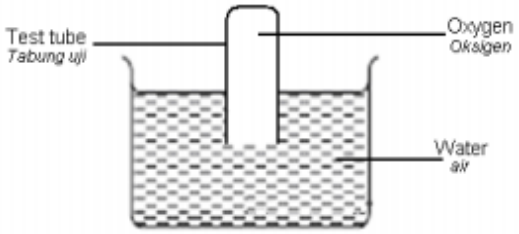


Diagram 7
Rajah 7

What will be observed?
Apa yang akan diperhatikan?

A. No water rises in the test tube
Tiada air naik ke dalam tabung uji.
B. A little water rises in the test tube.
Sedikit air naik ke dalam tabung uji
C. A lot of water rises in the test tube.
Banyak air masuk ke dalam tabung uji.
D. Water fills up the whole space in the test tube.
Air memenuhi keseluruhan ruang dalam tabung uji.

9. Diagram 8 shows a marble rolling a slope.
Rajah 8 menunjukkan sebiji guli mengelungsur.

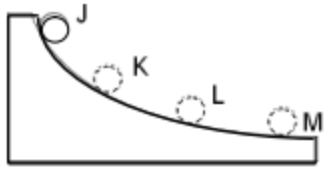


Diagram 8
Rajah 8

At which position does the marble have maximum potential energy?
Pada kedudukan manakah guli mempunyai tenaga keupayaan maksimum?

A. J
B. K
C. L
D. M

10. Table I shows two different energy sour
Jadual 1 menunjukkan pelbagai jenis tenaga dan sumbernya.

Types of energy *Jenis tenaga*	Renewable / Non-renewable *Boleh diperbaharui / Tidak boleh diperbaharui*
X	Renewable *Boleh diperbaharui*
Y	Non-renewable *Tidak boleh diperbaharui*

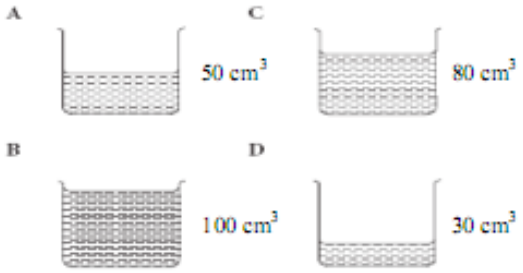
Table 1
Jadual 1

Melaka 09

Which of the following are example of energy X and Y?
Antara berikut yang manakah mewakili X dan Y?

	X	Y
A	Solar *Suria*	Fossil fuel *Bahan api fosil*
B	Biomass *Bijijisim*	Solar *Suria*
C	Solar *Suria*	Hydroelectric *Hidroelektrik*
D	Fossil fuel *Bahan api fosil*	Biomass *Bijijisim*

11. Some boiled water is poured into four different beakers A, B, C and D. In which of the following beakers does the water contain the most heat?
Air mendidih dituangkan ke dalam empat bikar yang berbeza iaitu A, B, C dan D. Bikar yang manakah mengandungi haba yang paling tinggi?



Melaka 09

12. Diagram 9 shows a metal bob can slip through a metal ring.
Rajah 9 menunjukkan bebola logam boleh melalui gelang logam.

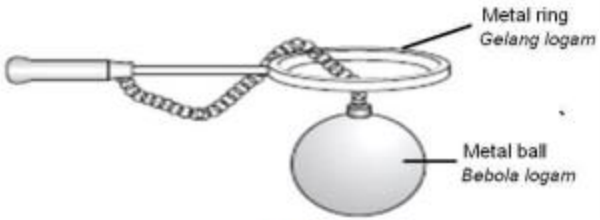


Diagram 9
Rajah 9

When the metal ball cannot slip through the metal ring ?
Bilakah bebola logam tidak boleh melalui gelang logam ?

A. The metal ball is cooled
Bebola logam menjadi sejuk
B. The metal ball is heated
Bebola logam dipanaskan
C. The metal ring is heated
gelang logam dipanaskan
D. The ball and the ring are cooled
Bebola dan gelang menjadi sejuk.

Kedah 10

1 The following statement shows one of the outcomes in scientific investigation.
Pernyataan berikut menunjukkan satu hasil dalam penyiasatan saintifik.

> Salt dissolves faster in water at higher temperature
> *Garam larut lebih cepat dalam air yang suhunya lebih tinggi*

Which of the following is the step involved in making the statement?
Antara langkah berikut yang manakah terlibat dalam membuat pernyataan tersebut?

A Stating the problem
Pernyataan masalah

B Making conclusion
Membuat kesimpulan

C Collecting data
Mengumpul data

D Analysing data
Menganalisa data

2 Diagram 1 shows the structure of an animal cell.
Rajah 1 menunjukkan struktur sel haiwan.

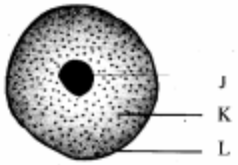


Diagram 1
Rajah 1

Which of the following is labelled correctly?
Antara berikut yang manakah dilabel dengan betul?

	J	K	L
A	Nucleus *Nukleus*	Cytoplasm *Sitoplasma*	Cell membrane *Membran sel*
B	Cytoplasm *Sitoplasma*	Cell membrane *Membran sel*	Nucleus *Nukleus*
C	Cell membrane *Membran sel*	Nucleus *Nukleus*	Cell wall *Dinding sel*
D	Nucleus *Nukleus*	Cytoplasm *Sitoplasma*	Cell wall *Dinding sel*

4 Diagram 2 shows substances in three states of matter.
Rajah 2 menunjukkan bahan dalam tiga keadaan jirim.

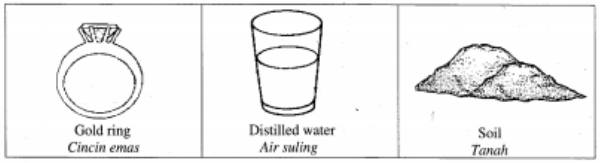
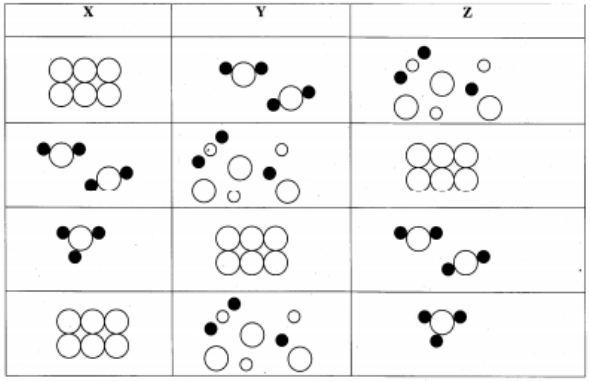


Diagram 2
Rajah 2

Which of the following shows the arrangement of particles in the three substances?
Antara berikut, yang manakah menunjukkan susunan zarah dalam bahan-bahan tersebut?



Which of the following is the advantage of keeping petroleum gas in liquid form?
Antara berikut, yang manakah kelebihan menyimpan gas petroleum dalam bentuk cecair?

A The gas burns with less soot
Gas membakar dengan jelaga yang sedikit

B The gas can burns more easily
Gas boleh membakar dengan lebih mudah

C Easy for transportation and storage
Mudah untuk diangkut dan disimpan

D The gas can produce more heat energy
Gas dapat menghasilkan lebih tenaga haba

5 Diagram 3 shows the composition of gases in air.
Rajah 3 menunjukkan komposisi gas-gas dalam udara.

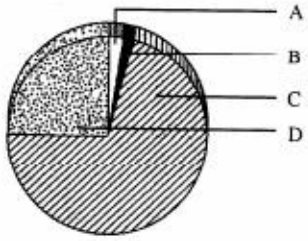


Diagram 3
Rajah 3

Which of the labelled component **A**, **B**, **C** and **D** supports combustion and is needed for respiration?
Komponen berlabel **A**, **B**, **C** *dan* **D** *yang manakah menyokong pembakaran dan diperlukan untuk respirasi?*

6 The following information shows the properties of a gas in air.
Maklumat berikut menunjukkan sifat-sifat gas dalam udara.

- Turns lime water cloudy
  Menukarkan air kapur menjadi keruh
- Extinguishes a burning splinter
  Memadamkan kayu uji bernyala
- Changes the colour of litmus paper from blue to red
  Menukarkan warna kertas litmus dari biru ke merah

The gas which has the properties listed above is
Gas yang mempunyai sifat seperti yang dinyatakan di atas ialah

A hydrogen
hidrogen
B carbon dioxide
karbon dioksida
C nitrogen
nitrogen
D oxygen
oksigen

7 Diagram 4 shows a boy throwing a ball up and another boy on the first floor of the building is catching it.
Rajah 4 menunjukkan seorang budak lelaki melambungkan sebiji bola dan seorang budak lelaki lain menangkap bola itu di tingkat satu sebuah bangunan.

Diagram 4
Rajah 4

What energy change is involved in this activity?
Apakah perubahan tenaga yang terlibat dalam aktiviti ini?

A The kinetic energy of the ball is changed to potential energy
Tenaga kinetik bola itu diubah menjadi tenaga keupayaan

B The potential energy of the ball is changed to kinetic energy
Tenaga keupayaan bola itu diubah menjadi tenaga kinetik

C The chemical energy of the ball is changed to potential energy
Tenaga kimia bola itu diubah menjadi tenaga keupayaan

D The kinetic energy of the ball is changed to chemical energy
Tenaga kinetik bola itu diubah menjadi tenaga kimia

Diagram 5 shows a beaker containing hot water.
Rajah 5 menunjukkan sebuah bikar yang mengandungi air panas.

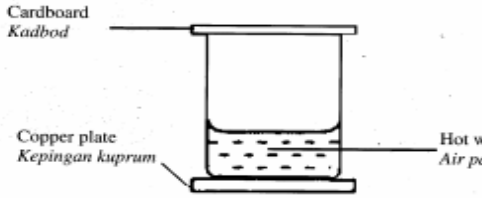


Diagram 5
Rajah 5

How is heat lost from the beaker?
Bagaimanakah haba hilang dari bikar?

A By conduction and convection
Melalui konduksi dan perolakan

B By conduction and radiation
Melalui konduksi dan sinaran

C By convection and radiation
Melalui perolakan dan sinaran

D By radiation

9 Diagram 6 shows the physical processes involved in the change in state of
Rajah 6 menunjukkan proses fizikal yang terlibat dalam perubahan keada

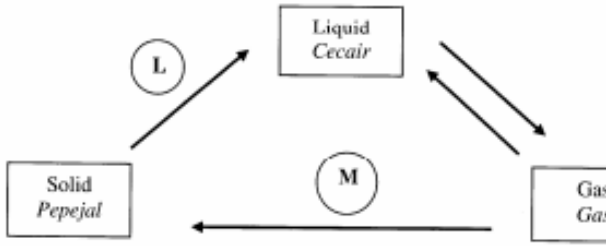


Diagram 6
Rajah 6

The changes in states of matter involve the absorption or release of heat.
Which of the following is true?
Perubahan keadaan jirim melibatkan penyerapan atau pembebasan haba.
Antara berikut, yang manakah benar?

10 Diagram 7 shows the absorption of heat by two different surfaces.
Rajah 7 menunjukkan penyerapan haba oleh dua permukaan yang berbeza.

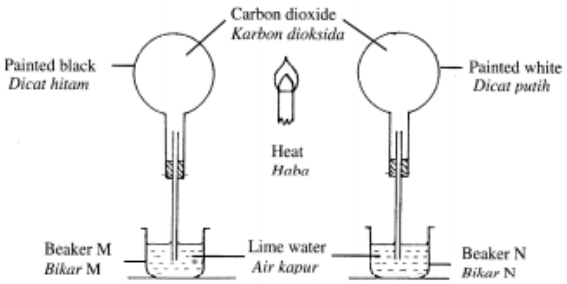


Diagram 7
Rajah 7

Which of the following observation and conclusion is true?
Antara berikut, pemerhatian dan kesimpulan manakah yang benar?

	Observation *Pemerhatian*	Conclusion *Kesimpulan*
A	Lime water in both beakers turn cloudy at the same time *Air kapur di kedua-dua bikar bertukar menjadi keruh pada masa yang sama*	Both surfaces are good heat radiators *Kedua-dua permukaan adalah penyinar haba yang baik*
B	Lime water in beaker M turns cloudy first *Air kapur di dalam bikar M bertukar menjadi keruh dahulu*	Black surface is a good heat absorber *Permukaan hitam adalah penyerap haba yang baik*
C	Lime water in beaker N turns cloudy first *Air kapur di dalam bikar N bertukar menjadi keruh dahulu*	White surface is a good heat absorber *Permukaan putih adalah penyerap haba yang baik*
D	Lime water in beaker N turns cloudy first *Air kapur di dalam bikar N bertukar menjadi keruh dahulu*	White surface is a good heat radiator *Permukaan putih adalah penyinar haba yang baik*

	Process involved *Proses yang terlibat*		Heat absorbed / Heat released *Haba diserap / Haba dibebaskan*	
	L	M	L	M
A	Melting *Pencairan*	Sublimation *Pemejalwapan*	Absorbed *Diserap*	Released *Dibebaskan*
B	Melting *Pencairan*	Sublimation *Pemejalwapan*	Released *Dibebaskan*	Absorbed *Diserap*
C	Sublimation *Pemejalwapan*	Melting *Pencairan*	Absorbed *Diserap*	Released *Dibebaskan*
D	Sublimation *Pemejalwapan*	Melting *Pencairan*	Released *Dibebaskan*	Absorbed *Diserap*

11 Diagram 8 shows an experiment set-up to study one of the properties of sound.
Rajah 8 menunjukkan satu eksperimen dijalankan untuk mengkaji salah satu sifat bunyi.

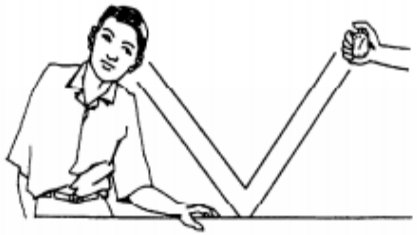


Diagram 8
Rajah 8

Which of the following is the application of the property studied in daily life?
Antara berikut, yang manakah aplikasi sifat yang dikaji dalam kehidupan seharian?

A Plucking a taut guitar string
Memetik tali gitar yang tegang

B Determining the depth of the sea bed
Menentukan kedalaman dasar laut

C Giving a speech in a hall
Memberi ucapan di dalam dewan

D Install carpet in cinema hall
Memasang permaidani di dalam panggung wayang

1. Diagram 1 shows a thermometer.
Rajah 1 menunjukkan satu termometer.

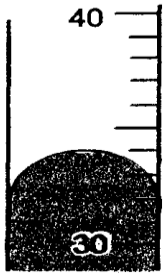


Diagram 1
Rajah 1

What is the reading?
Berapakah bacaan tersebut?

A. 31.0 ^{0} C
B. 32.0 ^{0} C
C. 33.0 ^{0} C
D. 34.0 ^{0} C

Kelantan 10

2. Diagram 2 shows a leaf that has been traced onto graph paper.
Rajah 2 menunjukkan daun yang disurih di atas kertas graf.

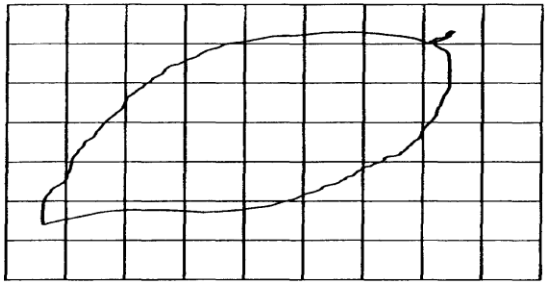


Diagram 2
Rajah 2

Estimate the area of the leaf.
Anggarkan luas permukaan daun tersebut.

A. 15 cm²
B. 17 cm²
C. 20 cm²
D. 24cm²

3. Diagram 3 shows two types of cells found in the human body.
Rajah 3 menunjukkan dua jenis sel dalam badan manusia.

Diagram 3
Rajah 3

Which represents cells P and Q?
Apakah yang diwakili oleh sel P dan Q?

	P	Q
A	Nerve cell *Sel saraf*	Reproductive cell *Sel pembiakan*
B	White Blood Cell *Sel Darah Putih*	Reproductive cell *Sel pembiakan*
C	Red Blood Cell *Sel Darah Merah*	White Blood Cell *Sel Darah Putih*
D	Nerve Cell *Sel Saraf*	White Blood Cell *Sel Darah Putih*

4. Diagram 4 shows a multicellular organism
Rajah 4 menunjukkan suatu organisma multisel

Diagram 4
Rajah 4

Which organism is in the same group as the organism shown?
Organisma manakah berada dalam kumpulan yang sama dengan arganisma di atas?

A


C


B


D


5. Diagram 5 shows the arrangement of particles in K, L and M .
Rajah 5 menunjukkan susunan zarah-zarah dalam K, L dan M.

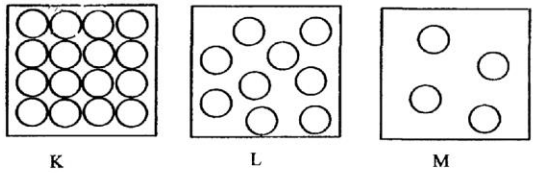


Diagram 5
Rajah 5

Which represented by K, L and M?
Yang manakah diwakili oleh K, L dan M?

	K	L	M
A	Copper *Kuprum*	Mercury *Merkuri*	Oxygen *Oksigen*
B	Petrol *Petrol*	Kerosene *kerosin*	Hydrogen *Hidrogen*
C	Gold *Emas*	Ice *Ais*	Steam *Stim*
D	Wood *Kayu*	Steam *Stim*	Mercury *Merkuri*

6. Which situation use the concept of density?
Situasi manakah menggunakan konsep ketumpatan?

A. Boiling of water
Pendidihan air
B. Drying clothes
Mengeringkan pakaian
C. Ice melting in water
Ais melebur dalam air
D. Transporting logs through river
Pengangkutan kayu balak melalui sungai

7. Diagram 6 shows the mixture of substances that can be separated using a bar magnet.
Rajah 6 menunjukkan campuran bahan yang boleh diasingkan dengan menggunakan magnet bar.

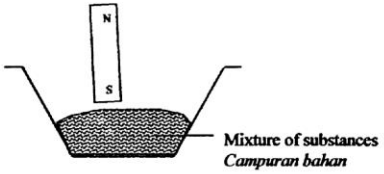


Diagram 6
Rajah 6

Which is the mixture of substances?
Yang manakah campuran bahan tersebut?

A. Iron fillings and sand
Serbuk besi dan pasir

C. Sand and zinc powder
Pasir dan serbuk zink

B. Sand and Sulphur powder
Pasir dan serbuk sulfur

D. Salt grains and sugar grains
Butir garam dan butir gula

8. Which is true about mercury , iron and copper at room temperature?
Yang manakah benar tentang merkuri, besi dan kuprum pada suhu bilik?

A. Brittle
Rapuh

C. Conduct electricity
Mengkonduksi elektrik

B. Malleable
Boleh ditempa

D. Solid state
Keadaan pepejal

9. Diagram 7 shows the combustion of charcoal in a gas jar.
Rajah 7 menunjukkan pembakaran arang di dalam balang gas.

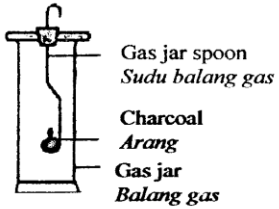


Diagram 7
Rajah 7

What is the product of the process?
Apakah produk proses ini?

A. Carbon dioxide and water
Karbon dioksida dan air
B. Carbon dioxide and heat
Karbon dioksida dan haba
C. Cabon dioxide, water and heat
Karbon dioksida, air dan haba
D. Water and heat
Air dan haba

10. Which gas has the same percentage in inhaled air and exhaled air?
Peratus gas manakah di dalam udara sedut dan udara hembus adalah sama?

A. Nitrogen
Nitrogen

C. Oxygen
Oksigen

B. Carbon dioxide
Karbon dioksida

D. Water vapour
Wap air

11. The following information shows enery changes.
Maklumat berikut menunjukkan perubahan tenaga.

Kinetic energy *Tenaga Kinetik*	⟶	**Sound Energy** *Tenaga Bunyi*

Which objects shows the energy changes?
Objek manakah yang menunjukkan perubahan tenaga ini?

I Guitar
Gitar
II Computer
Komputer
III Radio
Radio
IV Bell
Loceng

A I and II
B. I and IV
C. II and III
D. III and IV

12. Diagram 8 shows an electric power station.
Rajah 8 menunjukkan sebuah stesen janakuasa elektrik.

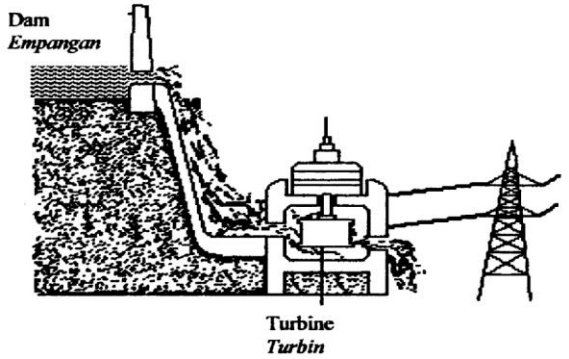


Diagram 8
Rajah 8

What is the source of energy used at this power station?
Apakah sumber tenaga yang digunakan di stesen janakuasa ini?

A. Wind
Angin

C. The Sun
Matahari

B Water
Air

D. Geothermal
Geoterma

13. Which methods cause heat lost from a cup of hot coffee ?
Kaedah manakah menyebabkan haba hilang daripada secawan kopi pa ıas?

A. Conduction and convection
Konduksi dan perolakan
B. Convection and radiation
Perolakan dan sinaran
C. Radiation and reflection
Sinaran dan pantulan
D. Conduction and reflection
Konduksi dan pantulan

Negeri Sembilan 10

1 Diagram 1 shows four positions for reading the measuring cylinder. In which position should your eyes be to get the correct reading?

Rajah 1 menunjukkan empat kedudukan untuk membaca silinder penyukat. Di manakah kedudukan mata patut berada untuk mendapat bacaan yang tepat?

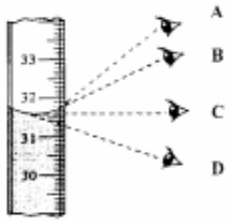


Diagram 1 / *Rajah* 1

2 Diagram 2 shows various types of microorganisms.

Rajah 2 menunjukkan pelbagai jenis mikroorganisma.

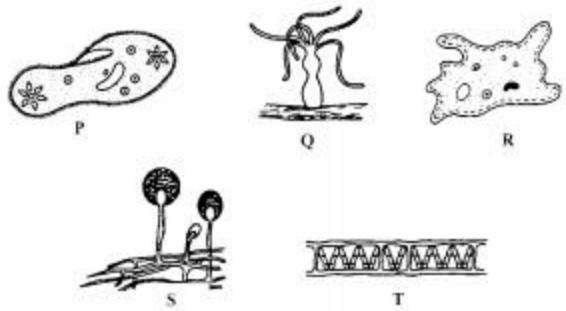


Diagram 2 / *Rajah* 2

Which group consists of unicellular organisms?

Kumpulan yang manakah mengandungi organisma unisel?

A P, Q and R
P, Q *dan* R

B P and R
P *dan* R

C P, Q and T
P, Q *dan* T

D Q and R
Q *dan* R

3 Diagram 3 shows a type of tissue in the human body.

Rajah 3 menunjukkan sejenis tisu di dalam badan manusia.

Diagram 3 / *Ra*

What is the function of this tissue?

Apakah fungsi tisu tersebut?

A Allows movement
Membenarkan pergerakan

B Carries information in the body
Membawa maklumat dalam badan

C Covers body surfaces
Meliputi permukaan badan

D Destroys bacteria
Memusnahkan bakteria

4 The below information is about a body system.

Maklumat di bawah adalah mengenai satu sistem di dalam badan.

- Carries oxygen and food to every part of the body
  Membawa oksigen dan makanan ke seluruh badan
- Carries waste materials to the kidney
  Membawa bahan kumuh ke ginjal
- Carries carbon dioxide to the lungs
  Membawa karbon dioksida ke peparu

Which of the following systems described the above statements?

Antara sistem-sistem berikut, yang manakah menerangkan pernyataan di atas?

A Blood circulatory system
Sistem peredaran darah

B Digestive system
Sistem pencernaan

C Muscular system
Sistem otot

D Respiratory system
Sistem respirasi

5 The table below shows density of three liquids, **P, Q** and **R**.

. adual di bawah menunjukkan ketumpatan tiga cecair **P,Q** *dan* **R**

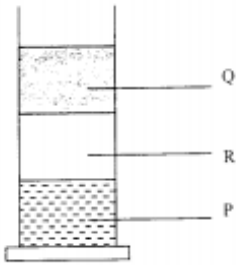
Liquid *Cecair*	Density *Ketumpatan* ($g\ cm^{-3}$)
P	5.3
Q	1.7
R	6.9

Table 1 / *Jadual* 1

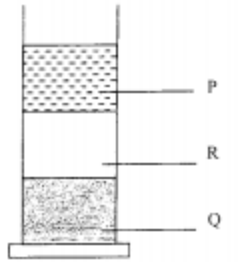
Which of the following figures correctly shows the positions of **P, Q** and **R**?

Antara rajah berikut, yang manakah menunjukkan kedudukan yang betul bagi cecair **P, Q** *dan* **R**?

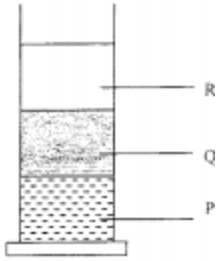
A



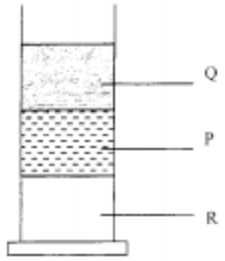
B



C



D



Negeri Sembilan 10

6 Diagram 4 shows an experiment set-up

Rajah 4 menunjukkan satu radas eksperimen

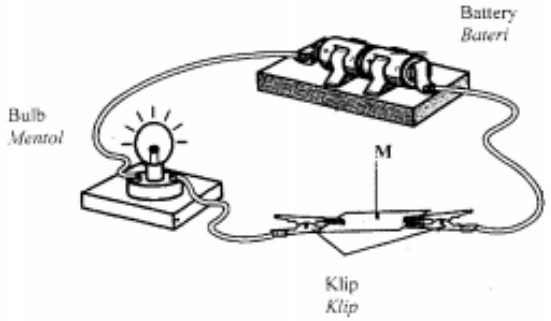


Diagram 4 / *Rajah 4*

What is the property of material **M**?

Apakah sifat bagi bahan **M**?

A Ductile
Mulur

B Electrical conductivity
Pengalir elektrik

C Heat conductivity
Pengalir haba

D Malleability
Boleh lentur

8 Table 2 shows the observation of an experiment to study the effect of a gas on a glowing wooden splinter, bicarbonate indicator and sodium hydroxide solution.

Jadual 2 menunjukkan pemerhatian bagi satu eksperimen untuk mengkaji kesan sejenis gas ke atas kayu uji berbara, penunjuk bikarbonat dan larutan natrium hidroksida.

Glowing splinter ***Kayu uji berbara***	Extinguishes glowing splinter *Memadamkan kayu uji berbara*
Bicarbonate indicator ***Penunjuk bikarbonat***	Bicarbonate indicator turns yellow *Penunjuk bikarbonat bertukar kuning*
Sodium hydroxide solution ***Larutan natrium hidroksida***	Is very soluble in sodium hydroxide *Sangat larut dalam larutan natrium hidroksida*

Table 2 / *Jadual 2*

The information shown above shows the property of a gas. Which of the following is another property that also belongs to the gas?

Pernyataan di atas menunjukkan sifat sejenis gas. Antara berikut, yang manakah juga merupakan sifat gas tersebut?

A Has a pungent smell
Mempunyai bau sengit

B Does not turn lime water cloudy
Tidak mengeruhkan air kapur

C Causes a burning splinter to burn with a brighter flame
Menyebabkan kayu uji menyala terbakar lebih terang

D Turns blue litmus to red
Menukarkan litmus biru ke merah

Diagram 1 shows a measuring tools.

Rajah 1 menunjukkan satu alat penyukat.

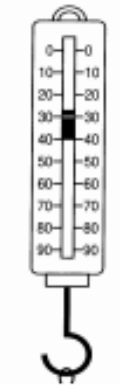


Diagram 1
Rajah 1

This tools is used to
Alat ini digunakan untuk

A measure the mass of an object.
menyukat jisim sesuatu objek.

B measure the weight of an object.
menyukat berat sesuatu objek.

C measure the area of an object.
menyukat luas sesuatu objek.

D measure the length of an object
menyukat panjang sesuatu objek.

7 Which of the following statements is **TRUE** regarding fossil fuel?

Di antara pernyataan berikut yang manakah ***BENAR*** *mengenai bahan api fosil?*

A Coal, petroleum and natural gas are fossil fuels.
Arang batu, petroleum dan gas asli adalah bahan api fosil

B Fossil fuels is an example of geothermal energy
Bahan api fosil adalah contoh tenaga geoterma

C Fossil fuels are renewable energy
Bahan api fosil adalah tenaga yang boleh diperbaharui

D Mineral ores are fossil fuels
Bijih adalah bahan api fosil

2 Which of the following is a unicellular organism?

Manakah antara berikut merupakan organisma unisel?

A 

B 

C 

D 

Negeri Sembilan 10

3 Diagram 2 shows a process to separate a substance from its mixture.
Rajah 2 menunjukkan satu proses untuk memisahkan suatu bahan daripada campurannya.

Diagram2
Rajah 2

Name the process.
Namakan proses itu.

A Filtration
Penurasan
B Evaporation
Sejatan
C Distillation
Penyulingan
D Condensation
kondensasi

4 The information below shows examples of renewable sources of energy
Maklumat di bawah menunjukkan contoh-contoh sumber tenaga yang

- Decayed wood
  Kayu reput
- Dried leaves
  Daun kering
- Faeces of farm animals
  Najis haiwan ternakan

What is the name of this types of energy source?
Apakah nama sumber tenaga ini?

A Biomass
Biojisim
B Coal
Arang batu
C Petroleum
Petroleum

5 Diagram 3 shows the conditions needed for combustion.
Rajah 3 menunjukkan keadaan yang diperlukan untuk pembakaran.

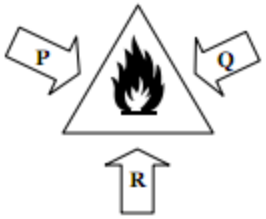


Diagram 3
Rajah 3

What do **P**, **Q** and **R** represent?
*Apakah yang diwakili oleh **P**, **Q** dan **R** ?*

	P	Q	R
A	Light *Cahaya*	Fuel *Bahan api*	Oxygen *Oksigen*
B	Fuel *Bahan api*	Oxygen *Oksigen*	Heat *Haba*
C	Oxygen *Oksigen*	Carbon *Karbon*	Fuel *Bahan api*
D	Carbon dioxide *Karbon dioksida*	Heat *Haba*	Coal *Arang batu*

6 Diagram 4 shows a set of apparatus in an experiment.
Rajah 4 menunjukkan satu set alat radas dalam suatu eksperimen.

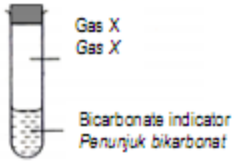


Diagram 4
Rajah 4

Bicarbonate indicator changes from red to yellow when it reacts with gas **X**. What is gas **X** ?
*Penunjuk bikarbonat bertukar daripada warna merah ke kuning apabila bertindak balas dengan gas **X**.*
*Apakah gas **X** ?*

A Oxygen
Oksigen
B Sulphur
Sulfur
C Hydrogen
Hidrogen
D Carbon dioxide
Karbon dioksida

7 Which of the following pairs is correctly matched?
Manakah antara berikut merupakan padanan yang betul?

	Sources *Sumber-sumber*	Forms of energy *Bentuk tenaga*
A	An iron *Seterika*	Light *Cahaya*
B	A candle *Lilin*	Mechanical *Mekanikal*
C	Radio *Radio*	Potential *Keupayaan*
D	Dry cells *Sel kering*	Chemical *Kimia*

8 Diagram 5 shows movement of water particles in a beaker when it is heated.
Rajah 5 menunjukkan pergerakan zarah-zarah air dalam bikar apabila dipanaskan.

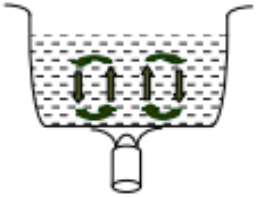


Diagram 5
Rajah 5

Which of the following correctly describes the movement?
Manakah antara berikut benar tentang pergerakan tersebut?

A Conduction
Konduksi
B Radiation
Sinaran
C Convection
Perolakan
D Reflection
Pantulan

9 Houses in tropical countries are usually painted white to
Kebanyakan rumah di negara tropika dicatkan warna putih bertujuan

A absorb heat
menyerap haba
B radiate heat
memancarkan haba
C detect heat
mengesan haba
D reflect heat
memantulkan haba

Pulau Pinang 10

1 What is the meaning of hypothesis?
Apakah maksud hipotesis?

A The variables that influence the result of the investigation.
Pembolehubah yang mempengaruhi keputusan penyiasatan.

B The collected data through observation and measurements.
Data yang dikumpul daripada pemerhatian dan pengukuran.

C Interprets the data based on the result of the investigation.
Tafsiran data berdasarkan keputusan penyiasatan.

D Suggested explanation that can be tested experimentally.
Cadangan penerangan yang boleh diuji secara eksperimen.

2 J, K, L and M are steps in using a microscope.
J, K, L dan M adalah langkah-langkah menggunakan mikroskop.

J – Adjust the mirror.
Laraskan cermin.

K – Place the microscope in a bright area.
Letak mikroskop di kawasan yang cerah.

L – Use the low power objective lens.
Guna kanta objektif berkuasa rendah.

M – Adjust the coarse focus knob.
Laraskan tombol fokus kasar.

Which sequence is correct?
Urutan manakah yang betul?

A J, K, L, M

B J, K, M, L

C K, J, L, M

D K, L, M, J

3 Which is **not** a microorganism?
*Yang manakah **bukan** mikroorganism?*

A Moss
Lumut

B Amoeba
Ameba

C Bacteria
Bakteria

D Plasmodium
Plasmodium

5 Why does a balloon burst when it is left under the sunlight?
Mengapakah belon meletup apabila dibiarkan di bawah cahaya matahari

A The air in the balloon becomes less dense.
Udara di dalam belon menjadi kurang tumpat.

B The air particles in the balloon become lighter.
Zarah – zarah udara di dalam belon menjadi lebih ringan.

C The air pressure in the balloon increases.
Tekanan udara di dalam belon meningkat.

D The air particles in the balloon expand.
Zarah-zarah udara dalam belon itu mengembang.

Diagram 1 shows the arrangement of particles in the three states of matter.
Rajah 1 menunjukkan susunan zarah-zarah dalam tiga keadaan jirim.

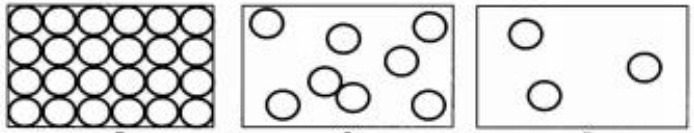


Diagram 1
Rajah 1

Which of the following represents P, Q and R?
Antara berikut, yang manakah mewakili P, Q dan R?

	P	Q	R
A	Iron *Besi*	Oxygen *Oksigen*	Mercury *Merkuri*
B	Iron *Besi*	Mercury *Merkuri*	Oxygen *Oksigen*
C	Mercury *Merkuri*	Iron *Besi*	Oxygen Oksigen
D	Oxygen *Oksigen*	Mercury *Merkuri*	Iron *Besi*

6 Which gas turns lime water cloudy?
Gas manakah mengeruhkan air kapur?

A Oxygen.
Oksigen.

B Nitrogen.
Nitrogen.

C Hydrogen.
Hidrogen.

D Carbon dioxide.
Karbon dioksida.

7 The following information shows the properties of a substance.
Maklumat berikut menunjukkan ciri-ciri bagi suatu bahan.

- High boiling point.
  Takat didih yang tinggi.
- Can be knocked into various shapes.
  Boleh diketuk kepada pelbagai bentuk.

Which other properties does this substance have?
Antara berikut, yang manakah ciri-ciri lain bagi bahan itu?

I Able to conduct electric current.
Boleh mengalirkan arus elektrik.

II Good conductor of heat.
Konduktor haba yang baik.

III Low melting point.
Takat lebur yang rendah.

IV Brittle.
Rapuh.

A I and III only.
I dan III sahaja.

B I and II only.
I dan II sahaja.

C III and IV only.
III dan IV sahaja.

D II and IV only.
II dan IV sahaja.

8 Diagram 2 shows the combustion of a candle. Liquid P is formed on the inner wall of the gas jar.
Rajah 2 menunjukkan pembakaran sebatang lilin. Cecair P terbentuk pada bahagian dalam dinding balang gas.

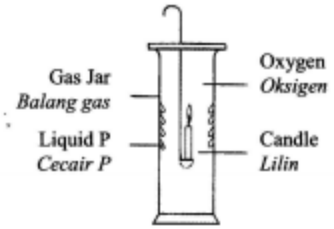


Diagram 2
Rajah 2

Which of the following shows the property of liquid P?
Antara berikut, yang manakah menunjukkan ciri cecair P?

A Boils at 100°C.
Mendidih pada 100°C.

B Turns red litmus paper to blue.
Menukarkan kertas litmus merah kepada biru.

C Turns anhydrous cobalt chloride paper to blue.
Menukarkan kertas kobalt klorida kontang kepada biru.

D Turns bicarbonate indicator from red to yellow.
Menukarkan warna penunjuk bikarbonat daripada merah kepada kuning

9 Which of the following practices is **not** the proper way of using and managing energy?
*Antara amalan-amalan berikut yang manakah **tidak** menunjukkan cara yang betul untuk mengguna dan mengurus tenaga?*

A Practising car-pooling.
Amalan berkongsi kereta.

B Recycling waste products.
Mengitar semula bahan-bahan buangan.

C Using alternative renewable source of energy.
Menggunakan sumber tenaga alternatif yang boleh diperbah

D Using high power electrical appliances.
Menggunakan peralatan elektrik berkuasa tinggi.

Pulau Pinang 10

10 Diagram 3 shows a railway track.
Rajah 3 menunjukkan landasan keretapi.

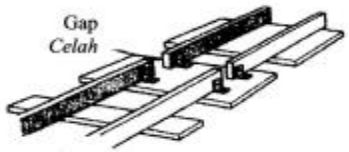


Diagram 3
Rajah 3

What is the purpose of the gap between the iron rails?
Apakah tujuan celah di antara landasan besi itu?

A To allow the rails to contract at night.
Membolehkan landasan besi mengecut pada waktu malam.

B To allow the rails to expand during hot days.
Membolehkan landasan besi mengembang pada hari yang panas.

C To reduce friction between the wheels and the rail.
Mengurangkan geseran antara roda dan landasan.

D To make it easier to repair the railway tracks.
Memudahkan kerja membaiki landasan keretapi.

11 The following information shows the processes of changes of state in matter:
Maklumat berikut menunjukkan proses-proses perubahan keadaan jirim:

Ice *Ais*	Process P *Proses P* →	Water *Air*
Water *Air*	Process Q *Proses Q* →	Steam *Stim*
Steam *Stim*	Process R *Proses R* →	Water *Air*

Which of the following represents P, Q and R?
Antara yang berikut yang manakah mewakili P, Q dan R?

	P	Q	R
A	Condensation *Kondensasi*	Boiling *Pendidihan*	Melting *Peleburan*
B	Boiling *Pendidihan*	Condensation *Kondensasi*	Melting *Peleburan*
C	Melting *Peleburan*	Boiling *Pendidihan*	Condensation *Kondensasi*
D	Melting *Peleburan*	Condensation *Kondensasi*	Boiling *Pendidihan*

Sabah 10

1 Diagram 1 shows the level of a liquid in a measuring cylinder.
Rajah 1 menunjukkan aras satu cecair dalam silinder penyukat.

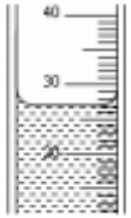


Diagram 1
Rajah 1

Which of the following is the correct reading?
Antara yang berikut, yang manakah bacaan yang betul?

A 25 ml
B 27 ml
C 29 ml
D 31 ml

2 Diagram 2 shows an organism.
Rajah 2 menunjukkan satu organisma.

Diagram 2
Rajah 2

Which of the following is true about the organism?
Antara yang berikut, yang manakah benar tentang organisma itu?

A It is a multicellular organism
Ia adalah satu organisma multisel
B It is a unicellular organism
Ia adalah satu organisma unisel
C It reproduces by forming spores
Ia membiak dengan membentuk spora
D It makes its own food
Ia membuat makanan sendiri

3 Diagram 3 shows organisms J, K, L and M.
Rajah 3 menunjukkan organisma J, K, L dan M.

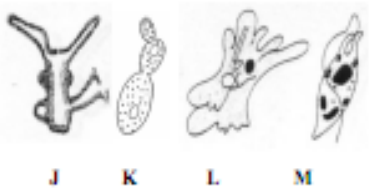


Diagram 3
Rajah 3

Which of the following represents J, K, L and M?
Antara yang berikut, yang manakah mewakili J, K, L dan M?

	J	K	L	M
A	Euglena *Euglena*	Hydra *Hidra*	Amoeba *Ameba*	Yeast *Yis*
B	Hydra *Hidra*	Amoeba *Ameba*	Yeast *Yis*	Euglena *Euglena*
C	Hydra *Hidra*	Yeast *Yis*	Amoeba *Ameba*	Euglena *Euglena*
D	Amoeba *Ameba*	Euglena *Euglena*	Yeast *Yis*	Hydra *Hidra*

4 Which of the following is true about the particles of copper at room temperature?
Antara yang berikut, yang manakah benar mengenai zarah-zarah kuprum pada suhu bilik?

A Can move freely in any direction
Boleh bergerak bebas dalam semua arah
B Far apart and can move freely
Berjauhan dan boleh bergerak bebas
C Can move in one direction only
Boleh bergerak dalam satu arah sahaja
D Close together and can only vibrate about their fixed positions
Rapat dan hanya boleh bergetar pada kedudukan yang tetap

5 Table 1 shows the classification of elements into metals and non-metals.
Jadual 1 menunjukkan pengelasan unsur-unsur kepada logam dan bukan logam.

Metals *Logam*	Non-metals *Bukan logam*
Aluminium *Aluminium*	Sulphur *Sulfur*
Copper *Kuprum*	Phosphorus *Fosforus*
J	K

Table 1
Jadual 1

Which of the following represents J and K?
Antara yang berikut, yang manakah mewakili J dan K?

	J	K
A	Gold *Emas*	Lead *Plumbum*
B	Zinc *Zink*	Carbon *Karbon*
C	Iodine *Iodin*	Silver *Perak*
D	Oxygen *Oksigen*	Chlorine *Klorin*

6 Which of the following percentage composition of gases in the air is correct?
Antara peratus kandungan gas-gas di dalam udara yang berikut, yang manakah benar?

	Gas *Gas*	Percentage *Peratus*
A	Carbon dioxide *Karbon dioksida*	0.3 %
B	Inert gases *Gas nadir*	9.7 %
C	Oxygen/*Oksigen*	12 %
D	Nitrogen/ *Nitrogen*	78 %

7 Diagram 4 shows a candle burning in atmospheric air.
Rajah 4 menunjukkan sebatang lilin sedang terbakar dalam udara atmosfera

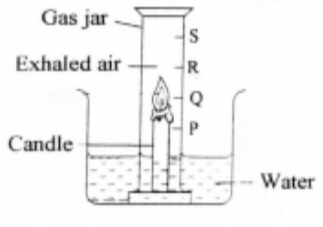


Diagram 4
Rajah 4

What are the observations at the end of the experiment?
Apakah pemerhatian di akhir eksperimen ini?

A The candle extinguishes and the water level rises to **S**
Lilin padam dan aras air meningkat ke **S**
B The candle continues burning and the water level remains unchanged
Lilin terus menyala dan aras air tidak berubah
C The candle extinguishes and the water level rises to **P**
Lilin padam dan aras air meningkat ke **P**
D The candle extinguishes and the water level remains unchanged
Lilin padam dan aras air tidak berubah

9 Which of the following energy sources is renewable?
Antara sumber tenaga berikut, yang manakah boleh diperbaharui?

A Radioactive substances
Bahan Radioaktif
B Natural gas
Gas asli
C Coal
Arang
D Sun
Matahari

Sabah 10

8 Diagram 5 shows an experiment on respira of a cockroach. The limewater turns cloudy after 30 minutes.
Rajah 5 menunjukkan satu eksperimen tentang respirasi seekor lipas. Air kapur menjadi keruh selepas 30 minit

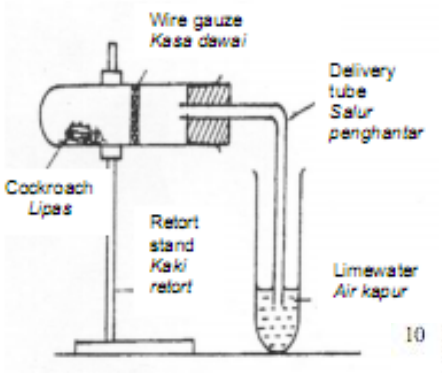


Diagram 5
Rajah 5

Which of the following is true about the experiment?
Antara yang berikut, yang manakah be tentang eksperimen itu?

A Ammonia has been released
Ammonia telah dibebaskan
B Oxygen has been released
Oksigen telah dibebaskan
C Sulphur dioxide has been release
Sulfur dioksida telah dibebaskan
D Carbon dioxide has been released
Karbon dioksida telah dibebaskan

10 Diagram 7 shows a fire alarm system.
Rajah 7 menunjukkan sistem penggera kebakaran.

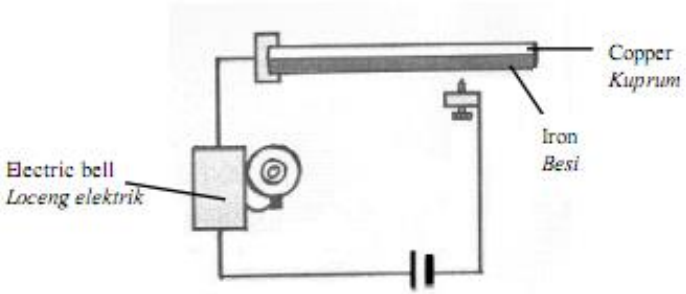


Diagram 7
Rajah 7

The system uses two types of metals that
Sistem ini menggunakan dua jenis logam yang

A have a different malleability.
mempunyai ketertempaan yang berbeza.

B expand at a different rates.
mengembang pada kadar yang berbeza.

C contract at a different rates.
mengecut pada kadar yang berbeza.

D have a different melting points.
mempunyai takat lebur yang berbeza.

11 Most of the petrol tanker does has a white and shiny surface because it is
Kebanyakan tangki lori mempunyai permukaan yang putih dan berkilat kerana ia adalah

A good absorber but poor reflector of heat
penyerap haba yang baik tetapi pemantul haba yang tidak baik
B good absorber and radiator of heat
penyerap dan pemancar haba yang baik
C poor reflector and radiator of heat
pemantul dan pemancar haba yang tidak baik
D good reflector but poor absorber of heat
pemantul haba yang baik tetapi penyerap haba yang tidak baik

10 Diagram 6 shows a metal ball which cannot pass through its ring after being heated.
Rajah 6 menunjukkan sebiji bola besi tidak boleh melalui gelang itu selepas dipanaskan.

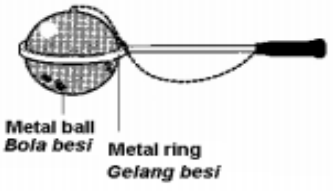


Diagram 6
Rajah 6

ich of the following had happened to the icles of the metal ball?
akah antara berikut yang berlaku kepada ah bola besi?

A The shape of the particles changed
Bentuk zarah-zarah telah berubah
B The size of the particles increased
Saiz zarah-zarah telah bertambah
C The number of the particles increased
Jumlah zarah-zarah telah bertambah
D The space between the particles increased
Ruang antara zarah-zarah telah bertambah

9 Diagram 6 shows heat transfer in water which is heated.
Rajah 6 menunjukkan pemindahan haba dalam air yang dipanaskan.

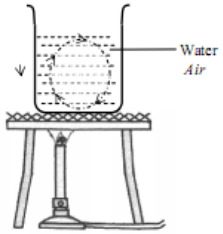


Diagram 6
Rajah 6

Which of the following appliances uses the same method of heat transfer?
Antara perkakas-perkakas berikut, yang manakah menggunakan kaedah pemindahan haba yang sama?

A A lighted bulb
Mentol menyala

B Refrigerator
Peti sejuk

C Thermometer
Termometer

D Electric iron
Seterika elektrik

Sarawak 10

1 Diagram 1 shows two reagent bottles P and Q.
Rajah 1 menunjukkan dua buah botol reagen P dan Q.

Bottle P
Botol P

Bottle Q
Botol Q

Diagram 1
Rajah 1

Which group of chemicals should be kept in bottles P and Q as shown in Diagram 1?
Apakah kumpulan bahan kimia yang patut disimpan dalam botol P dan Q seperti yang ditunjukkan pada Rajah 1?

	Bottle P *Botol P*	Bottle Q *Botol Q*
A	Mercury *Raksa*	Iodine *Iodin*
B	Concentrated acid *Asid pekat*	Petrol *Petrol*
C	Alcohol *Alkohol*	Concentrated acid *Asid pekat*
D	Uranium *Uranium*	Sulphuric acid *Asid Sulfurik*

2 Diagram 2 shows a simple pendulum. W, X and Y are points where the pendulum passes through to complete one swing.
Rajah 2 menunjukkan satu bandul ringkas. W, X dan Y adalah titik-titik laluan bandul untuk membuat satu ayunan lengkap.

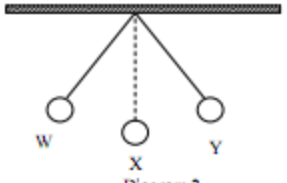


Diagram 2
Rajah 2

Which of the following sequences shows one complete swing?
Urutan yang manakah menunjukkan satu ayunan lengkap?

A Y → W → X → W → Y
B W → X → Y → X → W
C W → X → Y → W → X
D Y → X → W → Y → W

3 Diagram 3 shows a plant cell.
Rajah 3 menunjukkan satu sel tumbuhan.

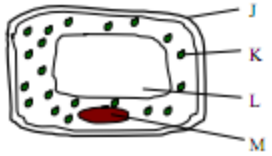


Diagram 3
Rajah 3

Which structure absorbs sunlight for the process of photosynthesis?
Struktur yang manakah menyerap cahaya matahari untuk proses fot

A J
B K
C L
D M

4 Which is the correct sequence of cells organisation in the human body?
Urutan yang manakah benar tentang organisasi sel badan manusia?

A Cell (*sel*) → system (*sistem*) → tissue (*tisu*) → organ (*organ*)
B Cell (*Sel*) → tissue (*tisu*) → organ (*organ*) → system (*sistem*)
C Cell (*Sel*) → system (*sistem*) → organ (*organ*) → tissue (*tisu*)
D Cell (*sel*) → tissue (*tisu*) → system (*sistem*) → organ (*organ*)

5 Diagram 4 shows a group of people walking in a street.
Rajah 4 menunjukkan sekumpulan orang berjalan di sebuah lorong

Diagram 4
Rajah 4

What most probably caused the scene?
Apakah yang menyebabkan keadaan begitu?

A The thinning of the ozone layer
Penipisan lapisan ozon
B The greenhouse effect
Kesan rumah hijau
C Acid rain
Hujan asid
D Haze
Jerebu

6 Which air pollutant is correctly matched with its harmful effect?
Bahan pencemar udara yang manakah dipadankan betul dengan kesan bahayanya?

	Air pollutant *Bahan pencemar udara*	Harmful effect *Kesan bahaya*
A	Lead compound *Sebatian plumbum*	Causes acid rain *Menyebabkan hujan asid*
B	Chlorofluorocarbon *Klorofluorokarbon*	Causes lung cancer *Menyebabkan kanser paru-paru*
C	Carbon monoxide *Karbon monoksida*	Causes death *Menyebabkan kematian*
D	Sulphur dioxide *Sulfur dioksida*	Causes brain damage *Menyebabkan kerosakan otak*

7 Which of the following depletes the Earth's natural resources?
Antara berikut yang manakah menyusutkan sumber asli Bumi?

A Solar-powered generating station
Stesen janakuasa solar
B Wind-powered generating station
Stesen janakuasa angin
C Wave-powered generating station
Stesen janakuasa ombak
D Diesel-powered generating station
Stesen janakuasa minyak diesel

8 Diagram 5 shows a boy climbing up a ladder.
Rajah 5 menunjukkan seorang budak lelaki menaiki tangga.

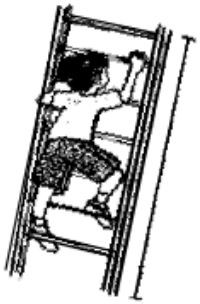


Diagram 5
Rajah 5

The energy change that takes place in this activity is as follows.
Perubahan tenaga yang berlaku dalam aktiviti ini adalah seperti berikut.

A Chemical energy (*Tenaga kimia*) → Potential energy (*Tenaga keupayaan*) → Kinetic energy (*Tenaga kinetik*)
B Kinetic energy (*Tenaga kinetik*) → Chemical energy (*Tenaga kimia*) → Potential energy (*Tenaga keupayaan*)
C Chemical energy (*Tenaga kimia*) → Kinetic energy (*Tenaga kinetic*) → Potential energy (*Tenaga keupayaan*)
D Potential energy (*Tenaga keupayaan*) → Chemical energy (*Tenaga kimia*) → Kinetic energy (*Tenaga kinetik*)

SBP 10

1 Diagram 1 shows a measurement of the diameter of a boiling tube.
Rajah 1 menunjukkan ukuran diameter satu tabung didih.

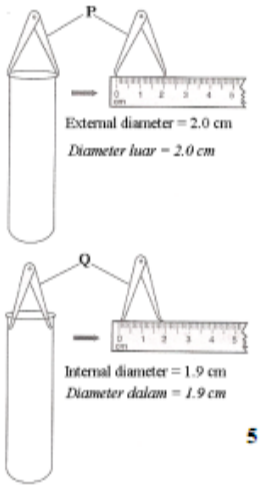


Diagram 1
Rajah 1

Calculate the thickness of the boiling tube's wall.
Kira ketebalan dinding tabung didih itu.

A 0.50 cm
B 0.25 cm
C 0.10 cm
D 0.05 cm

2 Diagram 2 shows a type of cell in the human body.
Rajah 2 menunjukkan sejenis sel dalam badan manusia.

Diagram 2

Which of the following is the function of the cell?
Antara berikut, yang manakah merupakan fungsi sel itu?

A Protects the body against infections
Melindungi badan daripada jangkitan
B Involves in blood clotting to stop bleeding
Terlibat dalam pembekuan darah untuk menghentikan luka
C Transports oxygen to all parts of the body
Mengangkut oksigen ke seluruh bahagian badan
D Contracts and relaxes to enable movement of body parts.
Mengecut dan mengendur untuk membolehkan pergerakan anggota badan

The density of iron is 7.9 g/cm^3. What is the mass of 20 cm^3 of iron?
Ketumpatan besi adalah 7.9 g/cm^3. Apakah jisim bagi 20 cm^3 besi?

A 99 g
B 158 g
C 170 g
D 198 g

5 Diagram 4 shows an experiment.
Rajah 4 menunjukkan satu eksperimen.

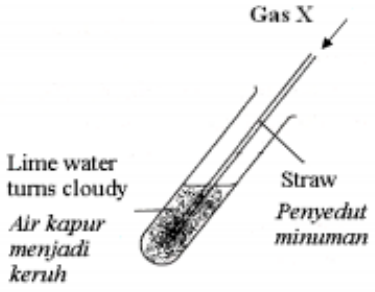


Diagram 4
Rajah 4

Which of the following statements is **correct** about gas **X**?
*Antara pernyataan berikut, yang manakah **benar** tentang gas **X**?*

A It is odourless but with colour
Ia tidak berbau tetapi berwarna
B It is not soluble in sodium hydroxide solution
Ia tidak larut dalam larutan natrium hidroksida
C It has neutral properties towards moist litmus paper
Ia bersifat neutral terhadap kertas litmus yang lembap
D It turns hydrogen carbonate indicator from red to yellow
Ia menukarkan warna penunjuk hidrogen karbonat daripada merah kepada kuning

Diagram 5 shows a pie chart which represents the composition of gases **P**, **Q**, **R** and **S** in the air.
*Rajah 5 menunjukkan satu carta pai yang mewakili komposisi gas **P**, **Q**, **R** dan **S** di dalam udara.*

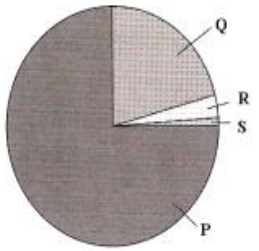


Diagram 5
Rajah 5

A P
B Q
C R
D S

Which gas is needed for combustion?
Gas yang manakah diperlukan untuk pembakaran?

4 Diagram 3 shows an experimental set-up.
Rajah 3 menunjukkan satu susunan eksperimen.

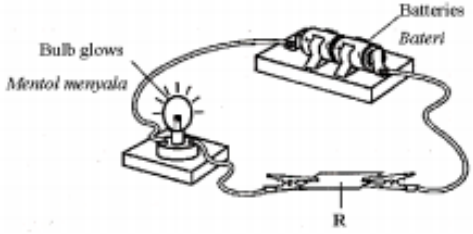


Diagram 3
Rajah 3

Which of the following properties is **correct** about **R**?
*Antara ciri-ciri berikut,yang manakah **benar** tentang **R**?*

A **R** has dull surfaces.
***R** mempunyai permukaan yang pudar*
B **R** cannot be reshaped
***R** tidak boleh dibentuk semula*
C **R** is poor conductor of heat
***R** adalah konduktor haba yang lemah*
D **R** has very high melting point
***R** mempunyai takat lebur yang sangat tinggi*

7 Diagram 6 shows a ball which is thrown into the net.
Rajah 6 menunjukkan sebiji bola dilontarkan ke dalam jaring.

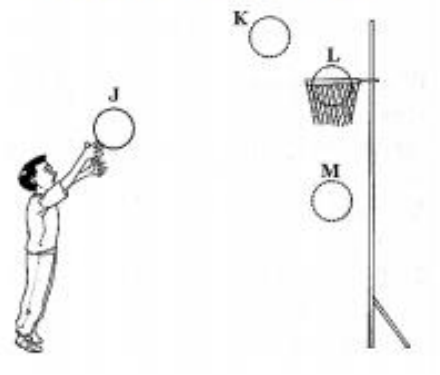


Diagram 6
Rajah 6

A J
B K
C L
D M

At which position does the ball possess the maximum potential energy?
Di kedudukan manakah bola itu mempunyai tenaga keupayaan maksimum

SBP 10

9 Which of the following is **correct** about dull dark surface and white shiny surface?
*Antara berikut,yang manakah **betul** tentang permukaan gelap yang pudar dan permukaan putih berkilat?*

	Dark and dull surface *Permukaan gelap dan pudar*	White and shiny surface *Permukaan putih dan berkilat*
A	Good reflector of heat *Pemantul haba yang baik*	Good absorber of heat *Penyerap haba yang baik*
B	Good absorber of heat *Penyerap haba yang baik*	Good radiator of heat *Penyinar haba yang baik*
C	Good reflector of heat *Pemantul haba yang baik*	Good radiator of heat *Penyinar haba yang baik*
D	Good absorber of heat *Penyerap haba yang baik*	Good reflector of heat *Pemantul haba yang baik*

10 Which of the following will happen when a substance cools down?
Antara berikut yang manakah akan berlaku apabila suatu bahan disejukkan?

A Heat energy is reversed
Tenaga haba diterbalikkan
B Heat energy is released
Tenaga haba dibebaskan
C Heat energy is absorbed
Tenaga haba diserap
D The particles move further apart
Zarah-zarah bergerak lebih jauh antara satu sama lain

8 Diagram 7 shows two copper blocks of different sizes are put into boiling water for 30 minutes. The copper blocks are then transferred into two beakers, beaker **P** and **Q**, each containing the same volume of water.
*Rajah 7 menunjukkan dua blok kuprum yang berlainan saiz dimasukkan ke dalam air yang mendidih selama 30 minit. Blok kuprum itu kemudian dipindahkan ke dalam dua bikar, **P** dan **Q**. Setiap bikar mengandungi isipadu air yang sama.*

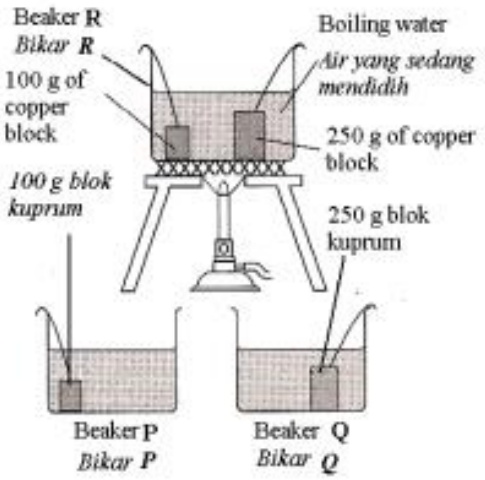


Diagram 7
Rajah 7

Which of the following are the variables in the experiment?
Antara yang berikut, yang manakah pemboleh ubah dalam eksperimen ini?

	Manipulated variable *Pemboleh ubah yang dimanipulasikan*	Responding variable *Pemboleh ubah yang bergerakbalas*
A	Mass of copper block *Jisim blok kuprum*	Water temperature in beaker **P** and beaker **Q** *Suhu air dalam bikar **P** dan bikar **Q***
B	Mass of copper block *Jisim blok kuprum*	Water temperature in beaker **R** *Suhu air dalam bikar **R***
C	Volume of water in beaker **R** *Isipadu air dalam bikar **R***	Water temperature in beaker **R** *Suhu air dalam bikar **R***
D	Volume of water in beaker **P** and beaker **Q** *Isipadu air dalam bikar P dan bikar Q*	Water temperature in beaker **P** and beaker **Q** *Suhu air dalam bikar **P** dan bikar **Q***

Terengganu 10

1 The information given below shows the basic skills in a scientific investigation.
Keterangan yang diberi di bawah menunjukkan kemahiran asas dalam penyiasatan saintifik.

K - Make a hypothesis
Membuat hipotesis
L - Analyse and interpret data
Analisis dan interpret data
M - Make an observation
Membuat pemerhatian
N - Make a conclusion
Membuat kesimpulan

Which of the following sequences is correct?
Antara berikut urutan yang manakah betul?

A K → M → L → N
B M → K → L → N
C M → N → K → L
D L → K → N → M

2 The following are statements about an animal cell.
Berikut adalah pernyataan berkaitan dengan satu sel haiwan.

- The smallest cell in the human body
  Sel terkecil dalam badan manusia
- Can move by itself
  Boleh bergerak sendiri

Which of the following cell is described by the statements?
Antara sel berikut, yang manakah diperihalkan oleh pernyataan itu?

A Ovum cell
Sel ovum

B Sperm cell
Sel sperma

C Red blood cell
Sel darah merah

D White blood cell
Sel darah putih

3 Table 1 shows four substances with different densities.
Jadual 1 menunjukkan empat bahan yang berlainan ketumpatan.

Substances *Bahan*	Density / g/cm^3 *Ketumpatan / g/cm^3*
Ice *Ais*	0.9
Iron *Besi*	7.9
Oil *Minyak*	0.8
Mercury *Merkuri*	13.6

Table 1 / *Jadual 1*

Given that the density of water is 1.0 g/cm^3, which substances can float on water?
Diberi bahawa ketumpatan air ialah 1.0 g/cm^3, bahan yang manakah boleh terapung di atas air?

A Ice and iron
Ais dan besi

B Ice and oil
Ais dan minyak

C Oil and mercury
Minyak dan merkuri

D Iron and mercury
Besi dan merkuri

4 A marble of density 3.5g/cm^3 is dropped into a cylinder containing carbon disulphide solution and mercury with densities 1.3g/cm^3 and 13.6g/cm^3 respectively.
Sebiji guli berketumpatan 3.5g/cm^3 dimasukkan ke dalam silinder yang mengandungi larutan karbon disulfida dan merkuri dengan ketumpatan masing-masing 1.3g/cm^3 dan 13.6g/cm^3.

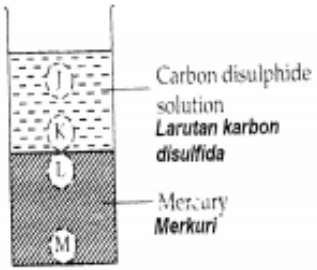


Diagram 1 / *Rajah 1*

In which positions J, K, L and M as shown in Diagram 1, will the marble stop?
Dalam kedudukan yang manakah J, K, L dan M seperti ditunjukkan dalam Rajah 1, guli akan berhenti?

A J B K
C L D M

5 Diagram 2 shows the classification of matter.
Rajah 2 menunjukkan pengkelasan jirim.

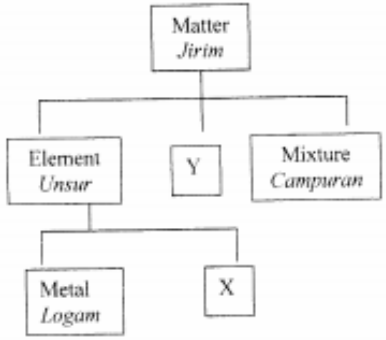


Diagram 2 / *Rajah 2*

Which of the following are examples of X and Y?
Antara berikut yang manakah contoh X dan Y?

	X	Y
A	Copper *Kuprum*	Sodium chloride *Natrium klorida*
B	Chlorine *Klorin*	Carbon dioxide *Karbon dioksida*
C	Sulphur *Sulfur*	Sodium *Natrium*
D	Mercury *Merkuri*	Air *Udara*

3 Diagram 3 shows arrangement of particles in gas and liquid state.
Rajah 3 menunjukkan susunan zarah- zarah dalam keadaan gas dan cecair.

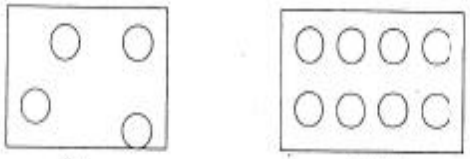


Diagram 3
Rajah 3

Gas particles can diffuse at a faster rate than the liquid particles.
Which of the following **does not** explain the statement above?

Zarah-zarah gas boleh meresap lebih cepat berbanding zarah- zarah cecair.
Manakah antara yang berikut ***tidak*** *menerangkan pernyataan di atas?*

A The gas particles can move faster.
Zarah-zarah gas boleh bergerak lebih laju.

B The gas particles are in smaller size.
Zarah-zarah gas bersaiz lebih kecil.

C The space between the gas particles are larger.
Ruang di antara zarah-zarah gas adalah lebih besar.

D The gas particles have more kinetic energy than liquid particles.
Zarah-zarah gas mempunyai lebih tenaga kinetik berbandisg zarah-zara cecair.

4 Which of the following is not a mixture?
Manakah antara berikut ***bukan*** *campuran?*

A Air
Udara

B Soil
Tanah

C Sand
Pasir

D Coffee
Kopi

5 Diagram 4 shows an electrical bulb which is filled with gas Z.
Rajah 4 menunjukkan mentol elektrik yang diisi dengan gas Z

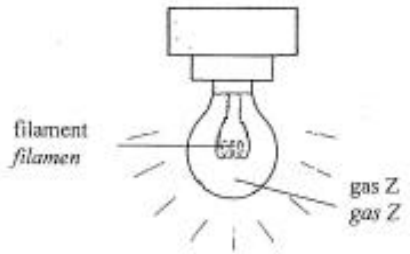


Diagram 4
Rajah 4

Which of the following gases are **not** gas Z?
Manakah antara yang berikut ***bukan*** *gas Z?*

I Argon
Argon

II Oxygen
Oksigen

III Carbon dioxide
Karbon dioksida

A I and II only
I dan II sahaja

B I and III only
I dan III sahaja

C II and III only
II dan III sahaja

D I , II and III
I, II dan III

6 The information below shows two situations.
Maklumat di bawah menunjukkan dua situasi.

A book on a rack. *Buku di atas rak.*
A stretched spring. *Spring yang diregangkan.*

What type of energy do the objects in the situations above have?
Apakah jenis tenaga yang dimiliki oleh objek-objek dalam situasi di atas ?

A Heat energy
Tenaga haba

B Kinetic energy
Tenaga kinetik

C Electrical energy
Tenaga elektrik

D Potential energy
Tenaga keupayaan

5 shows an experiment to study the effect of the inner layer of a cup on the
ire of water. The initial temperature of water in both cups is 80 °C.
nenunjukkan satu eksperimen untuk mengkaji kesan lapisan dalam cawan
uhu air. Suhu awal air dalam kedua-dua cawan adalah 80 °C.

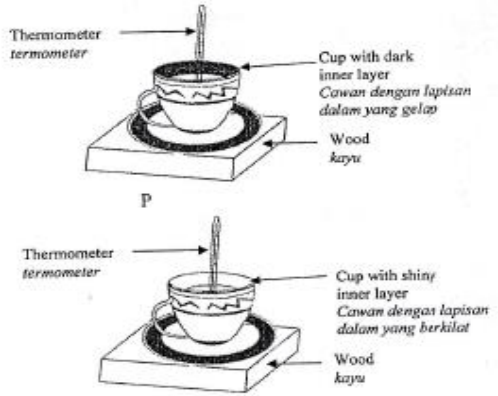


Diagram 5
Rajah 5

After 10 minutes, what is the temperature in cups P and Q?
Selepas 10 minit, berapakah bacaan suhu pada cawan P dan Q?

	P	Q
A	70 °C	75 °C
B	75 °C	70 °C
C	75 °C	75 °C
D	90 °C	85 °C

2011

1. Which of the following is **not** a science phenomenon?

   A. A worm hiding in the soil to avoid heat
   B. Reflection of light by a mirror
   C. A teacher scolding a student
   D. The growth movement of a plant towards sunlight

2. The information's below are steps taken in a scientific investigation.

   P : carrying out experiment
   Q : forming a conclusion
   R : recording data
   S : identifying the problem
   T : forming hypothesis

   Which of the following is the correct order?

   A. S → T → P → R → Q
   B. T → S → P → R → Q
   C. S → P → T → Q → R
   D. T → S → Q → P → R

3. Which of the following values is the largest?

   A. 0.07 km
   B. 700 m
   C. 7000 cm
   D. 70000 mm

4. A 250 ml beaker was filled with 150 ml of water. A number of marbles, each having a volume of $5cm^3$, were put into the beaker. The water level will reach the top if the number of marbles are

   A. 80
   B. 50
   C. 30
   D. 20

Which of the following is/are the importance of using standard units?

   I. To make sure that measurements can be understood everywhere
   II. To make sure that all things can be sold at the same price
   III. To make sure that measurements can be made using the same instruments

   A. I only
   B. I and II only
   C. II and III only
   D. I, II and III

L, M, N and O are the steps in the handling of a microscope when it is being used

   L : Place the glass slide on the microscope stage
   M : Adjust the microscope mirror
   N : Adjust the focusing knob
   O : Use the lower power objective
   P : Place the microscope in a bright area

Which of the following sequence is correct?

   A. P, O, M, L and N
   B. O, P, L, M and N
   C. L, M, N, O and P
   D. L, M, N, P and O

Which of the following cell structures present in plant cells only?

   A. Nucleus
   B. Cell membrane
   C. Cell wall
   D. Cytoplasm

2011

8. Diagram 1 shows the classification of organism.

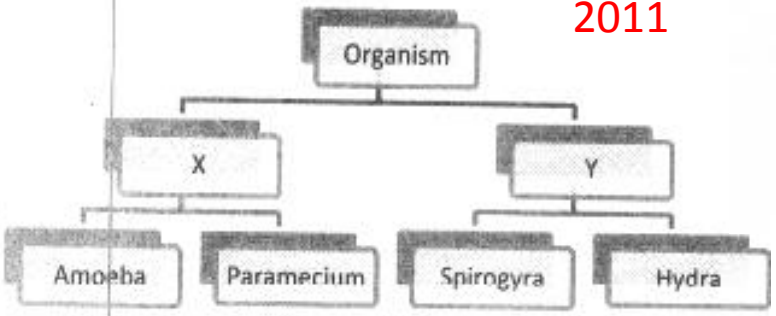


Diagram 1

Which of the following are true about X and Y?

	X	Y
A	Unicellular	Multicellular
B	Multicellular	Unicellular
C	Have cilia	Have no cilia
D	Have no cilia	Have cilia

9. Diagram 2 shows the organization of cells in an organism.

Cells → Tissues → M → Systems

Diagram 2

Which group contains examples of M?

A. Spinal cord, ovary, nose, liver
B. Sperm, kidney, testis, lung
C. Liver, ear, sperm, stomach
D. Skin, ovum, brain, heart

10. Which of the following is **not** one of the reasons why humans are complex organisms?

A. They have various types of specialized cells
B. The cells perform specialized functions
C. There is no division of work among the cells
D. The cells are well organized into tissues, organs and systems.

11. Diagram 3 shows a student blowing up a balloon.

Diagram 3

Why does the balloon becomes bigger?

A. Air occupies space
B. Air expand
C. Air has mass
D. Air is light

12. Diagram 4 shows the movement of smoke particles.

Diagram 4

Which of the following statements is true?

I. Smoke is made up of particles
II. The particles of smoke move at random
III. This movement is called Brownian movement

A. I and II only
B. I and III only
C. II and III only
D. I, II and III

13. The statement below is a property of a state of matter.

Forces of attraction between particles are very strong.

Which of the following examples of matter has the above property?

A. Cork
B. Petrol
C. Water vapour
D. Ethanol

2011

14. Diagram 5 shows three cuboids.

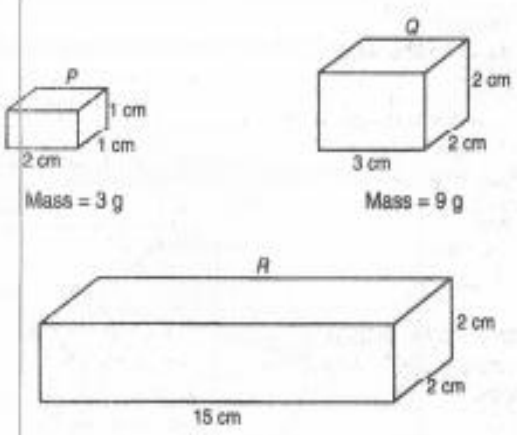


Diagram 5

Which of the cuboids will float on water which has the density of 1 g/cm^3?

A. P and Q
B. P and R
C. Q and R
D. P, Q and R

15. A piece of iron nail sinks in sea water while a ship made of iron does not sink in sea water. This is because

A. Sea water is denser than iron nail
B. Iron nail displaces more water than the ship
C. The ship is heavier than the iron nail
D. The ship displaces a large volume of sea water equivalent to its weight

16. A compound is defined as .....

A. a combination of a group of atoms f the same type or different types.
B. a substance which consists of two or more elements that are combined chemically.
C. the simplest form of matter which consists of one type of atom.
D. a mixture of two or more substances that are not combined chemically.

17. Which of the following is **not** true of the importance of water to our body?

A. Controls the concentration of blood
B. As a support system in our body
C. As a medium to transport toxic materials
D. Stabilizes the body temperature

18. Diagram 6 shows a mixture of sulphur and iron fillings being heated until a black substance is produced.

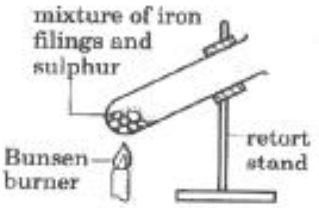


Diagram 6

Which of the following statements about the black substance is true?

I. It can be separated using physical method
II. Its characteristic is different from sulphur and iron
III. It is iron sulphide

A. I, II and III
B. I and II only
C. II and III only
D. I only

19. W, X, Y and Z are steps to separate a mixture of iron fillings, sand and salt.

W → X → Y → Z → Salt

2011

Which of the following correctly represent W, X, Y and Z?

	W	X	Y	Z
A	Use a magnet	Dissolve the mixture	Filter	Evaporate the filtrate
B	Use a magnet	Dissolve the mixture	Evaporate the filtrate	Filter
C	Dissolve the mixture	Use a magnet	Filter	Evaporate the filtrate
D	Filter	Use a magnet	Evaporate the filtrate	Dissolve the mixture

20. Which of the following is a list of all non-metals?

A. Aluminium, carbon, copper
B. Carbon, silicon, bromine
C. Nitrogen, silicon, magnesium
D. Mercury, chlorine, hydrogen

21. What is the most suitable test to confirm the presence of oxygen?

A. Use lime water
B. Use a glowing splinter
C. Use litmus paper
D. Use sodium hydroxide solution

22. The experiment shows the hydrogen carbonate indicator changed from red to yellow.

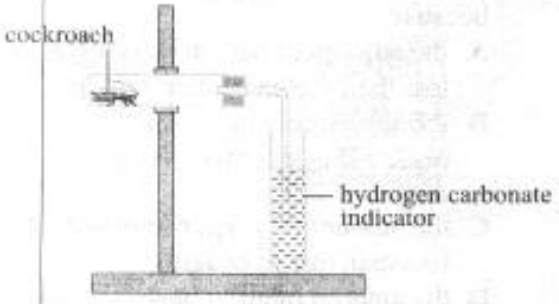


Diagram 7

This shows that

I. The cockroach released carbon dioxide gas
II. The cockroach used oxygen gas during respiration
III. The cockroach released water vapour and heat

A. I, II and III
B. I and II only
C. II and III only
D. I only

23. Why air is a mixture?

A. It contains more than one gas
B. It moves randomly
C. Its pressure varies from one place to another
D. Its composition is not fixed

24. Cigarette smoking can lead to the following diseases **except**..

A. Heart diseases
B. Emphysema
C. Lung cancer
D. Dengue

25. The increase in the concentration carbon dioxide in the air is due to…

I. The increase in the burning of fossil fuels
II. More trees being cut down
III. The increase in the number of vehicles on the road

A. I and II only
B. I and III only
C. II and III only
D. I, II and III

2011

26. Which of the following statements on energy is **not** true?

A. It can change from one form to another
B. It cannot be stored
C. It is the ability to do work
D. It exists in various forms

27. The following shows four situations.

K : A spring is compressed
L : A car is moving at high speed
M : A rock on cliff
N : A policeman chasing a thief

Which situations possess potential energy?

A. K and L only
B. M and N only
C. K and M only
D. L and N only

28. Which of the following energy changes take place in an electrical kettle

A. Electrical energy → sound energy
B. Electrical energy → heat energy
C. Electrical energy → light energy
D. Electrical energy → mechanical energy

29. Which of the following is true of geothermal energy?

A. It is the heat energy from inside the Earth
B. It is the energy obtained from plant materials
C. It is the main source of light energy
D. It is the energy obtained by splitting atoms of uranium

30. The following statements are about an energy source.

- Easy to burn
- Formed from dead plants and animals
- Non-renewable

Which of the following sources is described by the statements?

A. Biomass
B. Radioactive substances
C. Solar
D. Fossil fuels

31. Diagram 8 shows two energy converters which can be seen on roofs of houses and near parking meters.

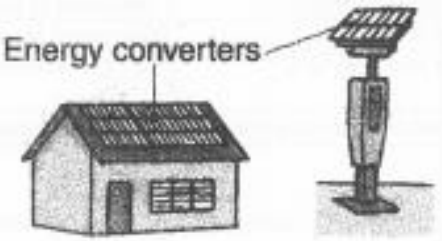


Diagram 8

What energy does the energy converters convert?

A. Wind energy
B. Wave energy
C. Geothermal energy
D. Solar energy

32. The advantages of solar energy includes

I. It will not deplete
II. It is free of charge
III. It causes pollution

A. I, II and III
B. I and II only
C. II and III only
D. I only

33. The following information is about activities carried out by a group of students.

P : Rubbing two stones
Q : Lighting a matchstick
R : Adding zinc to hydrochloric acid

Which of the activities produce heat?

A. P and Q
B. P and R
C. Q and R
D. P, Q and R

34. Which of the following statements on heat and temperature is true?

	Heat	Temperature
A	Measured in degree Celsius	Measured in joules
B	Cannot travel in vacuum	Can travel in vacuum
C	Total amount of energy in a substance	Degree of hotness of a substance
D	Flows from hot place to cold place	Flows from cold place to hot place

35. Diagram 9 shows an activity carried out to show the effect of heat flow.

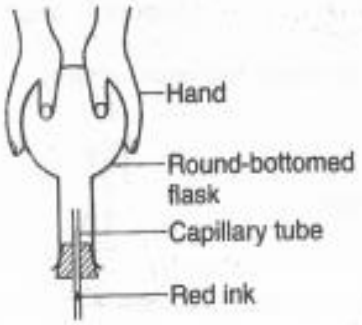


Diagram 9

What is observed when the flask is covered by both of the student's palms?

A. The red ink disappears
B. The red ink moves up
C. The red ink moves down
D. The red ink moves down then moves up

2011

36. Diagram 10 shows an experiment.

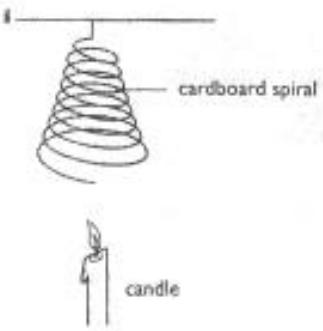


Diagram 10

When a lighted candle is placed under the cardboard spiral, the spiral begins to spin because the hot air under the cardboard spiral experiences...

A. Radiation
B. Reflection
C. Convection
D. Conduction

37. Diagram 11 shows the phenomenon of sea breeze.

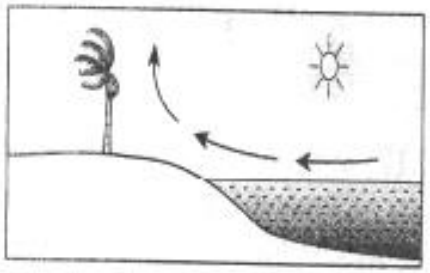


Diagram 11

Which of the following statements are true?

I. The air over the sea is hotter than the air on land.
II. During the daytime, the land heats up faster than the sea.
III. The cold air from the sea replaces the hot air on land.

A. I and II only
B. I and III only
C. II and III only
D. I, II and III

38. Dry ice used in ice-cream containers is obtained from carbon dioxide by

A. Condensation
B. Freezing
C. Sublimation
D. Evaporation

39. Which of the following uses a bimetallic strip?

A. A fire alarm
B. A steel bridge
C. A thermometer
D. A light bulb

40. Traditional houses in villages are often built with many windows and openings. Why?

A. To provide fresh supply of air
B. To provide a good view of the village
C. To allow heat to flow efficiently
D. To promote good neighborhood relations

The following information shows the procedure of an experiment to investigate how the length of simple pendulum affects its swings.

Maklumat berikut menunjukkan prosedur satu eksperimen untuk mengkaji bagaimana panjang bandul ringkas mempengaruhi ayunannya.

K - Recording the data collected
Merekodkan data terkumpul
L - Making conclusions
Membuat kesimpulan
M - Making observation
Membuat pemerhatian
N - Analysing and interpreting data
Menganalisis dan mentafsirkan data

Kedah 11

Which of the following is arranged in the correct sequence?
Antara berikut, yang manakah disusun mengikut urutan yang betul?

A L, M, N, K
B M, K, N, L
C N, K, L, M
D K, L, N, M

2 Diagram 1 shows a plant cell.
Rajah 1 menunjukkan satu sel tumbuhan.

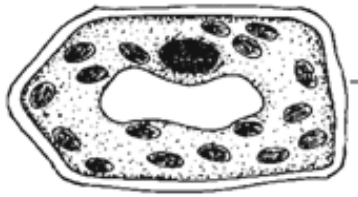


Diagram 1
Rajah 1

What is the function of structure X?
Apakah fungsi struktur X?

A Supports and gives the cell a regular shape.
Menyokong dan memberi bentuk yang tetap kepada sel.
B Controls the movement of substances into or out of the cell.
Mengawal pergerakan masuk atau keluar bahan dalam sel.
C Controls all activities of the cell.
Mengawal semua aktiviti dalam sel.
D Stores salt solution and sugar solution.
Menyimpan larutan garam dan larutan gula.

3 A stone has a volume of 10 cm^3 and a mass of 35 g. Calculate its density.
Seketul batu mempunyai isipadu 10 cm^3 *dan berjisim* 35 g. *Hitung ketumpatannya.*

A 0.29 g/cm^3
B 2.9 g/cm^3
C 3.5 g/cm^3
D 35 g/cm^3

4 Diagram 2 shows a classification of matter.

Rajah 2 menunjukkan pengelasan jirim.

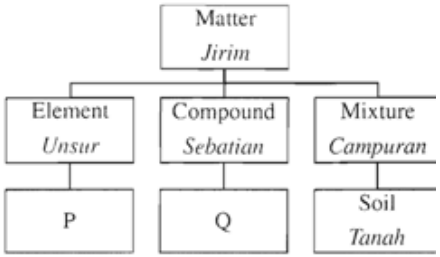


Diagram 2

Rajah 2

Which of the following represents P and Q?

Manakah antara berikut mewakili P dan Q?

	P	Q
A	Carbon *Karbon*	Water *Air*
B	Salt *Garam*	Ammonia *Ammonia*
C	Oxygen *Oksigen*	Gold *Emas*
D	Sulphur *Sulfur*	Air *Udara*

5 Diagram 3 shows the components of air.

Rajah 3 menunjukkan komponen dalam udara.

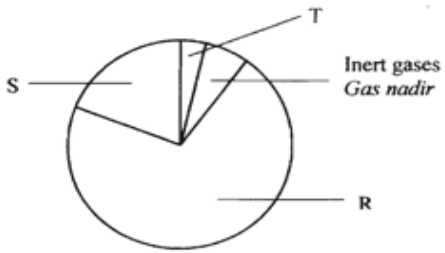


Diagram 3

Rajah 3

What are gases R, S and T?

Apakah gas R, S dan T?

	R	S	T
A	Oxygen *Oksigen*	Nitrogen *Nitrogen*	Carbon dioxide *Karbon dioksida*
B	Hydrogen *Hidrogen*	Oxygen *Oksigen*	Nitrogen *Nitrogen*
C	Carbon dioxide *Karbon dioksida*	Hydrogen *Hidrogen*	Oxygen *Oksigen*
D	Nitrogen *Nitrogen*	Oxygen *Oksigen*	Carbon dioxide *Karbon dioksida*

6 Diagram 4 shows two identical candles are lighted.

Rajah 4 menunjukkan dua batang lilin yang serupa dinyalakan.

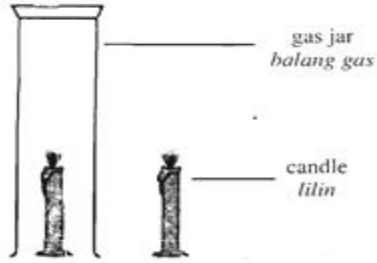


Diagram 4

Rajah 4

Why does the candle in the gas jar extinguish first?

Mengapakah lilin di dalam balang gas padam dahulu?

A It contains more carbon dioxide.
Ia mengandungi lebih karbon dioksida.

B Oxygen has been used up.
Oksigen telah habis digunakan.

C It contains less water vapour.
Ia mengandungi kurang wap air.

D The temperature is higher.

7 Which of the following source of energy is non-renewable?

Antara berikut, sumber tenaga yang manakah tidak boleh diperbaharui?

A Coal
Arang batu

B Waves
Ombak

C Biomass
Biomas

D Wind
Angin

8 Diagram 5 shows an experiment to study how heat flows through solids.

Rajah 5 menunjukkan satu eksperimen untuk mengkaji bagaimana haba mengalir melalui pepejal.

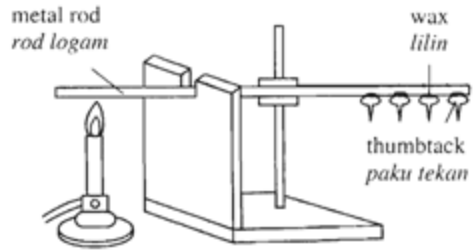


Diagram 5

Rajah 5

Heat flows in a solid by

Haba mengalir di dalam pepejal melalui

A contraction
pengecutan

B conduction
konduksi

C convection
perolakan

D radiation
sinaran

9 W, X, Y and Z are steps in a fire alarm.
W, X, Y dan Z adalah langkah-langkah dalam penggera kebakaran

W - Bimetallic strip bends
Jalur dwilogam membengkok

X - The fire alarm bell rings
Loceng penggera kebakaran berbunyi

Y - The temperature of bimetallic strip rises
Suhu jalur dwilogam meningkat

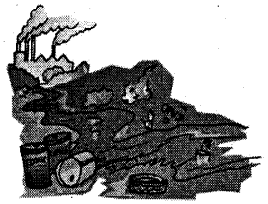
Z - Bimetallic strip completes the circuit
Jalur dwilogam melengkapkan litar

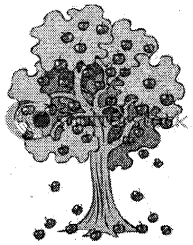
Arrange the steps in the correct sequence.
Susunkan langkah-langkah tersebut mengikut urutan yang betul.

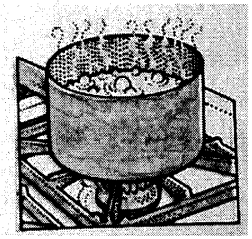
A Y, W, Z, X
B Y, Z, W, X
C W, Y, X, Z
D W, Z, X, Y

Kelantan 11

Which occurrence is a natural phenomenon?
Kejadian manakah adalah suatu fenomenon semulajadi?

A.


B


C


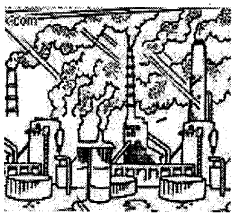
D


Diagram 1 shows a hibiscus flower.
Rajah 1 menunjukkan sekuntum bunga raya.

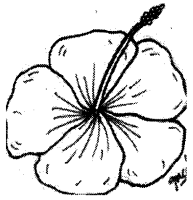


Diagram 1
Rajah 1

Which paper can be used to estimate the area of a petal of the flower?
Kertas manakah yang boleh digunakan untuk menganggarkan luas ranggi bunga ini?

A Graph paper
Kertas graf

B. Blank paper
Kertas kosong

C Tracing paper
Kertas surih

D. Filter paper
Kertas turas

4. Which organ is correctly paired with its system?
Organ manakah yang betul dipadankan dengan sistemn

	Organ *Organ*	System *Sistem*
A	Brain *Otak*	Nervous *Saraf*
	Kidney *Ginjal*	Digestive *Pencernaan*
	Muscle *Otot*	Skeletal *Rangka*
	Heart *Jantung*	Respiratory *Pernafasan*

5. Diagram 3 shows two metals P and Q with the volume of each metal is 3 cm³. The mass of P is 15 g and mass of Q is 12 g.
Rajah 3 menunjukkan dua jenis logam P dan Q dengan isipadu setiap logam adalah 3 cm³. Jisim P adalah 15 g dan Q adalah 12 g.

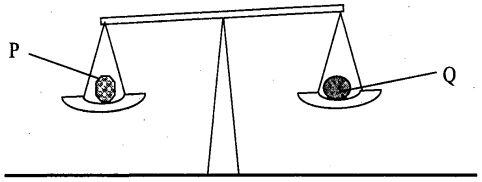


Diagram 2 shows an organism that lives in a pond.
Rajah 2 menunjukkan suatu organisma yang tinggal di dalam kolam.

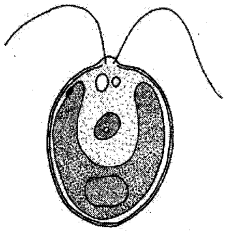
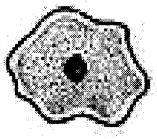


Diagram 2
Rajah 2

Which organism is in the same group as in diagram above?
Organisma manakah yang tergolong dalam kumpulan yang sama dengan rajah di atas?

A.


B.


C.


D.


Which statement about their densities is correct?
Pernyataan manakah yang betul mengenai ketumpatannya?

A. Q is denser than P.
Q lebih tumpat daripada P.

B. The density of Q is 4g/cm³.
Ketumpatan Q ialah 4g/cm³.

C. The density of P is 6 g/cm³.
Ketumpatan P ialah 6g/cm³.

D. The densities of P and Q are the same
Ketumpatan P dan Q adalah sama

6. Diagram 4 shows a cooking gas cylinder.
Rajah 4 menunjukkan satu silinder gas memasak.

Diagram 4

Why is cooking gas kept in liquid form?
Mengapakah gas memasak disimpan dalam bentuk cecair?

A. To prevent gas particles from diffusing through the gas cylinder.
Untuk menghalang zarah gas daripada meresap melalui silinder gas

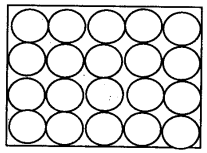
B. To exert more pressure on the gas particles
Untuk mengenakan lebih banyak tekanan pada zarah gas

C. To increase energy content
Untuk meningkatkan kandungan tenaga

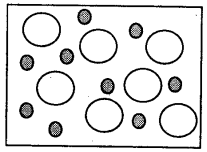
D. To reduce the storage space

7. Which diagram represents molecules of carbon dioxide?
Rajah manakah yang mewakili molekul karbon dioksida?

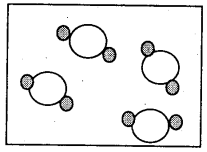
A.



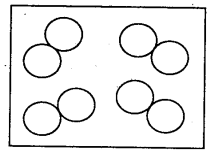
B.



C.



D.



8. Diagram 5 shows the arrangement of particles in **M, N** and **O.**
Rajah 5 menunjukkan susunan zarah-zarah M, N dan O.

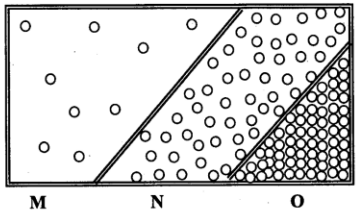
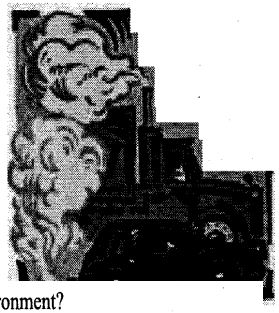


Diagram 5
Rajah 5

What are the examples of substances represented by **M, N** and **O**
Apakah contoh bahan yang diwakili oleh M, N dan O?

	M	N	O
A	Water *Air*	Iron *Besi*	Oxygen *Oksigen*
B	Iron *Besi*	Oxygen *Oksigen*	Water *Air*
C	Oxygen *Oksigen*	Water *Air*	Iron *Besi*
D	Water *Air*	Oxygen *Oksigen*	Iron *Besi*

10. Diagram 7 shows some activities by human
Rajah 7 menunjukkan beberapa aktiviti manusia



What is the effect of the activities on the environment?
Apakah kesan aktiviti-aktiviti ini terhadap alam sekitar?

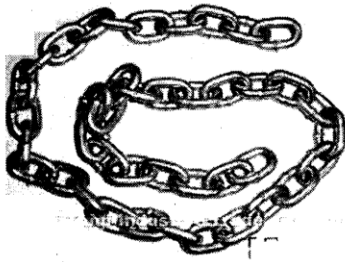
A. Siltation
Kelodak

B Soil erosion
Hakisan tanah

C. Decreasing the quality of air
Penurunan kualiti udara

D. Increasing the amount of oxygen
Peningkatan jumlah oksigen

igram 6 shows an iron chain.
iah 6 menunjukkan suatu rantai besi.



Why does the iron chain become rusty if it is left uncoated after a while?
Mengapakah rantai besi bekarat apabila dibiarkan tidak bersalut beberapa ketika?

A. It reacts with water vapour and oxygen in the air.
Ia bertindakbalas dengan wap air dan ovygen dalam udara

B. It reacts with inert gas and oxygen in the air.
Ia bertindakbalas dengan gas nadir dan oxygen dalam udara

C. It reacts with carbon dioxide and inert gas in the air
Ia bertindakbalas dengan karbon dioksida dan gas nadir dalam udara.

D. It reacts with carbon dioxide and water vapour in the air.
Ia bertindakbalas dengan karbon dioksida dan wap air dalam udara.

11. Which are the characteristics of a good absorber of heat material?
Manakah adalah ciri-ciri bahan penyerap haba yang baik?

A. Dark and dull surface
Permukaan hitam dan pudar

B. Dark and shiny surface
Permukaan hitam dan berkilat.

C. Bright and shiny surface
Permukaan terang dan berkilat

D. Bright and dull surface
Permukaan terang dan pudar

Diagram 8 shows a woman using a hair dryer.
8 menunjukkan seorang wanita menggunakan pengering rambut.

Diagram 8
Rajah 8

is the energy changes involved when she is using the hair dryer?
ah perubahan tenaga yang terlibat semasa dia menggunakan pengering ut itu?

Electrical energy → kinetic energy → heat energy + sound energy
Tenaga elektrik → tenaga kinetik → tenaga haba + tenaga bunyi

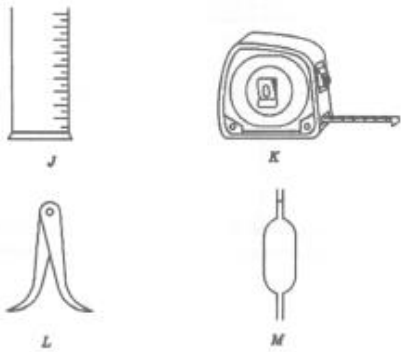
B. Electrical energy → heat energy + kinetic energy
Tenaga elektrik → tenaga haba + tenaga kinetik

C. Chemical energy → kinetic energy → heat energy + sound energy
Tenaga kimia → tenaga kinetik → tenaga haba + tenaga bunyi

D. Chemical energy → heat energy + kinetic energy
Tenaga kimia → tenaga haba + tenaga kinetic

Melaka 11

1. Which of the following is the most suitable tool for measuring the diameter of boiling tube?
Manakah yang berikut merupakan alat yang paling sesuai untuk mengukur diameter bagi tabung didih?



A J
B K
C L
D M

2. Diagram 1 shows a system in a human body.
Rajah 1 menunjukkan satu sistem di dalam badan manusia.

Diagram 1
Rajah 1

What is the system?
Apakah sistem tersebut ?

A Digestive system
Sistem pencernaan
B Respiratory system
Sistem respirasi
C Blood Circulatory system
Sistem peredaran darah
D Reproductive system
Sistem pembiakan

3. Table 1 shows the density of four different types of substances.
Jadual 1 menunjukkan ketumpatan bagi empat jenis bahan yang berbeza.

Substance *Bahan*	Density ($g\ cm^{-3}$) *Ketumpatan* ($g\ cm^{-3}$)
P	0.76
Q	4.50
R	0.45
S	7.60

Table 1
Table 1

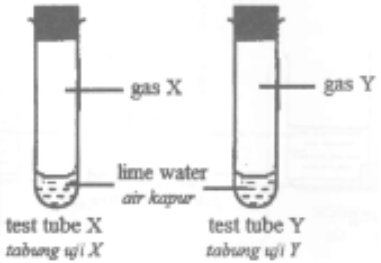
Given that the density of water is 1.0 gcm^{-3}. Which substances can sink in water ?
Diberi bahawa ketumpatan air ialah 1.0 g^{cm-3}. *Bahan yang manakah boleh tenggelam di dalam air ?*

A P and R
P dan R
B Q and S
Q dan S
C P and Q
P dan Q
D R and S
R dan S

4. Which of the following represents compound ?
Antara yang berikut, manakah yang mewakili satu sebatian ?

A 
B 
C 
D 

5. Test tube X and Y containing gas X and gas Y respectively are tested with lime water as shown in Diagram 2. Table 2 shows the result of the test.
Tabung uji X dan Y masing-masing mengandungi gas X dan gas Y diuji dengan air kapur seperti yang ditunjukkan pada Rajah 2. Jadual 2 menunjukkan keputusan ujian tersebut.

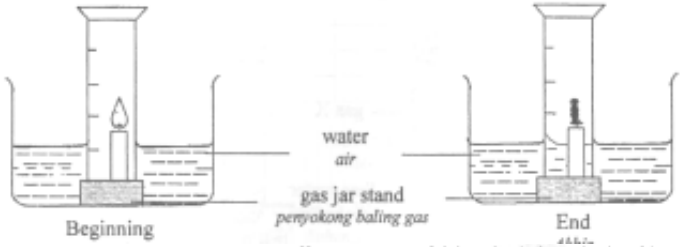


Test tube *Tabung uji*	Observation *Pemerhatian*
X	No effect *Tiada kesan*
Y	Turns cloudy *Menjadi keruh*

What is gas Y ?
Apakah gas Y ?

A Argon
Argon
B Nitrogen
Nitrogen
C Oxygen
Oksigen
D Carbon dioxide
Karbon dioksida

6. Diagram 3 shows an experiment set up to determine the percentage of air used up in the combustion of a candle.
Rajah 3 menunjukkan radas satu eksperimen untuk menentukan peratus udara yang digunakan dalam pembakaran lilin.



How many percent of air is used up in the combustion of the candle ?
Berapa peratuskah udara digunakan dalam pembakaran lilin ?

A 10%
B 20%
C 40%
D 50%

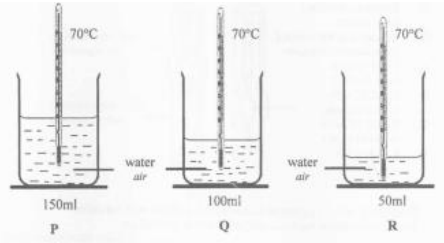
7. The following shows a list of non-renewable energy sources.
Berikut adalah senarai sumber-sumber tenaga yang tidak boleh diperbaharui.

Coal *Arang batu*	Petroleum *Petroleum*	Natural gas *Gas asli*

What is the type of energy sources listed above ?
Apakah jenis sumber tenaga yang disenaraikan di atas ?

A Radioactive substances
Bahan-bahan radioaktif
B Geothermal
Geoterma
C Fossil fuel
Bahan api fosil
D Biomass
Biojisim

8. Diagram 3 shows three beakers containing different amounts of water at the same temperature.
Rajah 3 menunjukkan tiga buah bikar yang mengandungi kuantiti air yang berbeza pada suhu yang sama



Which of the following is the correct arrangement of increasing amount of heat content ?
Antara berikut, yang manakah susunan yang betul kandungan haba dalam urutan me...?

A P, Q, R
B P, R, Q
C Q, P, R
D R, Q, P

MRSM 11

1 Diagram 1 shows a measuring tool.
Rajah 1 menunjukkan satu alat penyukat.

Diagram 1
Rajah 1

What is the function of the tool?
Apakah fungsi alat ini?

A To measure the mass of an object
Untuk menyukat jisim sesuatu objek

B To measure the weight of an object
Untuk menyukat berat sesuatu objek

C To measure the length of an object
Untuk menyukat panjang sesuatu objek

D To measure the volume of an object
Untuk menyukat isipadu sesuatu objek

2 Diagram 2 shows a cell structure.
Rajah 2 menunjukkan struktur sel.

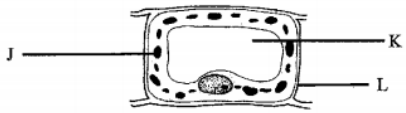


Diagram 2
Rajah 2

What are J, K and L?
Apakah J, K dan L?

	J	K	L
A	Chloroplast *Kloroplas*	Vacuole *Vakuol*	Cell wall *Dinding sel*
B	Chloroplast *Kloroplas*	Cytoplasm *Sitoplasma*	Cell membrane *Membran sel*
C	Nucleus *Nukleus*	Vacuole *Vakuol*	Cell wall *Dinding sel*
D	Nucleus *Nukleus*	Cytoplasm *Sitoplasma*	Cell membrane *Membran sel*

3 Diagram 3 shows three organisms P, Q and R.
Rajah 3 menunjukkan tiga organisma P, Q dan R.

Diagram 3
Rajah 3

Which organisms carry out photosynthesis?
Organisma manakah yang menjalankan fotosintesis?

A P only
P sahaja

B P and R only
P dan R sahaja

C Q and R only
Q dan R sahaja

D P, Q and R
P, Q dan R

4 Diagram 4 shows an activity to study the property of matter.
Rajah 4 menunjukkan satu aktiviti untuk mengkaji sifat jirim.

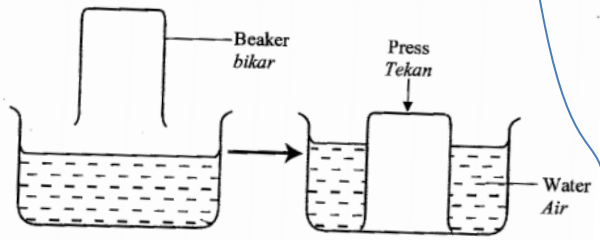


Diagram 4
Rajah 4

Which conclusion is true about the activity?
Kesimpulan manakah benar mengenai aktiviti ini?

A Air has mass
Udara mempunyai jisim

B Air occupies space
Udara memenuhi ruang

C Air particles move freely at random
Zarah-zarah udara bergerak bebas secara rawak

D The force of attraction between air particles is very weak
Daya tarikan antara zarah-zarah udara sangat lemah

Table 1 shows four types of materials with different masses at room temperature.
Jadual 1 menunjukkan empat jenis bahan yang mempunyai jisim yang berlainan pada suhu bilik.

$$\text{Density } (g/cm^3) = \frac{\text{mass } (g)}{\text{volume } (cm^3)}$$

$$\text{Ketumpatan } (g/cm^3) = \frac{\text{jisim } (g)}{\text{isipadu } (cm^3)}$$

Material ***Bahan***	**Mass(g)** ***Jisim (g)***	**Volume(cm^3)** ***Isipadu(cm^3)***
Aluminium *Aluminium*	135	50
Copper *Kuprum*	450	50
Iron *Besi*	395	50
Gold *Emas*	965	50

Which arrangement shows the densities of materials in ascending order?
Susunan yang manakah menunjukkan ketumpatan bahan secara menaik?

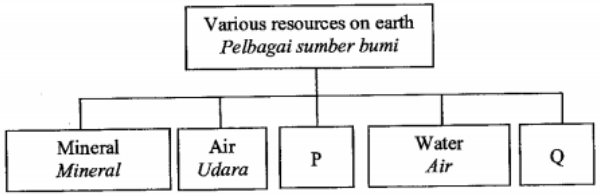
A Gold, Copper, Iron, Aluminium
Emas, Kuprum, Besi, Aluminium

B Aluminium, Copper, Iron, Gold
Aluminium, Kuprum, Besi, Emas

C Gold, Iron, Copper, Aluminium
Emas, Besi, Kuprum, Aluminium

D Aluminium, Iron, Copper, Gold
Aluminium, Besi, Kuprum, Emas

6 Diagram 5 shows various resources on earth.
Rajah 5 menunjukkan pelbagai sumber bumi.

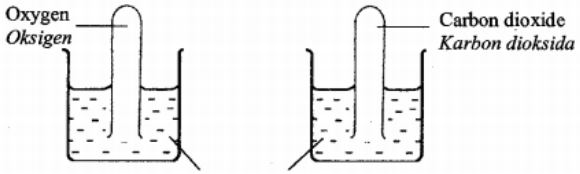


Which statements are true about the importance of P and Q to living things?
Antara pernyataan berikut yang manakah benar mengenai kepentingan P dan Q kepada benda hidup?

	P	Q
A	It supplies mineral *Membekalkan mineral*	It supplies food *Membekalkan makanan*
B	It is a habitat for living things *Merupakan tempat tinggal bagi benda hidup*	It carries dissolved substances *Membawa bahan terlarut*

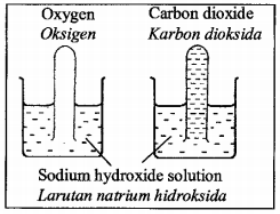
C	It is used as fuel *Digunakan sebagai bahan api*	It is a habitat for living things *Merupakan tempat tinggal bagi benda hidup*
D	It provides oxygen to the plant *Membekalkan oksigen kepada tumbuhan*	It is used as fuel *Digunakan sebagai bahan api*

7 Diagram 6 shows an activity to study the property of oxygen and carbon dioxide.
Rajah 6 menunjukkan satu aktiviti untuk mengkaji sifat oksigen dan karbon dioksida.

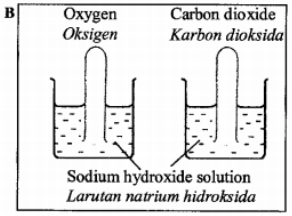


Which of the following observations is correct?
Antara pemerhatian berikut yang manakah benar?

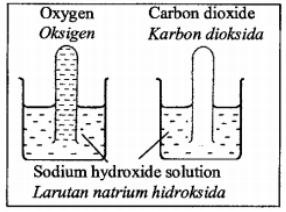
A



B



C



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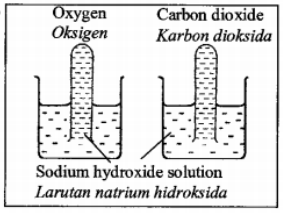


8 Diagram 7 shows an industrial activity that pollutes the air.
Rajah 7 menunjukkan satu aktiviti perindustrian yang mencemarkan udara.

Diagram 7
Rajah 7

Which harmful effect is caused by the above activity?
Kesan merbahaya manakah yang disebabkan oleh aktiviti di atas?

A Acid rain
Hujan asid

B Skin cancer
Kanser kulit

C Brain damage
Kerosakan otak

D Thinning of ozone layer
Penipisan lapisan ozon

9 Diagram 8 shows a ball rolling down from P to S.
Rajah 8 menunjukkan sebiji bola bergolek dari P ke S.

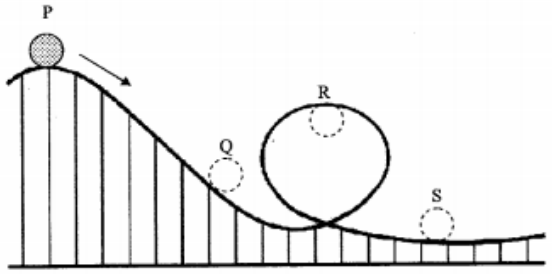


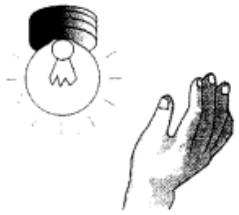
Diagram 8
Rajah 8

At which positions does the ball posses maximum and minimum potential energy?
Pada kedudukan manakah bola memiliki tenaga keupayaan maksimum dan minimu

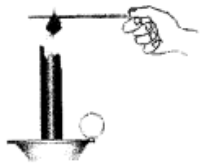
	Maximum potential energy *Tenaga keupayaan maksimum*	Minimum potential energy *Tenaga keupayaan minimum*
A	P	Q
B	Q	R
C	P	S
D	S	P

10 Which of the following situations involve the transfer of heat through convection?
Antara situasi berikut, yang manakah melibatkan pemindahan haba melalui perolakan?

A



B



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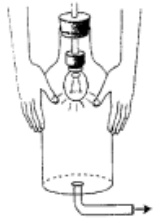

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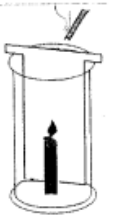


11 Diagram 9 shows a space shuttle.
Rajah 9 menunjukkan sebuah kapal angkasa ulang alik.

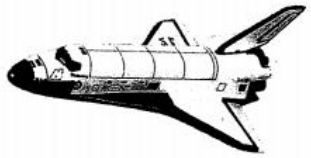


Diagram 9
Rajah 9

Why the space shuttle is painted white?
Mengapakah kapal angkasa ulang alik dicat putih?

A To reflect solar heat while in space
Untuk memantulkan haba solar semasa di angkasa

B To prevent the engine from overheating
Untuk mengelakkan enjin menjadi terlalu panas

C To make it more visible from space station
Untuk menjadikan ia lebih mudah dilihat dari stesen angkasa

D To prevent heat loss through radiation while in space
Untuk mengelakkan kehilangan haba secara sinaran semasa di angkasa

Negeri Sembilan 11

1 Which of the following hazard warning symbols indicates harmful or irritant substances?

Manakah simbol keselamatan berikut menunjukkan bahan berbahaya dan merengsa?

A 

B 

C 

D 

2 Diagram 1 shows a plant cell.

Rajah 1 menunjukkan sel tumbuhan.

Diagram 1 / *Rajah 1*

What is the function of **Q**?

Apakah fungsi **Q***?*

A Controls the movement of substances in and out the cell
Mengawal pergerakan bahan keluar dan masuk sel.

B Controls all cell activities.
Mengawal semua aktiviti sel.

C To store water and dissolve minerals.
Untuk menyimpan air dan mineral terlarut.

D To absorb sunlight.
Untuk menyerap cahaya matahari.

3 Diagram 2 shows various level of a cell organization.

Rajah 2 menunjukkan pelbagai aras bagi organisasi sel.

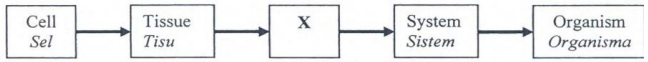


Diagram 2 / *Rajah 2*

Which of the following is the correct example for **X**?

Yang manakah di antara berikut adalah contoh yang betul untuk **X***?*

A Heart
Jantung

B Muscle
Otot

C Neuron
Sel saraf

D Ovum
Ovum

4 Diagram 3 shows the observation before and after a balloon deflated.

Rajah 3 menunjukkan pemerhatian sebelum dan selepas satu belon mengecut.

Diagram 3 / *Rajah 3*

What conclusion can you make from this observation?

Apakah kesimpulan yang boleh dibuat dari pemerhatian ini?

A Air can be compressed.
Udara boleh dimampatkan

B Air has mass.
Udara mempunyai jisim.

C Air occupies space.
Udara memenuhi ruang.

D Air has energy
Udara mempunyai tenaga.

5 Diagram 4 shows a figure of a submarine.
Rajah 4 menunjukkan gambar sebuah kapal selam.

Diagram 4 / *Rajah 4*

Which of the following explains how submarine sinks or float on the sea?

Manakah yang berikut menerangkan bagaimana kapal selam boleh teng timbul di laut?

A Pumping and removing air from the ballast tank.
Mengepam dan mengeluarkan udara dari tangki balast.

B Filling and removing sea water from the ballast tank.
Dengan mengisi dan mengeluarkan air laut dari tangki balast.

C Pump the hot or cold water into the ballast tank.
Mengepam air panas atau air sejuk ke dalam tangki ballast.

D By stopping its engines.
Dengan memberhentikan enjinnya.

6 Diagram 5 shows a gold bar that has a mass of 700 g.

Rajah 5 menunjukkan satu jongkong emas yang berjisim 700 g.

Diagram 5 / *Rajah 5*

What is the density of the bar?

Apakah ketumpatan jongkong ini?

A 0.228 g cm^{-3}

B 2.692 g cm^{-3}

C 4.400 g cm^{-3}

D 4.375 g cm^{-3}

7 Diagram 6 shows a physical method to separate a component of mixture.

Rajah 6 menunjukkan kaedah fizikal untuk memisahkan komponen campuran.

Diagram 6 / *Rajah 6*

Which of the following mixture is suitable for this method?

Antara campuran berikut yang manakah sesuai menggunakan kaedah ini?

A Sulphur and gold
Sulfur dan emas

B Sulphur and iron
Sulfur dan besi

C Carbon and lead
Karbon dan plumbum

D Gold and sand
Emas dan pasir

8 Diagram 7 shows an experiment of carbon combustion that produces gas X.

Rajah 7 menunjukkan satu eksperimen pembakaran karbon yang menghasilkan g
X.

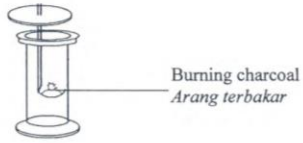


Diagram 7 / *Rajah 7*

What is gas X?
Apakah gas X?

A Nitrogen
Nitrogen

B Carbon hydroxide
Carbon hidroksida

C Carbon dioxide
Karbon dioksida

D Carbon dioxide and hydrogen
Karbon dioksida and hidrogen

9 Diagram 8 shows the apparatus setting of an experiment to study the respiration cockroaches.

Rajah 8 menunjukkan susunan radas bagi eksperimen mengkaji respirasi lipas.

Diagram 8 / *Rajah 8*

What is the conclusion of this experiment?
Apakah kesimpulan bagi eksperimen ini?

A Water vapour is released during respiration.
Wap air dibebaskan semasa respirasi.

B Heat is released during respiration.
Haba dibebaskan semasa respiration.

C Air pressure inside the boiling tube is higher than the outside.
Tekanan udara di dalam tabung didih lebih tinggi daripada udara di luar.

D Oxygen is used during respiration.
Oksigen digunakan semasa respirasi.

Which of the following **cannot** be concluded from the experiment?

*Manakah di antara berikut **bukan** kesimpulan daripada eksperimen tersebut?*

A The best heat conductor is copper
Konduktor haba yang paling baik ialah kuprum

B The best insulator is glass
Penebat haba yang paling baik ialah kaca

C Different metals conduct heat at different rates.
Logam berbeza menkonduksi haba pada kadar berbeza.

D Conduction of heat by a rod depend on its diameter
Konduksi haba oleh rod bergantung kepada diameternya.

10 Diagram 9 shows a windmill.

Rajah 9 menunjukkan kincir angin.

Diagram 9 / *Rajah 9*

What is the energy changes involved?

Apakah perubahan tenaga yang terlibat?

A Kinetic Energy → Electrical Energy → Kinetic Energy
*Tenaga Kinetik → Tenaga Elektrik →*Tenaga kinetik

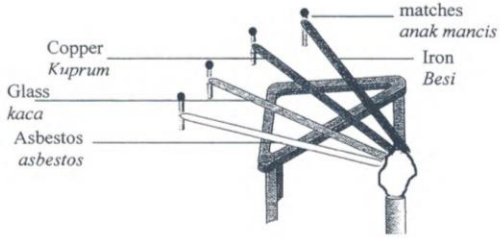
B Light Energy → Electrical Energy → Kinetic Energy
Tenaga Cahaya → Tenaga Elektik → Tenaga Kinetik

C Kinetic Energy → Potential Energy → Electrical Energy
Tenaga Kinetik → Tenaga Keupayaan → Tenaga Elektrik

D Potential Energy → Kinetic Energy → Electrical Energy
Tenaga Keupayaan → Tenaga Kinetik → Tenaga Elektrik

11 In the experiment shown in Diagram 10, the matches drop one by one starting with copper rod, followed by the iron and lastly glass rod.

Dalam eksperimen yang ditunjukkan pada Rajah 10 anak mancis jatuh satu persatu bermula dari rod kuprum, diikuti dengan besi dan akhir sekali rod kaca.



Name process **P** and state whether heat is absorbed or released.

*Namakan proses **P** dan nyatakan samada haba diserap atau dibebaskan.*

	Process *Proses*	Heat *Haba*
A	Sublimation *Pemejalwapan*	Absorbed *Diserap*
B	Evaporation *Penyejatan*	Released *Dibebaskan*
C	Condensation *Kondensasi*	Released *Dibebaskan*
D	Boiling *Pendidihan*	Absorbed *Diserap*

13 Why is chocolate wrapped in aluminium foil?

Mengapa coklat dibalut dengan foil aluminium?

A Aluminium foil is a good radiator of heat.
Foil aluminium adalah pemancar haba yang baik.

B Aluminium foil absorbs more heat
Foil aluminium menyerap haba dengan banyak.

C Aluminium foil is good heat reflector.
Foil aluminium adalah pemantul haba yang baik.

D Aluminium foil released more heat.
Foil aluminium membebaskan haba dengan banya

12 Diagram 11 shows the changes in state of matter.

Rajah 11 menunjukkan perubahan keadaan jirim.

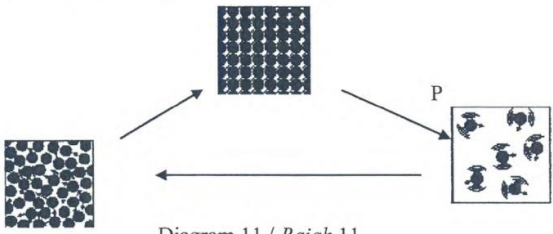


Diagram 11 / *Rajah 11*

Pahang 11

1 Diagram 1 shows a measuring tool.
Rajah 1 menunjukkan alat pengukuran.

Diagram 1
Rajah 1

Which of the following is the function of above measuring tools?
Antara berikut, yang manakah fungsi alat pengukuran di atas?

A To measure the mass of an object.
Untuk mengukur jisim objek.
B To measure the weight of an object.
Untuk mengukur berat objek.
C To measure the density of an object.
Untuk mengukur ketumpatan objek.
D To hold an object
Untuk memegang objek.

2 Diagram 2 shows the sequence cells of human body organisation.
Rajah 2 menunjukkan urutan organisasi sel badan manusia

X → Tissue / *Tisu* → Organ / *Organ* → Y → Human / *Manusia*

Diagram 2
Rajah 2

	X	Y
A	Ear *Telinga*	Bone *Tulang*
B	Heart *Jantung*	Digestive system *Sistem pencernaan*
C	Lung *Paparu*	Muscle cell *Sel otot*
D	Ovum *Ovum*	Reproductive system *Sistem reproduktif*

3 Diagram 3 shows a submarine sinking into the sea.
Rajah 3 menunjukkan sebuah kapal selam tenggelam ke dalam sebuah lautan.

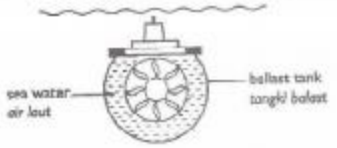


Diagram 3
Rajah 3

Which of the following statement can made the submarine to float.
Antara pernyataan berikut, yang manakah membolehkan kapal selam itu terapung ke

I Replacing the water in the ballast tanks with hydrogen.
Gantikan air dalam tangki balast dengan hydrogen
II Pumping more water into the ballast tank
Pamkan lebih air ke dalam tangki ballast
III Pumping water out of the ballast tank
Pamkan air keluar dari tangki balast
IV Filling the ballast tank with oxygen
Isikan tangki balast dengan oksigen

Diagram 4 shows the arrangement of particles of substances X and Y.
Rajah 4 menunjukkan susunan zarah-zarah bagi bahan X dan Y.

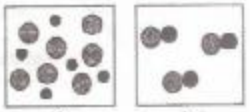


Diagram 4
Rajah 4

Which of the following correctly represent X and Y?
Antara berikut, yang manakah betul mewakili X dan Y?

	X	Y
I	Petroleum / *Petroleum*	Ammonia / *Ammonia*
II	Ammonia / *Ammonia*	Steel / *Keluli*
III	Water /*Air*	Steel / *Keluli*
IV	Water /*Air*	Chlorine / *Klorin*

5 Which of the following are correct non metal and their uses?
Antara berikut, yang manakah betul tentang bukan logam dan kegunaannya?

	Non metal *Bukan logam*	Use *Kegunaan*
A	Sulphur *Sulfur*	To kill microorganism *Untuk membunuh mikroorganisma*
B	Chlorine Klorin	As fuels *Sebagai bahan api*
C	Carbon *Kelull*	Producing medicine *Menghasilkan ubat*
D	Nitrogen *Nitrogen*	Producing fertilizer *Menghasilkan baja*

6 Diagram 5 shows the candle is lighted in exhaled air.
Rajah 5 menunjukkan lilin yang dinyalakan dalam udara hembusan

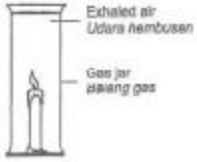


Diagram 5
Rajah 5

Which of the following represent the correct composition of gases in the gas jar when the candle is light out?
Antara berikut yang manakah mewakili komposisi gas yang betul di dalam balang gas apabila lilin padam?

	Composition *Komposisi*	Quantity *Kuantiti*
A	Carbon dioxide *Karbon dioksida*	Decrease *Berkurang*
B	Water vapour *Wap air*	Increase *Bertambah*
C	Oxygen *Oksigen*	Increase *Bertambah*
D	Nitrogen *Nitrogen*	Decrease *Berkurang*

7 Diagram 6 shows the combustion of coal.
Rajah 6 menunjukkan pembakaran arang batu.

Diagram 6
Rajah 6

The product formed during the combustion of coal are
Hasil yang terbentuk semasa pembakaran arang batu ialah

A Water only.
Air sahaja
B Carbon dioxide only.
Karbon dioksida sahaja.
C Water and carbon dioxide.
Air dan karbon dioksida
D Water, carbon and carbon dioxide.
Air, karbon dan karbon dioksida.

8 Which of the following has chemical energy?
Antara berikut, yang manakah mengandungi tenaga kimia?

A 

C 

B 

D 

Pahang 11

10 Diagram 8 shows the change of the state of matter.
Rajah 8 menunjukkan perubahan keadaan jirim.

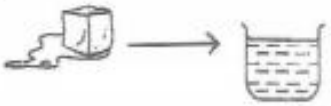


Diagram 8
Rajah 8

Which of the following does not occur during the change of states of matter?
*Antara berikut, yang manakah **tidak berlaku** semasa perubahan keadaan jirim ini?*

A. Heat is absorbed from the surrounding
Haba diserap daripada persekitaran
B. The temperature of solid remains constant
Suhu pepejal kekal sama
C. The particle of solid move nearer to each other
Zarah-zarah pepejal bergerak mendekati antara satu sama lain
D. The kinetic energy of the particles of solid increase
Tenaga kinetik zarah-zarah pepejal bertambah

11 Which of the following explained why fuel tank is painted shiny?
Antara berikut, yang manakah menerangkan mengapa tangki bahan api di cat berkilau?

A Good filter of ultraviolet rays
Penapis ultra ungu yang baik
B A good absorption of heat
Penyerap haba yang baik
C A good conductor of heat
Pengalir haba yang baik
D A good reflector of heat
Pemantul haba yang baik

Pulau Pinang 11

1 Which of the following is the first step in a scientific investigation?
Antara berikut, yang manakah merupakan langkah pertama dalam penyiasatan saintifik?

A Drawing a conclusion
Membuat kesimpulan
B Planning the experiment
Merancang eksperimen
C Identify the problem
Mengenal pasti masalah
D Collecting data
Mengumpul data

2 The following are informations about the structure of a cell.
Berikut adalah maklumat berkenaan struktur sel.

- Carries out photosynthesis
  Menjalankan fotosintesis
- Contains chlorophyll
  Mengandungi klorofil
- Only present in certain plant cells
  Hanya terdapat dalam sesetengah sel tumbuhan

What is the structure?
Apakah struktur itu?

A Nucleus
Nukleus
B Vacuole
Vakuol
C Cell wall
Dinding sel
D Chloroplast
Kloroplas

4 What is matter?
Matter is anything that
Apakah jirim?
Jirim adalah sesuatu yang

A has mass and a definite shape
mempunyai jisim dan bentuk yang tetap
B occupies space and can flow
menempati ruang dan boleh mengalir
C has mass and occupies space
mempunyai jisim dan menempati ruang
D has a definite shape and occupies space
mempunyai bentuk tetap dan menempati ruang

hich organisms are correctly classified?
rganisma manakah yang diklasifikasikan dengan betul?

	Unicellular organisms *Organisma unisel*	Multicellular organisms *Organisma multisel*
A	Yeast, amoeba, euglena *Yis, ameba, euglena*	Grass, mucor, bird *Rumput, mukor, burung*
B	Hydra, mucor, spirogyra *Hidra, mukor, spirogira*	Amoeba, yeast, paramecum *Ameba, yis, paramesium*
C	Chlamydomonas, fern, fish Klamidomonas, paku pakis, ikan	Pleurococcus, ant, hydra *Pleurokokus, semut, hidra*
D	Paramecium, hydra, orchid *Paramesium, hidra, orkid*	Spirogyra, euglena, chlamydomonas Spirogira, euglena, klamidomonas

13 Why is the heating coil placed at the bottom of an electric kettle?
Mengapakah gelung pemanas diletakkan di bahagian bawah cerek elektrik?

A To prevent the kettle from cracking
Untuk mengelakkan cerek daripada retak
B To increase the temperature of water
Untuk meningkatkan suhu air
C To distribute heat evenly through the water
Untuk mengagihkan haba dengan seragam ke seluruh air
D To reduce the amount of electrical energy used
Untuk mengurangkan jumlah tenaga elektrik yang digunakan

5 Diagram 1 shows the position of object P in liquid R.
Rajah 1 menunjukkan kedudukan objek P dalam cecair R.

Diagram 1
Rajah 1

Which explanation is correct about the situation?
Penerangan manakah yang betul mengenai situasi itu?

A P is heavier than R
P lebih berat daripada R

B P is lighter than R
P lebih ringan daripada R

C P is less dense than R
P kurang tumpat daripada R

D P is denser than R
P lebih tumpat daripada R

6 Table 1 shows the properties of four elements, P, Q, R and S.
Jadual 1 menunjukkan ciri-ciri bagi empat unsur, P, Q, R dan S.

Elements *Unsur*	Properties *Ciri-ciri*
P	Has a shiny surface *Mempunyai permukaan berkilat*
Q	Brittle *Rapuh*
R	Ductile *Mulur*
S	Heat insulator *Penebat haba*

Which of the following is correct about P, Q, R and S?
Antara berikut, yang manakah benar tentang P, Q, R dan S?

	Metal *Logam*	Non-metal *Bukan logam*
A	P and Q *P dan Q*	R and S *R dan S*
B	P and S *P dan S*	Q and R *Q dan R*
C	Q and S *Q dan S*	P and R *P dan R*
D	P and R *P dan R*	Q and S *Q dan S*

7 Which activity **does not** help to preserve and conserve the Earth's resources?
*Aktiviti manakah **tidak** membantu memelihara dan memulihara sumber di Bumi?*

A Recycle waste products
Mengitar semula bahan buangan

B Practise selective logging
Amalkan pembalakan terpilih

C Using water heaters on hot days
Mengguna pemanas air pada hari panas

D Using unleaded petrol
Mengguna petrol tanpa plumbum

8 Which statement is **true**?
*Pernyataan yang manakah **benar**?*

A Exhaled air contains 20% oxygen
Udara hembusan mengandungi 20% oksigen

B Exhaled air contains more carbon dioxide, less oxygen and less water vapour than inhaled air
Udara hembusan mengandungi lebih banyak karbon dioksida, kurang oksigen dan kurang wap air berbanding udara sedutan

C Exhaled air contains less heat energy than inhaled air
Udara hembusan mengandungi kurang tenaga haba berbanding udara sedutan

D Exhaled air contains 4% of carbon dioxide
Udara hembusan mengandungi 4% karbon dioksida

9 Why does a person feel dizzy when in a small room packed with people?
Mengapakah seseorang akan berasa pening semasa berada di dalam sebuah bilik kecil yang terdapat ramai orang?

A The small room contains less nitrogen
Bilik kecil itu mengandungi kurang nitrogen

B The small room contains less oxygen
Bilik kecil itu mengandungi kurang oksigen

C The small room contains less carbon dioxide
Bilik kecil itu mengandungi kurang karbon dioksida

D The small room contains less water vapour
Bilik kecil itu mengandungi kurang wap air

Diagram 2 shows a boy sliding down a slide.
Rajah 2 menunjukkan seorang budak lelaki menggelongsor turun papan gelongsor.

Diagram 2
Rajah 2

Which energy will increase when the boy slides down the slide?
Tenaga manakah akan meningkat semasa budak itu menggelongsor turun papan gelongsor?

A Mechanical energy
Tenaga mekanik

B Kinetic energy
Tenaga kinetik

C Potential energy
Tenaga keupayaan

D Chemical energy
Tenaga kimia

The following statement refers to one type of energy source, P.
Pernyataan berikut berkenaan satu jenis sumber tenaga, P.

Energy source that can be replenished
Sumber tenaga yang boleh diganti

What is P?
Apakah P?

A Non-renewable energy source
Sumber tenaga yang tidak boleh diperbaharui

B Renewable energy source
Sumber tenaga yang boleh diperbaharui

C Alternative energy source
Sumber tenaga alternatif

D Primary energy source
Sumber tenaga primer

Diagram 3 shows an aluminium container filled with hot water.
Rajah 3 menunjukkan bekas aluminium berisi air panas.

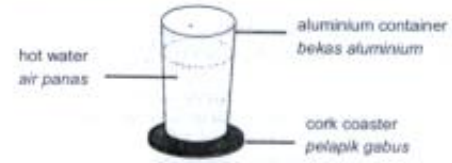


Diagram 3
Rajah 3

Which process / processes causes the aluminium container to become hot?
Proses manakah menyebabkan bekas aluminium menjadi panas?

A Radiation
Sinaran

B Conduction and convection
Konduksi dan perolakan

C Conduction
Konduksi

D Convection and radiation
Perolakan dan sinaran

Perak 11

1. Diagram 1 shows a hazard symbol of a chemical substance.
Rajah 1 menunjukkan satu simbol amaran berbahaya untuk satu bahan kimia.

Diagram 1 / *Rajah 1*

Which of the following is the correct example of the chemical?
Antara berikut contoh bahan kimia manakah yang betul?

A. Sodium / *Natrium*
B. Ethanol / *Etanol*
C. Ammonia / *Ammonia*
D. Uranium / *Uranium*

2. Diagram 2 shows the structure of a cell.
Rajah 2 menunjukkan struktur satu sel.

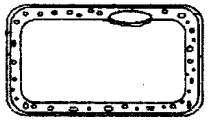


Diagram 2 / *Rajah 2*

Which organism has this type of cell?
Organisma manakah yang mempunyai sel jenis ini?

A. Rabbit / *Arnab*
B. Beetle / *Kumbang*
C. Caterpillar / *Beluncas*
D. Balsam plant / *Keembung*

3. Diagram 3 shows the classification of matter.
Rajah 3 menunjukkan pengelasan jirim.

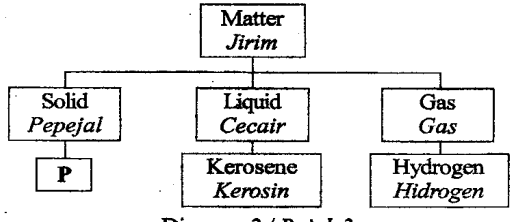


Diagram 3 / *Rajah 3*

P represents / ***P** mewakili*

A. cork / *gabus*
B. oxygen / *oksigen*
C. diesel / *disel*
D. turpentine / *turpentin*

4. Diagram 4 shows two balloons being balanced on a stick.
Rajah 4 menunjukkan dua belon yang diseimbangkan pada sebatang kayu.

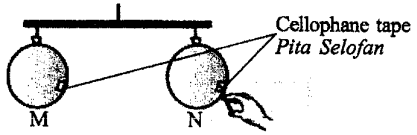
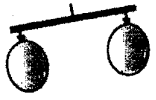


Diagram 4 / *Rajah 4*

What will happen if balloon *N* is poked with a pin through the cellophane tape?
Apakah yang akan berlaku jika belon N dicucuk dengan satu jarum peniti menembusi pita selofan?

A. 
C. 
B. 
D. 

5. The following list contains the names of some metals and non-metals.
Maklumat berikut mengandungi senarai beberapa logam dan bukan logam.

Carbon *Karbon*	Iron *Besi*	Mercury *Merkuri*	Sulphur *Sulfur*

Which of the following classification is correct?
Antara berikut pengelasan manakah yang betul?

	Metal / *Logam*	**Non-metal / *Bukan logam***
A	Carbon, Iron *Karbon, Besi*	Mercury, Sulphur *Merkuri, Sulfur*
B	Mercury, Iron *Merkuri, Besi*	Carbon, Sulphur *Karbon, Sulfur*
C	Mercury, Sulphur *Merkuri, Sulfur*	Carbon, Iron *Karbon, Besi*
D	Carbon, Sulphur *Karbon, Sulfur*	Mercury, Iron *Merkuri, Besi*

6. Diagram 5 shows the component of gases in the air.
Rajah 5 menunjukkan komposisi gas dalam udara.

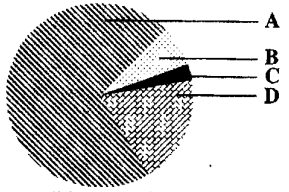


Diagram 5 / *Rajah 5*

Which of the parts labelled **A, B, C** and **D** is nitrogen?
Antara bahagian berlabel A, B, C dan D yang manakah adalah nitrogen?

7. Diagram 6 shows an experiment to investigate the gas released during photosynthesis.
Rajah 6 menunjukkan eksperimen untuk mengkaji gas yang dibebaskan semasa fotosintesis.

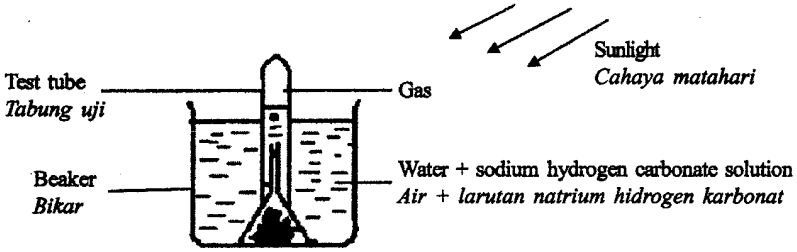


Diagram 6 / *Rajah 6*

Which is the most suitable test for the gas collected in the test tube?
Antara berikut manakah paling sesuai untuk menguji gas yang terkumpul dalam tabung uji?

A. Lime water / *Air kapur*
B. Red litmus paper / *Kertas litmus merah*
C. Glowing wooden splinter / *Kayu uji berbara*
D. Bicarbonate indicator / *Penunjuk bikarbonat*

8. The following information shows examples sources energy that can be renewed.
Maklumat berikut menunjukkan contoh-contoh sumber tenaga yang boleh diperbaharui.

- Dried leaves / *Daun-daun kering*
- Decayed wood / *Kayu reput*
- Faeces of farm animal / *Najis haiwan ternakan*

Name the type of energy source.
Namakan sumber tenaga ini.

A. Coal / *Arangbatu*
B. Biomass / *Biomas*
C. Natural gas / *Gas asli*
D. Geothermal / *Geoterma*

9. Table 1 shows the result of an experiment.
Jadual 1 menunjukkan keputusan satu eksperimen.

Beaker / *Bikar*	A	B	C	D
Volume of water (cm^3) *Isipadu air (cm^3)*	150	80	150	90
Temperature (^0C) *Suhu (^0C)*	100	100	60	60

Table 1 / *Jadual 1*

Which beaker labelled **A, B, C** and **D** contain the most heat?
*Bikar berlabel **A, B, C** dan **D** manakah mengandungi haba paling tinggi?*

10. Diagram 7 shows a cup of hot coffee.
Rajah 7 menunjukkan secawan kopi panas.

Diagram 7 / *Rajah 7*

Which methods cause heat lost from the coffee?
Kaedah manakah menyebabkan haba hilang daripada kopi panas itu?

A. Conduction and convection / *Konduksi dan perolakan*
B. Convection and radiation / *Perolakan dan sinaran*
C. Radiation and reflection / *Sinaran dan pantulan*
D. Conduction and reflection / *Konduksi dan pantulan*

11. Diagram 8 shows the pathway from stimulus to response.
Rajah 8 menunjukkan laluan daripada rangsangan kepada tindak balas.

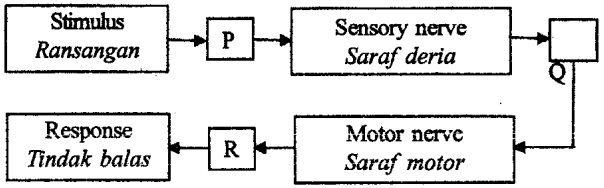


Diagram 8 / *Rajah 8*

What are represented by *P*, *Q* and *R*?
Apakah yang diwakili oleh P, Q dan R?

	P	*Q*	*R*
A	Effector / *Efektor*	Brain / *Otak*	Receptor / *Reseptor*
B	Brain / *Otak*	Effector / *Efektor*	Receptor / *Reseptor*
C	Receptor / *Reseptor*	Brain / *Otak*	Effector / *Efektor*
D	Receptor / *Reseptor*	Effector / *Efektor*	Brain / *Otak*

12. Diagram 9 shows some food samples.
Rajah 9 menunjukkan beberapa contoh makanan.

Diagram 9 / *Rajah 9*

Which food contain high amount of fats?
Makanan manakah mengandungi jumlah lemak yang tinggi?

A. Fish and oil / *Ikan dan minyak*
B. Margarine and oil / *Marjerin dan minyak*
C. Fish and vegetables / *Ikan dan sayur-sayuran*
D. Margarine and vegetables / *Marjerin dan sayur-sayuran*

Perlis 11

1 Which pair correctly show physical quantity and its SI unit?
Pasangan manakah yang menunjukkan dengan betul kuantiti fizikal dan unit SI?

	Physical quantity *Kuantiti fizikal*	SI unit *Unit SI*
A	Mass *Jisim*	Newton *Newton*
B	Electric current *Arus elektrik*	Volt *Voltan*
C	Temperature *Suhu*	Celcius *Celcius*
D	Time *Masa*	Second *Saat*

2 Diagram 1 shows a measuring tool.
Rajah 1 menunjukkan satu alat pengukur.

Diagram 1
Rajah 1

This measuring tool can be used to measure
Alat pengukur ini boleh digunakan untuk mengukur

A temperature *suhu*
B volume *isipadu*
C weight *berat*
D length *panjang*

3 Diagram 2 shows a type of human cell.
Rajah 2 menunjukkan sejenis sel manusia.

Diagram 2
Rajah 2

This cell can be found in the
Sel ini boleh didapati dalam

A blood circulatory system *sistem peredaran darah*
B reproductive system *sistem pembiakan*
C nervous system *sistem saraf*
D digestive system *sistem pencernaan*

4 Which of the following pairs show correctly the difference between a gas and a liquid?
Manakah antara pasangan berikut menunjukkan dengan betul perbezaan antara gas dan cecair?

	Gas *Gas*	Liquid *Cecair*
A	Has no definite shape *Tiada bentuk yang tetap*	Has a definite shape *Mempunyai bentuk yang tetap*
B	Easy to be compressed *Mudah dimampatkan*	Hard to be compressed *Sukar dimampatkan*
C	Its particles are orderly arranged *Zarah-zarah disusun secara teratur*	Its particles are not orderly arranged *Zarah-zarah tidak tersusun secara teratur*
D	Spaces between particles are small *Ruang antara zarah adalah kecil*	Spaces between particles are big *Ruang antara zarah adalah besar*

5 Diagram 3 shows a method used to separate mixtures.
Rajah 3 menunjukkan satu kaedah yang digunakan untuk mengasingkan campuran

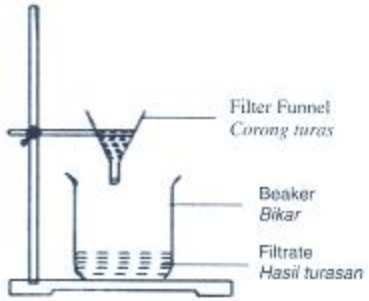


Diagram 3
Rajah 3

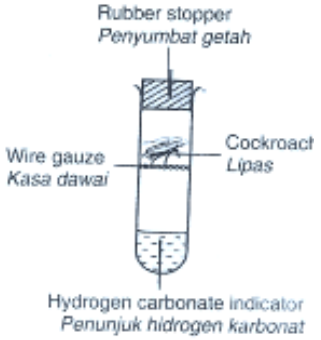
Which of the following mixtures can be separated using this method?
Antara campuran berikut, yang manakah boleh diasingkan dengan kaedah ini?

A Sand and sugar solution
Pasir dan larutan gula
B Iron filling and sand
Serbuk besi dan pasir
C Salt and water
Garam dan air
D Oil and water
Minyak dan air

6 Which of the following is the property of oxygen?
Manakah antara berikut ialah sifat oksigen?

A Very soluble in sodium hydroxide
Sangat larut dalam natrium hidroksida
B Ignites a glowing wooden splinter
Menyalakan kayu uji berbara
C Extinguishes a burning wooden splinter
Memadamkan kayu uji menyala
D Turns lime water cloudy
Mengeruhkan air kapur

7 The set up of apparatus in diagram 4 is left for two days.
Susunan radas dalam rajah 4 dibiarkan selama 2 hari.



Why does the colour of hydrogen carbonate indicator changes from red to yellow at the end of experiment?
Mengapakah warna penunjuk hidrogen karbonat berubah warna dari merah ke kuning selepas eksperimen?

A Living things uses oxygen during respiration
Benda hidup menggunakan oksigen semasa respirasi
B Living things uses carbon dioxide during respiration
Benda hidup menggunakan karbon dioksida semasa respirasi
C Living things give out oxygen during respiration
Benda hidup membebaskan oksigen semasa respirasi
D Living things give out carbon dioxide during respiration
Benda hidup membebaskan karbon dioksida semasa respirasi

8 Which of the following is the renewable energy source?
Manakah antara berikut merupakan sumber tenaga boleh diperbaharui?

A Coal
Arang batu
B Biomass
Biojisim
C Petroleum
Petroleum
D Natural gas
Gas asli

Perlis 11

9 Diagram 5 shows air ventilation system in the house.
Rajah 5 menunjukkan sistem pengudaraan di dalam sebuah rumah.

Diagram 5
Rajah 5

Which of the following have the same principle as the diagram above?
Antara yang berikut, yang manakah mempunyai prinsip yang sama seperti rajah di atas?

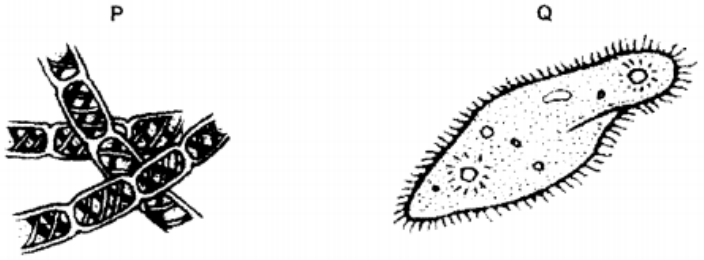
A Melting some ice cube in a glass
Meleburkan ketulan ais dalam gelas

B Boiling water in an electric kettle
Mendidihkan air dalam cerek elektrik

C Ironing clothes with an iron
Menyeterika pakaian dengan seterika

D Driving car to work
Memandu kereta ke tempat kerja

2. Diagram 1 shows two types of microorganisms, P and Q.



Spirogyra Paramecium

DIAGRAM 1

What is the difference between **P** and **Q**?

A Q has chloroplast, P has cytoplasm
B P has cell wall, Q has cell membrane only
C Q has a definite shape, P has irregular shape
D P has very small vacuole, Q has large vacuole

3. Diagram 2 shows the arrangement of particles in **P.**

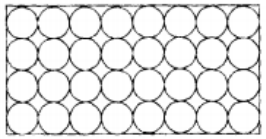


DIAGRAM 2

Which of the following is true about **P**?

A P has low density because the particles are closely packed
B P has a lot of energy because the particles attract each other strongly
C The particles in P collide with one another due to little space between them
D The particles in P vibrate in their own position because they are closely arranged

Pertengahan Tahun Selangor 2007

1. Which of the following is correctly matched?

	Physical quantity	S.I. unit
A	Mass	gram
B	Time	hour
C	Length	metre
D	Temperature	Celsius

4. The following information shows two conditions of iron metal.

- An iron nail sinks in water
- A ship made of iron floats on the sea

Which of the following is the correct reason for it?

A The iron nail displaces a very small volume of water
B The ship releases hot air due to the combustion of fuel
C The shape of the ship enables it to have a lot of air spaces
D The size of the iron nail is too small that the water cannot hold it afloat

5. The information shows the properties of gas **P**.

- Lights up a glowing wooden splinter
- Neutral to litmus paper
- Cannot dissolve in sodium hydroxide

Gas **P** is

A Neon
B Oxygen
C Nitrogen
D Carbon dioxide

Pertengahan Tahun Selangor 2007

6. The information shows the advantages of using a source of energy.

- Pollution-free
- Renewable
- Cost-free

Which of the following sources of energy **does not** have the advantages mentioned above?

A Sun
B Wind
C Geothermal
D Radioactive substances

7. When one end of a metal rod is put in a Bunsen flame, the other end becomes hot after a while because heat travels along the rod by

A radiation
B absorption
C convection
D conduction

8. Which of the following explains why the solar panels on the roofs of houses are painted black

A A black surface radiates heat better
B A black surface reflects heat better
C A black surface absorbs heat better
D A black surface retains heat better

11. Diagram 5 shows the apparatus used to study a physical property of some elements. The bulb lights up when an element is connected and the switch is pressed.

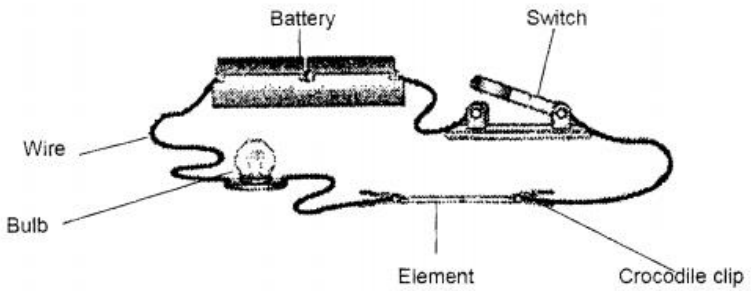


DIAGRAM 5

Which of the following statements is correct about the element?

A It is brittle
B It is a poor conductor
C It has a shiny surface
D It has a low melting point

Sarawak 2011

/1 Diagram 1 shows a leaf.
Rajah 1 menunjukkan sehelai daun.

Diagram 1
Rajah 1

Which of the following measuring tools can be used to measure the area of the leaf?
Di antara alat-alat pengukur berikut, yang manakah boleh digunakan untuk mengukur luas permukaan daun?

A An opisometer
Opisometer

B External calipers
Angkup luar

C A length of thread
Seutas benang

D A piece of graph paper
Sekeping kertas graf

2 Diagram 2 shows four similar marbles are put into a measuring cylinder containing marble P
Rajah 2 menunjukkan empat guli yang serupa dimasukkan ke dalam satu silinder penyukat mengandungi guli P

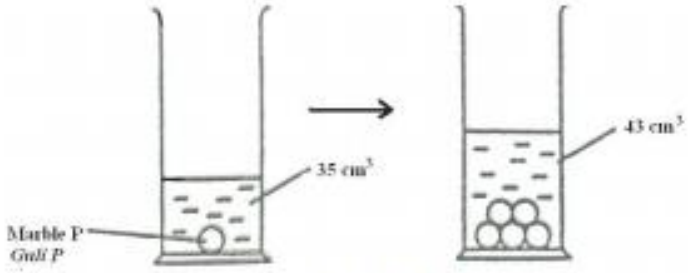


Diagram 2
Rajah 2

What is the volume of each marble?
Apakah isipadu bagi setiap guli?

A 1.6 cm³
B 2.0 cm³
C 3.0 cm³
D 3.6 cm³

Sarawak 2011

3 Which cell structure is correctly matched with its function?
Struktur sel yang manakah betul dipadankan dengan fungsinya?

	Cell structure *Struktur sel*	Cell function *Fungsi sel*
A	Nucleus *Nukleus*	Stores food *Menyimpan makanan*
B	Vacuole *Vakuol*	Captures light energy *Memerangkap tenaga cahaya*
C	Cell wall *Dinding sel*	Maintains the shape of the cell *Mengekalkan bentuk sel*
D	Cell membrane *Sel membrane*	Transports water into the cell *Mengangkut air ke dalam sel*

4 Diagram 3 shows plasticine X that sinks in a basin of water. Plasticine X is modelled into a shape as plasticine Y.
Rajah 3 menunjukkan plastisin X yang tenggelam dalam besen air. Plastisin X itu dibentuk seperti plastisin Y

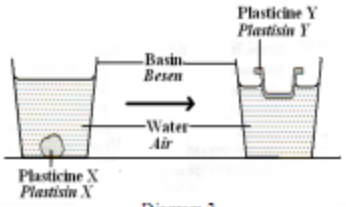


Diagram 3
Rajah 3

Why does the plasticine Y float on the surface of the water?
Mengapakah plastisin Y itu terapung di atas permukaan air?

A Plasticine Y is lighter than water
Plastisin Y lebih ringan daripada air

B Plasticine Y is less dense than water
Plastisin Y kurang tumpat daripada air

C Plasticine Y is bigger than the plastisine X
Plastisin Y lebih besar daripada plastisin X

D Plasticine X is less dense than plastisine Y
Plastisin X kurang tumpat daripada plastisin Y

5 The following shows some substances and their contents.
Which of the following is correct?
Berikut adalah beberapa bahan dan kandungannya.
Antara berikut, yang manakah benar?

	Substance *Bahan*	Contents *Kandungan*
A	Carbohydrate Karbohidrat	Carbon, oxygen *Karbon, oksigen*
B	Iron oxide *Besi oksida*	Iron, carbon *Besi, karbon*
C	Limestone *Batu kapur*	Calcium, carbon, *Kalsium, karbon*
D	Sodium chloride *Natrium klorida*	Sodium, chlorine *Natrium, klorin*

Diagram 4 shows a compressed spring.
Rajah 4 menunjukkan spring yang dimampatka

Diagram 4
Rajah 4

Which of the following has the same form of energy in the compressed spring?
Antara berikut, manakah mempunyai bentuk tenaga yang sama dengan spring yang dimampatkan?

A A waterfall
Air terjun

B A moving car
Kereta bergerak

C A rotating fan
Kipas berputar

A swinging perdulum
Bandul yang berayun

6 Which of the following keeps the air clean?
Antara berikut, yang manakah mengekalkan udara bersih?

A Cycle to school
Berbasikal ke sekolah

B Allow open burning
Membenarkan pembakaran terbuka

C Smoke in designated areas
Merokok di tempat yang dikhaskan

D Play fire crackers during festivals
Bermain mercun pada waktu perayaan

7 Which of the following shows the correct match between the components of air and their percentage?
Di antara berikut yang manakah menunjukkan padanan yang betul bagi kandungan udara dengan peratusnya?

	Components of air *Kandungan udara*	Percentage % *Peratus %*
A	Oxygen / *Oksigen*	78 %
B	Nitrogen / *Nitrogen*	20 %
C	Inert gases / *Gas nadir*	0.97%
D	Carbon dioxide / *Karbon dioksida*	0.33%

9 Diagram 5 shows the changes of state as the temperature of steam decreases.
Rajah 5 menunjukkan perubahan keadaan apabila suhu stim menurun.

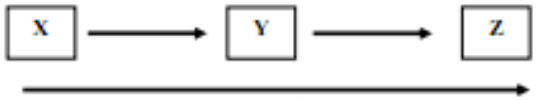


Diagram 5
Rajah 5

What are X, Y and Z?
Apakah X, Y dan Z?

	X	Y	Z
A	Solid / *pepejal*	Liquid / *cecair*	Gas / *Gas*
B	Gas / *Gas*	Liquid / *cecair*	Solid / *pepejal*
C	Gas / *Gas*	Solid / *pepejal*	Liquid / *cecair*
D	Liquid / *cecair*	Solid / *pepejal*	Gas / *Gas*

SBP 2011

1 Diagram 1 shows an apparatus that is to measure volume o
Rajah 1 menunjukkan radas untuk menyukat isipadu cecair

Diagram 1
Rajah 1

Based on Diagram 1, which is of the following is the most suitable measured by this apparatus?
Berdasarkan Rajah 1 di atas, yang manakah antara berikut yang paling sesuai disukat menggunakan radas ini?

A 0.55ml
B 5.55ml
C 25.50ml
D 25.55ml

sensory

2 Which of the following organs are grouped into both systems of digestion and excretion?
Antara organ berikut, yang manakah dikelaskan ke dalam kedua-dua sistem pencernaan dan perkumuhan?

A Skin
Kulit
B Liver
Hati
C Kidney
Ginjal
D Pancreas
Pankreas

3 Diagram 2 shows organisms M and N.
Rajah 2 menunjukkan organism M dan N.

M N

Diagram 2
Rajah 2

Which of the following is a similarity between M and N?
Mana satukah antara berikut merupakan persamaan di antara M dan N?

A Both have tentacles to catch food.
Kedua-duanya mempunyai sesungut untuk menangkap makanan
B Both have cell wall to fix their shape.
Kedua-duanya mempunyai dinding sel untuk mengekalkan bentuk.
C Both have nucleus and can change their shape.
Kedua-duanya mempunyai nukleus dan boleh berubah bentuk.
D Both have chlorophyll and make their own food.
Kedua-duanya mempunyai klorofil dan membuat makanan sendiri.

4 Copper sulphate crystals cannot be seen when they are mixed with water. This is because ..
Hablur kuprum sulfat tidak kelihatan apabila bercampur dengan air. Ini adalah kerana...

A they react with water
ia bertindakbalas dengan air
B they evaporate quickly into the air
ia menyejat dengan cepat ke udara
C they fill up the space between water particles
ia memenuhi ruang yang terdapat antara partikel air
D water breaks up the crystals to form a new substance
air mengurai hablur itu untuk membentuk bahan baru

5 Diagram 3 shows two methods to separate the components of a mixture.
Rajah 3menunjukkan dua kaedah pengasingan komponen suatu campuran

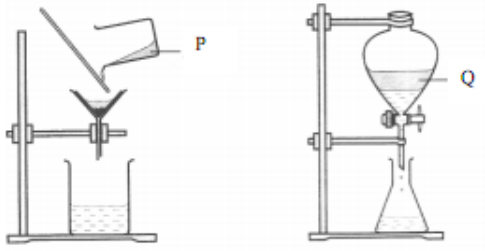


Diagram 3
Rajah 3

Which of the following correctly represent P and Q?
Manakah antara berikut mewakili P dan Q dengan betul?

	P	Q
A	Water and sand *Air dan pasir*	Oil and water *Minyak dan air*
B	Alcohol and water *Alkohol dan air*	Chalk and water *Kapur tulis dan air*
C	Coffee powder and coffee drink *Serbuk kopi dan air kopi*	Milk and coffee drink *Susu dan air kopi*
D	Sulphur powder and iron powder *Serbuk sulfur dan serbuk besi*	Flour and sand *Tepung dan pasir*

6 Diagram 4 shows the apparatus used for the preparation of gas X.
Rajah 4 menunjukkan radas yang digunakan untuk penyediaan gas X.

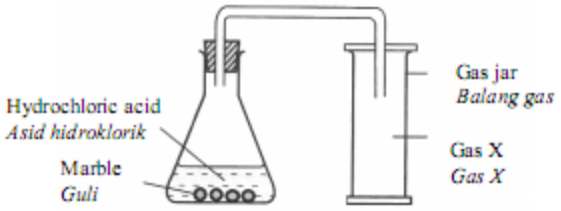
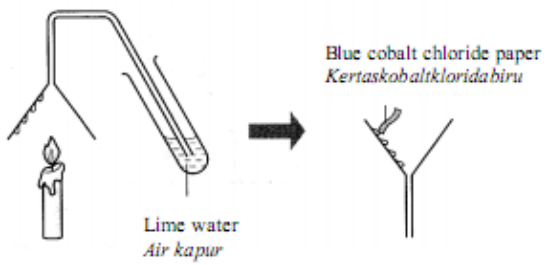


Diagram 4

Based on above diagram, which of the statements below is correct about gas X?
Berdasarkan rajah di atas, yang manakah pernyataan di bawah betul mengenai gas X

A Gas X is lighter than air
Gas X lebih ringan daripada udara
B Gas X can burn by itself
Gas X boleh terbakar dengan sendiri
C Gas X supports combustion
Gas X membantu proses pembakaran
D Gas X turns limewater cloudy
Gas X mengeruhkan air kapur

7 Diagram 5 shows an experiment to investigate the product of combustion of a candle.
Rajah 5 menunjukkan satu eksperimen untuk menyiasat hasil pembakaran satu lilin.



At the end of the experiment, the liquid in the filter funnel is tested with blue cobalt chloride paper. Changes of cobalt chloride paper and limewater are observed. Which of the following observation is correct?
Di hujung eksperimen, cecair di dalam corong turas diuji dengan kertas kobalt klorida biru. Perubahan pada kertas kobalt klorida dan air kapur diperhatikan. Manakah antara pemerhatian berikut adalah benar?

	Blue cobalt chloride paper *Kertas kobalt klorida biru*	Limewater *Air kapur*
A	Turns pink *Bertukar kepada merah jambu*	Remains clear *Kekal jernih*
B	Turns pink *Bertukar kepada merah jambu*	Turns chalky *Bertukar menjadi keruh*
C	Remains blue *Kekal biru*	Remains clear *Kekal jernih*
D	Remains blue *Kekal biru*	Turns chalky *Bertukar menjadi keruh*

8 Which of the following are renewable sources of energy?
Manakah antara berikut merupakan sumber tenaga yang boleh diperbaha

A Geothermal, tides, coal
Geoterma, pasang surut air, arangbatu

B Biomass, hydro, waves
Biojisim, air, ombak

C Solar, petroleum, wind
Suria, petroleum, angin

D Natural gas, nuclear, hydro
Gas asli, nuclear, air

9 Diagram 6 shows a set-up apparatus to study the changes in the state of matter.
Rajah 6 menunjukkan susunan radas untuk mengkaji perubahan keadaan jirim.

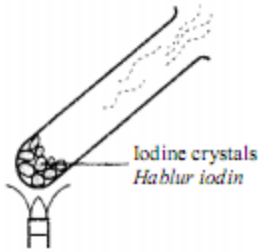


Diagram 6

What is the process that occurs to the iodine crystals?
Apakah proses yang berlaku kepada hablur iodin tersebut?

A Boiling
Pendidihan

B Sublimation
Pemejalwapan

C Evaporation
Penyejatan

D Condensation
Kondensasi

10 Diagram 7 shows a set-up apparatus to study the absorption and reflection of heat.
Rajah 7 menunjukkan susunan radas untuk mengkaji penyerapan dan pantulan haba.

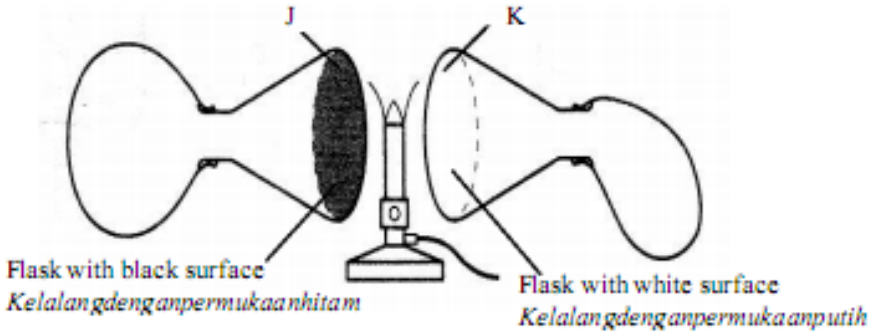


Diagram 7
Rajah 7

At the end of the experiment, the balloon attached to J expands more than the balloon attached to K. Which of the following explanations is correct?
Di akhir eksperimen, belon yang dilekatkan pada J mengembang lebih besar berbanding belon yang dilekatkan pada K. Manakah antara berikut adalah benar?

A Dark and dull surface conducts heat better than white and shiny surface
Permukaan gelap dan pudar adalah pengalir haba yang baik daripada permukaan putih dan berkilat.

B Dark and dull surface reflects heat better than white and shiny surface
Permukaan gelap dan pudar adalah pemantul haba yang lebih baik daripada permukaan putih dan berkilat.

C Dark and dull surface radiates heat better than white and shiny surface
Permukaan gelap dan pudar adalah pemancar haba yang lebih baik daripada permukaan putih dan berkilat.

D Dark and dull surface absorbs heat better than white and shiny surface
Permukaan gelap dan pudar adalah penyerap haba yang lebih baik daripada permukaan putih dan berkilat.

Selangor 2011

1 Which is correctly matched?
Padanan manakah yang betul?

	Physical quantity *Kuantiti fizik*	SI unit *Unit SI*
A	Time *Masa*	Hour *Jam*
B	Mass *Jisim*	Gram *Gram*
C	Length *Panjang*	Centimeter *Sentimeter*
D	Temperature *Suhu*	Kelvin *Kelvin*

2 Diagram 1 shows a measuring tool.
Rajah 1 menunjukkan satu alat pengukur.

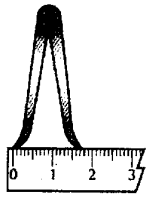


Diagram 1
Rajah 1

What is the function of the tool?
Apakah fungsi alat tersebut?

A To measure the length of a curve
Untuk mengukur panjang lengkung

B To measure the diameter of a marble
Untuk mengukur diameter bagi guli

C To measure the external diameter of a beaker
Untuk mengukur diameter luar bagi bikar

D To measure the internal diameter of a test tube
Untuk mengukur diameter dalam bagi tabung uji

3 What is the function of chloroplast in a plant cell?
Apakah fungsi kloroplas dalam sel tumbuhan?

A Maintain the shape of the cell
Mengekalkan bentuk sel

B Chemical processes take place here
Proses kimia berlaku di sini

C Controls all the activities in the cell
Mengawal semua aktiviti dalam sel

D Contain chlorophyll to carry out photosynthesis
Mengandungi klorofil untuk melakukan fotosintesis

Diagram 2 shows the arrangement of particles.
Rajah 2 menunjukkan susunan zarah-zarah.

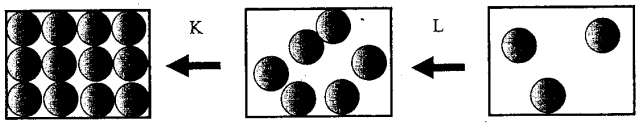


Diagram 2
Rajah 2

What processes represent K and L?
Apakah proses yang mewakili K dan L?

	K	L
A	Condensation *Kondensasi*	Evaporation *Penyejatan*
B	Freezing *Pembekuan*	Condensation *Kondensasi*
C	Condensation *Kondensasi*	Freezing *Pembekuan*
D	Melting *Peleburan*	Boiling *Pendidihan*

4 Four cups **A**, **B**, **C** and **D** are the same size but are made of different materials. Each of the cup contains equal volume of hot coffee at the same temperature. After 20 minutes, which cup is the coldest?
Empat cawan A, B, C dan D adalah sama saiz tetapi diperbuat daripada bahan yang berlainan. Setiap cawan mengandungi isipadu air kopi panas pada suhu yang sama. Selepas 20 minit cawan manakah yang paling sejuk?

A

Porcelain
Porcelain

C

Glass
Kaca

B

Aluminium
Aluminium

D

Plastic
Plastik

5 Diagram 3 shows an object, P, which floats on water.
Rajah 3 menunjukkan satu objek, P, yang terapung di atas air.

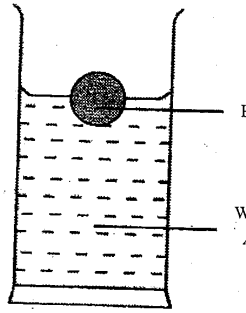


Diagram 3
Rajah 3

The density of the water is 1 g/cm^3. What is the density of P?
Ketumpatan air ialah 1 g/cm^3. Apakah ketumpatan bagi P?

A 0.8 g/cm^3

B 1.2 g/cm^3

C 2.2 g/cm^3

D 13.6 g/cm^3

6 Diagram 4 shows the classification of matter.
Rajah 4 menunjukkan klasifikasi bagi jirim.

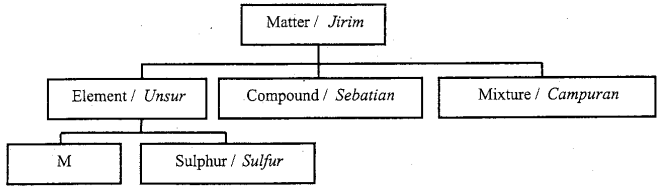


Diagram 4
Rajah 4

What is the characteristic of M?
Apakah ciri bagi M?

A Non ductile
Tidak boleh dilentur

B Has dull surface
Mempunyai permukaan pudar

C Poor conductor of heat
Konduktor haba yang lemah

D High melting point
Takat lebur tinggi

Selangor 2011

7 Diagram 5 shows the composition of air.
Rajah 5 menunjukkan komposisi udara.

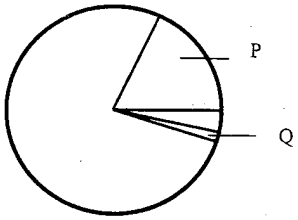


Diagram 5
Rajah 5

What are gases P and Q?
Apakah gas P dan Q?

	P	Q
A	Oxygen *Oksigen*	Carbon dioxide *Karbon dioksida*
B	Nitrogen *Nitrogen*	Carbon dioxide *Karbon dioksida*
C	Nitrogen *Nitrogen*	Oxygen *Oksigen*
D	Carbon dioxide *Karbon dioksida*	Oxygen *Oksigen*

8 Which of the following is a renewable energy source?
Antara yang berikut, yang manakah adalah sumber tenaga diperbaharu

A Coal
Arang batu

B Petroleum
Petroleum

C Charcoal
Arang kayu

D Natural gas
Gas asli

9 Diagram 6 shows an electric appliance, Q.
Rajah 6 menunjukkan peralatan elektrik Q.

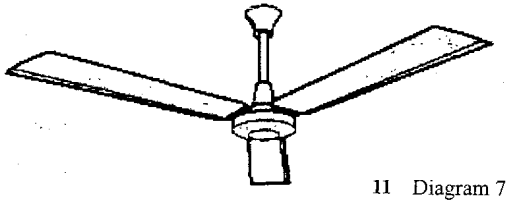


Diagram 6
Rajah 6

ens when Q is rotating?
ng berlaku apabila Q berputar?

ical energy change to electrical energy
a kimia berubah ke tenaga elektrik

ical energy change to kinetic energy
a elektrik berubah ke tenaga kinetik

ial energy change to kinetic energy
a potensi berubah ke tenaga kinetik

ial energy change to electrical energy
a potensi berubah ke tenaga elektrik

10 It is **not** suitable to wear a black shirt when working outdoor under the hot Sun because
Pakaian hitam ***tidak*** *sesuai dipakai apabila bekerja di bawah sinaran Matahari yang i*
kerana

A black is a good conductor of heat
hitam ialah konduktor haba yang baik

B black is a good reflector of heat
hitam ialah pemantul haba yang baik

C black is a good absorber of heat
hitam ialah penyerap haba yang baik

D black is a good radiator of heat
hitam ialah penyinar haba yang baik

11 Diagram 7 shows a heat transfer system in a building.
Rajah 7 menunjukkan satu sistem pemindahan haba dalam sebuah bangunan.

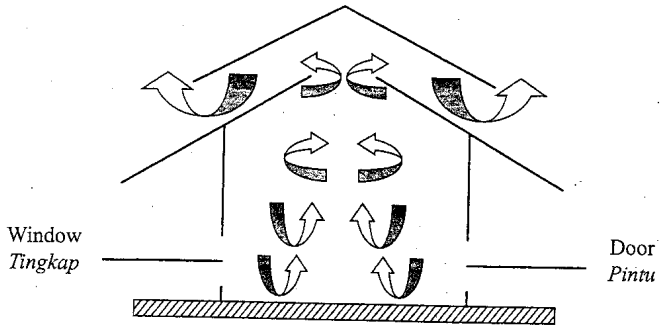


Diagram 7
Rajah 7

Which activity uses the same principle as Diagram 7?
Aktiviti manakah yang menggunakan prinsip yang sama seperti Rajah 7?

A Boiling water in a kettle
Mendidihkan air dalam cerek

B Ironing clothes with an iron
Menggosok baju dengan seterika

C Bimetallic strip thermostats
Termostat jalur dwilogam

D Warming the Earth by the Sun
Pemanasan Bumi oleh Matahari

Terengganu 2011

1 Table 1 shows the physical quantities X and Y and their SI units.
Jadual 1 menunjukkan unit SI bagi kuantiti fizik X dan Y.

Physical quantity *Kuantiti fizik*	SI unit *Unit SI*
X	Second *Saat*
Y	Metre *Meter*

Table 1 / *Jadual 1*

Which of the following represents X and Y?
Antara berikut yang manakah mewakili X dan Y?

	X	Y
A	Time *Masa*	Electric current *Arus elektrik*
B	Length *Panjang*	Mass *Jisim*
C	Time *Masa*	Length *Panjang*
D	Mass *Jisim*	Temperature *Suhu*

2 Diagram 1 shows a unicellular organism.
Rajah 1 menunjukkan satu organisma unisel

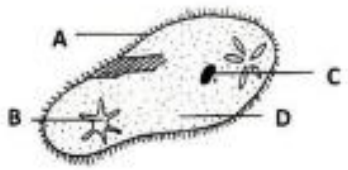


Diagram 1 / *Rajah 1*

Which part of the cell, A, B, C or D control the activity of the cell?
Bahagian sel yang manakah A, B, C atau D yang mengawal aktiviti sel?

3 Table 2 shows the densities of four substances J, K, L and M.
Jadual 2 menunjukkan ketumpatan empat bahan J, K, L dan M.

Substance *Bahan*	J	K	L	M
Density / g/cm^3 *Ketumpatan* / g/cm^3	1.5	13.5	10.5	2.6

Table 2 / *Jadual 2*

Which of the following substances will float on a liquid that has density of 3.5 g/cm^3?
Antara bahan-bahan berikut, yang manakah akan terapung di atas cecair yang berketumpatan 3.5 g/cm^3?

A J and K
J dan K

B K and L
K dan L

C L and M
L dan M

D J and M
J dan M

4 The following are the importance of a certain natural resource.
Berikut merupakan kepentingan suatu sumber semulajadi.

- Cools the plants through the process of transpiration
  Menyejukkan tumbuhan melalui proses transpirasi
- Provides buoyancy support to aquatic plant
  Membekalkan daya apungan kepada tumbuhan akuatik
- Controls and retains body temperature at 37°C
  Mengawal dan mengekalkan suhu badan pada 37°C

The natural resource referred to is
Sumber semulajadi itu ialah

A Minerals
Mineral

B Fossil fuel
Bahan api fosil

C Soil
Tanah

D Water
Air

5 Diagram 2 shows percentage of gases in the air.
Rajah 2 menunjukkan peratus gas di dalam udara.

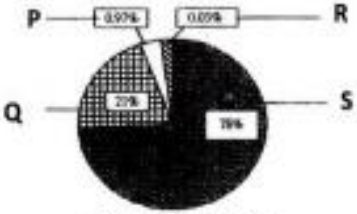


Diagram 2 / *Rajah 2*

Which of the following is true about gas Q?
Antara berikut yang manakah benar tentang gas berlabel Q?

A Needed for respiration
Diperlukan untuk respirasi

B Needed for photosynthesis
Diperlukan untuk fotosintesis

C Thinning of the ozone layer
Menipiskan lapisan ozon

D Turns lime water cloudy
Mengeruhkan air kapur

6 Diagram 3 shows three grasshopper are placed in the bell jar.
Rajah 3 menunjukkan tiga belalang diletakkan di dalam serkup kaca.

Diagram 3 / *Rajah 3*

Which of the following shows the correct changes in the composition of air after 30 minutes?
Antara berikut yang manakah menunjukkan komposisi udara yang betul selepas 30 minit?

	Oxygen *Oksigen*	Carbon dioxide *Karbon dioksida*
A	Increases *Meningkat*	Decreases *Menurun*
B	Decreases *Menurun*	Decreases *Menurun*
C	Decreases *Menurun*	Increases *Meningkat*
D	Increases *Meningkat*	Increases *Meningkat*

Terengganu 2011

7 Diagram 4 shows a boy throwing a ball up and another boy on the first floor of the building is catching it.
Rajah 4 menunjukkan seorang budak lelaki melambungkan sebiji bola dan seorang budak lelaki lain menangkap bola itu di tingkat satu sebuah bangunan.

Diagram 4 / *Rajah 4*

What happens to the kinetic energy and potential energy?
Apakah yang berlaku kepada tenaga kinetic dan tenaga keupayaan?

	Potential energy *Tenaga keupayaan*	Kinetic energy *Tenaga kinetik*
A	Increase *Bertambah*	Decrease *Berkurang*
B	Decrease *Berkurang*	Increase *Bertambah*
C	Decrease *Berkurang*	Decrease *Berkurang*
D	Increase *Bertambah*	Increase *Bertambah*

8 Diagram 5 shows an electric power station.
Rajah 5 menunjukkan sebuah stesen janakuasa elektrik

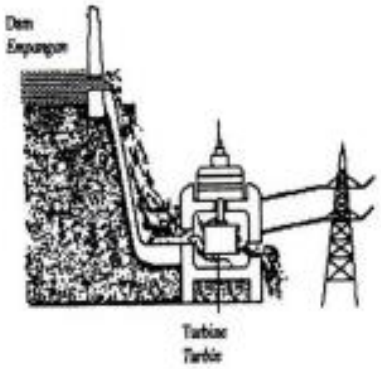


Diagram 5 / *Rajah 5*

What is the source of energy used at this power station?
Apakah sumber tenaga yang digunakan di stesen janakuasa ini?

A Wind
Angin

B Water
Air

C The sun
Matahari

D Geothermal
Geoterma

9 Diagram 6 shows the ice in the bowl has melted.
Rajah 6 menunjukkan ais di dalam mangkuk melebur.

Diagram 6 / *Rajah 6*

Why did the process happened?
Mengapakah proses ini berlaku?

A Particles of ice absorb heat
Zarah-zarah ais menyerap haba

B Particles of ice radiate heat
Zarah-zarah ais menyinar haba

C Particles of ice reflect heat
Zarah-zarah ais memantul haba

D Particles of ice release heat
Zarah-zarah ais membebaskan haba

10 Diagram 7 shows two workers P and Q wearing different coloured uniforms working on a hot day. Worker P sweats more than worker Q.
Rajah 7 menunjukkan dua pekerja, P dan Q memakai pakaian seragam berlainan warna bekerja di hari yang panas. Pekerja P berpeluh lebih banyak daripada pekerja Q.

Diagram 7 / *Rajah 7*

What can be concluded from the above situation?
Apakah kesimpulan dari situasi di atas?

A Black uniform releases heat better than white uniform
Pakaian seragam hitam membebaskan haba lebih baik daripada pakaian seragam putih

B White uniform releases heat better than black uniform
Pakaian seragam putih membebaskan haba lebih baik daripada pakaian seragam hitam

C Black uniform absorbs heat better than white uniform
Pakaian seragam hitam menyerap haba lebih baik daripada pakaian seragam putih

D White uniform absorbs heat better than black uniform
Pakaian seragam putih menyerap haba lebih baik daripada pakaian seragam hitam

11 Diagram 8 shows the incident ray and the reflected ray from a light source that is projected on a plane mirror.
Rajah 8 menunjukkan sinar tuju dan sinar pantulan daripada satu sumber cahaya yang dipancarkan kepada cermin satah.

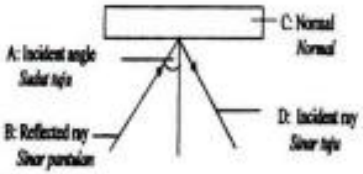
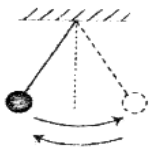


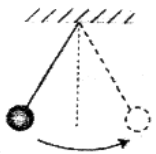
Diagram 8 / *Rajah 8*

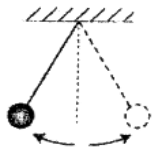
Which part A, B, C or D is correctly labelled?
Bahagian manakah A, B, C dan D dilabelkan dengan betul?

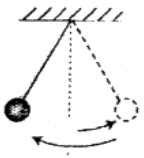
Wilayah Persekutuan 2011

1 Which is a complete swing made by a pendulum?
Yang manakah satu ayunan lengkap bagi sebuah pendulum?

A 

B 

C 

D 

2 Which is a unicellular organism?
Yang manakah organisma satu sel?

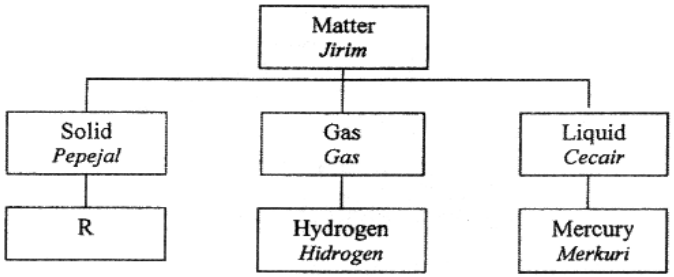
A 

C 

B 

D 

3 Diagram below shows the classification of matter.
Rajah di bawah menunjukkan pengkelasan jirim.



R represents ...
R mewakili ...

A Stone
Batu

B Oxygen
Oksigen

C Cooking Oil
Minyak masak

D Water
Air

55/1

4 Which is the application of principle of density in the daily life?
Yang manakah aplikasi prinsip ketumpatan dalam kehidupan harian?

A Removing the water from an aquarium
Memindahkan air daripada akuarium

B A hot air balloon has a burner that heats the air in the ballon
Belon panas mempunyai alat pemanas yang memanaskan udara di dalam belon

C An aeroplane flying in the sky
Sebuah kapal terbang sedang terbang di awan

D A falling coconut to the ground
Sebiji kelapa sedang jatuh ke tanah

5 Which is a substance consists of only one type of particle?
Bahan manakah yang mengandungi satu jenis zarah?

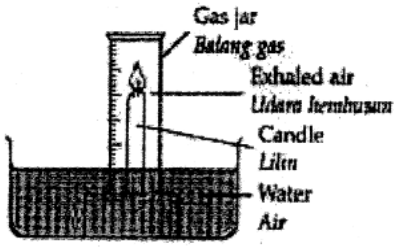
A Carbon dioxide
Karbon dioksida

B Sea water
Air laut

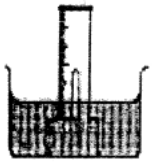
C Ammonia
Ammonia

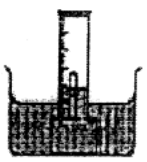
D Gold
Emas

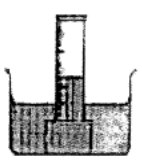
6 The diagram below shows a candle which is placed in a gas jar containing air.
Rajah di bawah menunjukkan sebatang lilin di dalam sebuah balang gas yang mengandungi udara.

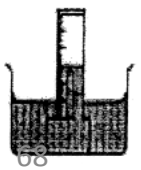


What is observed after the candle extinguised?
Apakah yang dapat diperhatikan selepas lilin itu padam?

A 

B 

C 

D 

JOHOR 11

10. Diagram 8 shows the cross section of the human nose.
Rajah 8 menunjukkan keratan rentas hidung manusia.

Diagram 8
Rajah 8

What is the function of X ?
Apakah fungsi X ?

A Moistens the nasal cavity
Melembapkan rongga hidung
B Interprets the impulses as a smell
Mentafsir impuls sebagai satu bau
C Secretes mucus to dissolve chemicals
Mengeluarkan mukus untuk melarutkan bahan kimia
D Detects and sends the impulses to the brain
Mengesan dan menghantar impuls kepada otak

11. Diagram 9 shows growth of a plant.
Rajah 9 menunjukkan pertumbuhan satu tumbuhan.

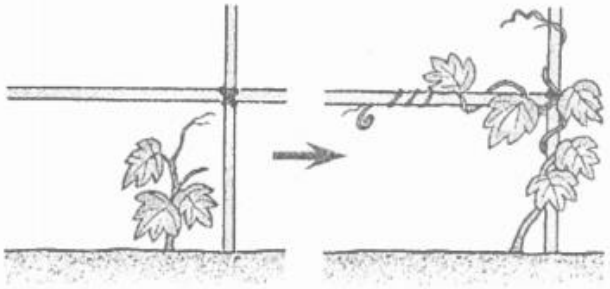


Diagram 9
Rajah 9

What type of the tropism is shown by the plant ?
Apakah jenis tropisma yang ditunjukkan oleh tumbuhan itu ?

A Nastic movement
Gerakan nastik
B Thigmotropism
Tigmotropisme
C Phototropism
Fototropisme
D Geotropism
Geotropisme

12. How is the small intestine able to absorb digested food effectively ?
Bagaimanakah usus kecil dapat menyerap makanan yang telah dicernakan dengan berkesan ?

I Its inner surface is highly folded
Permukaan dalamannya banyak lipatan
II It has millions of tiny finger-like projections known as villi
Terdapat berjuta-juta unjuran halus yang dikenali sebagai vilus
III It is the last place of the alimentary canal where digestion occurs
Adalah bahagian terakhir sistem pencernaan di mana pencernaan berlaku

A I and II only
I *dan* II *sahaja*
B I and III only
I *dan* III *sahaja*
C II and III only
II *dan* III *sahaja*
D I, II *and* III
I, II *dan* III

13. Diagram 10 shows the classification of plants.
Rajah 10 menunjukkan pengelasan tumbuhan.

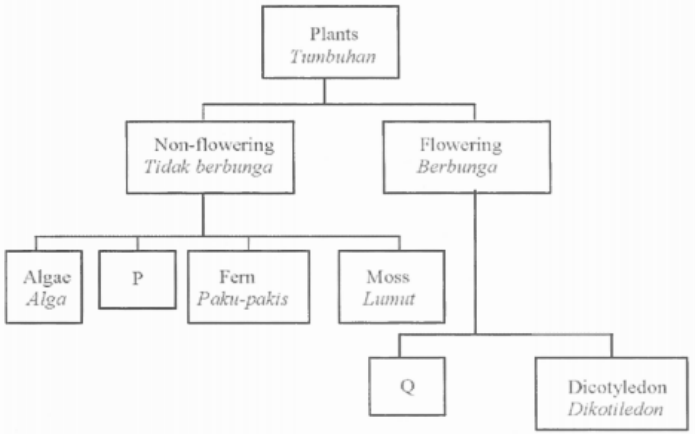


Diagram 10
Rajah 10

Which of the following plants are represented by P and Q ?
Antara tumbuhan berikut, yang manakah diwakili oleh P dan Q ?

	P	Q
A	Phytoplankton *Fitoplankton*	Sugarcane plant *Pokok tebu*
B	Pine tree *Pokok pain*	Banana tree *Pokok pisang*
C	Seaweed *Rumpai laut*	Coconut tree *Pokok kelapa*
D	Mushroom *Cendawan*	Rose plant *Pokok mawar*

JOHOR 11

14. Diagram 11 shows a type of interaction between living organisms.
Rajah 11 menunjukkan sejenis interaksi antara organisma hidup.

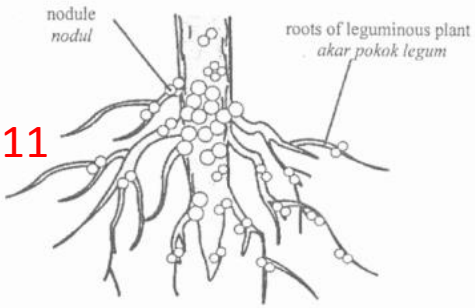


Diagram 11
Rajah 11

Which of the following pairs of living things has the same interaction as above ?
Antara pasangan hidupan berikut, yang manakah mempunyai interaksi yang sama seperti di atas ?

A Wolf and lion
Serigala dan singa
B Remora fish and shark
Ikan remora dan jerung
C Hermit crab and sea anemone
Umang-umang dan buran
D Guppy fish and mosquito larvae
Ikan gapi dan larva nyamuk

15. Diagram 12 shows plants in 4 different conditions.
Rajah 12 menunjukkan tumbuhan dalam 4 keaduan yang berbeza.

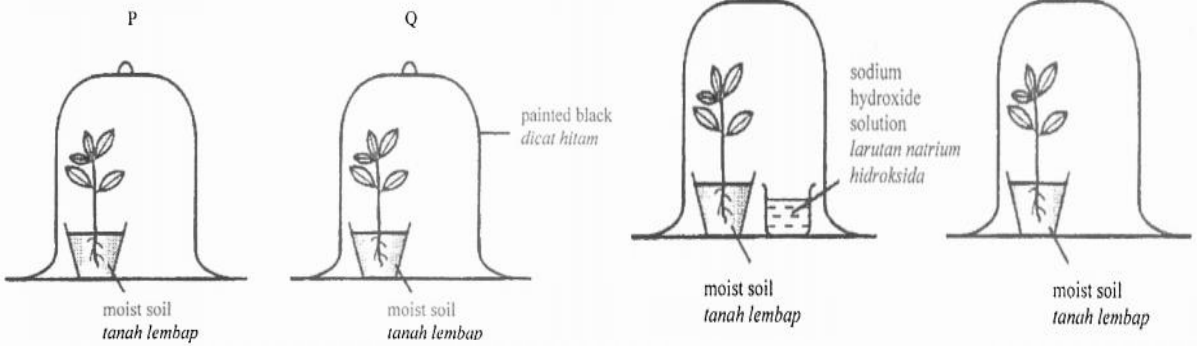


Diagram 12
Rajah 12

Bell jar P and Q are put in a bright room, while bell jar R and S are put in a dark room. Plant in which bell jar can conduct photosynthesis ?
Serkup kaca P dan Q diletakkan di dalam sebuah bilik yang terang, manakala serkup kaca R dan S diletakkan di dalam sebuah bilik yang gelap.
Tumbuhan di dalam serkup kaca yang manakah dapat menjalankan proses fotosintesis?

16. "Conservation is the wise use of natural resources with the least disturbance to the living things and their environment."
"Pemuliharaan adalah pemanfaatan secara bijak sumber semulajadi dengan mengurangkan gangguan ke atas benda hidup dan persekitaran mereka."

Why should we care for conservation ?
Mengapakah perlunya pemuliharaan ?

A Forest is home to some indigenous people
Hutan merupakan tempat tinggal bagi beberapa kaum pribumi
B Reduces the number of rain catchment area
Mengurangkan bilangan kawasan tadahan hujan
C Decreases the population of endangered species
Mengurangkan populasi spesies terancam
D Organizations such as the Malaysian Nature Society can benefit
Organisasi seperti Persatuan Alam Semulajadi Malaysia akan mer

17. Which of the following shows a neutralisation reaction?
Antara berikut, yang manakah menunjukkan tindak balas peneutralan ?

A Sulphuric acid + magnesium → magnesium sulphate + hydrogen
Asid sulfurik + magnesium → magnesium sulfat + hidrogen
B Hydrochloric acid + potassium hydroxide → potassium chloride + water
Asid hidroklorik + kalium hidroksida → kalium klorida + air
C Hydrochloric acid + zinc carbonate → zinc chloride + water + carbon dioxide
Asid hidroklorik + zink karbonat → zink klorida + air + karbon dioksida
D Sodium hydroxide + ammonium chloride → sodium chloride + water + ammonia
Natrium hidroksida + ammonium klorida → natrium klorida + air + ammonia

18. Diagram 13 shows the apparatus to determine the composition of water by electrolysis process.
Rajah 13 adalah susunan radas untuk menentukan komposisi air melalui proses elektrolisis.

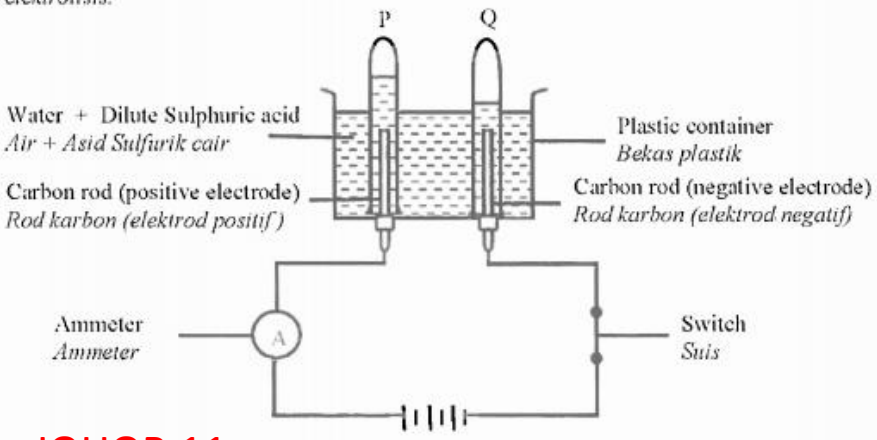


Diagram 13
Rajah 13

JOHOR 11

State the name of gas P and gas Q.
Nyatakan nama gas P dan gas Q.

	Gas P *Gas P*	Gas Q *Gas Q*
A	Hydrogen *Hidrogen*	Oxygen *Oksigen*
B	Oxygen *Oksigen*	Hydrogen *Hidrogen*
C	Oxygen *Oksigen*	Carbon dioxide *Karbon dioksida*
D	Hydrogen *Hidrogen*	Carbon dioxide *Karbon dioksida*

19. Diagram 14 shows air exerts pressure.
Rajah 14 menunjukkan udara mewujudkan tekanan.

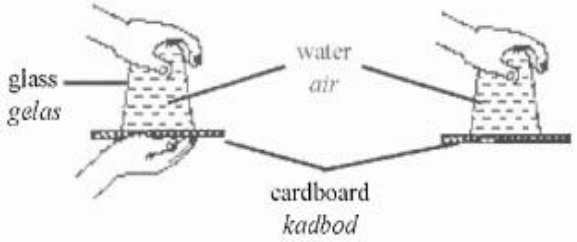


Diagram 14
Rajah 14

When the hand is removed, the cardboard does not fall and neither does the water in the glass flows out.
Apabila tangan dialihkan, kadbod tidak jatuh dan air di dalam gelas tidak mengalir keluar.

Which is not the explanation for this situation ?
Antara yang berikut, yang manakah bukan penjelasan bagi keadaan ini ?

A Air pressure acts upwards and presses on the cardboard
Tekanan udara bertindak ke atas dan menekan pada kadbod
B Air pressure inside the glass is lower than atmospheric pressure
Tekanan udara di dalam gelas lebih rendah daripada tekanan atmosfera
C Air pressure inside the glass is balanced by atmospheric pressure
Tekanan udara di dalam gelas diseimbangkan oleh tekanan atmosfera
D Air pressure is able to support the weight of the water in the glass
Tekanan udara mampu menyokong berat air di gelas

20. Which of the following activity has minimum friction ?
Antara aktiviti berikut, yang manakah mempunyai geseran yang minima ?

A Student running
Pelajar sedang berlari
B Climbing a mountain
Memanjat gunung
C Writing with a pencil
Menulis menggunakan pensil
D Diving from a diving board
Terjun dari papan terjun

JOHOR 11

21. Diagram 15 shows a student, with a mass of 60 kg, carrying a 3 kg box up a stairs. He walks up the stairs in 10 seconds.
Rajah 15 menunjukkan seorang pelajar berjisim 60 kg sedang membawa sebuah kotak berjisim 3 kg menaiki tangga.
Pelajar itu menaiki tangga itu dalam masa 10 saat.

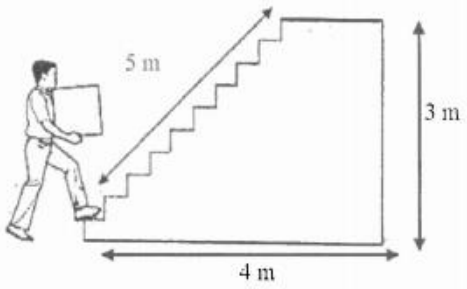


Diagram
Rajah

Calculate the power generated by the student.
Hitung kuasa yang dihasilkan oleh pelajar tersebut.
[1 kg = 10 N]

A 180 W
B 189 W
C 300 W
D 315 W

22. Diagram 16 shows the support system of three different organisms.
Rajah 16 menunjukkan sistem sokongan tiga organisma yang berbeza.

Diagram 16
Rajah 16

Which of the following shows correctly the support system of the organisms ?
Antara berikut, yang manakah menunjukkan sistem sokongan organisma-organisma tersebut dengan betul ?

	Beetle *Kumbang*	Earthworm *Cacing Tanah*	Horse *Kuda*
A	Endoskeleton *Rangka dalam*	Exoskeleton *Rangka luar*	Hydrostatic skeleton *Rangka hidrostatik*
B	Hydrostatic skeleton *Rangka hidrostatik*	Endoskeleton *Rangka dalam*	Exoskeleton *Rangka luar*
C	Endoskeleton *Rangka dalam*	Hydrostatic skeleton *Rangka hidrostatik*	Exoskeleton *Rangka luar*
D	Exoskeleton *Rangka luar*	Hydrostatic skeleton *Rangka hidrostatik*	Endoskeleton *Rangka dalam*

23. Diagram 17 shows the front and side views of two cars.
Rajah 17 menunjukkan pandangan sisi dan pandangan depan dua buah kereta.

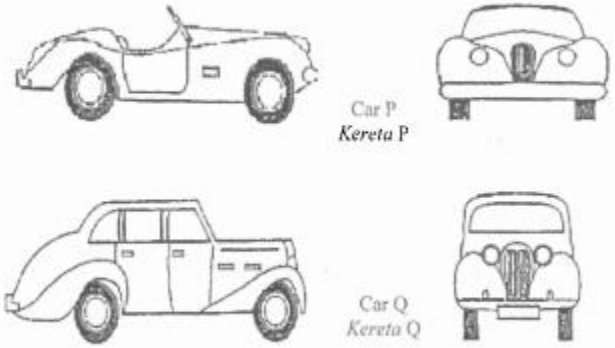
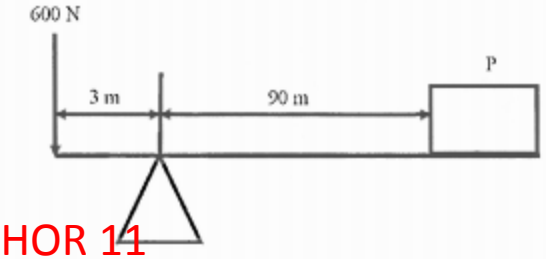


Diagram 17
Rajah 17

Which of the following statement is **true** about the stability of the cars ?
Antara pernyataan berikut, yang manakah **benar** *tentang kestabilan kereta-kereta tersebut ?*

A Car P is less stable than car Q because car P is shorter
Kereta P kurang stabil berbanding kereta Q kerana kereta P lebih rendah
B Car P is more stable than car Q because car P can move faster
Kereta P lebih stabil berbanding kereta Q kerana kereta P boleh bergerak lebih laju
C Car Q is more stable than car P because car Q has a smaller base area
Kereta Q lebih stabil berbanding kereta P kerana kereta Q mempunyai luas tapak yang lebih kecil
D Car Q is less stable than car P because car Q has a higher centre of gravity
Kereta Q kurang stabil berbanding kereta P kerana kereta Q mempunyai pusat graviti yang lebih tinggi

24. Diagram 18 shows a lever in equilibrium.
Rajah 18 menunjukkan sejenis tuas dalam keadaan seimbang.



JOHOR 11

Diagram 18
Rajah 18

What is the value of P ?
Apakah nilai P ?

A 20 N
B 30 N
C 45 N
D 67 N

25. Diagram 19 shows a scissor used to cut a thread.
Rajah 19 menunjukkan sebilah gunting digunakan untuk memotong benang.

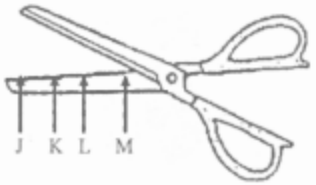
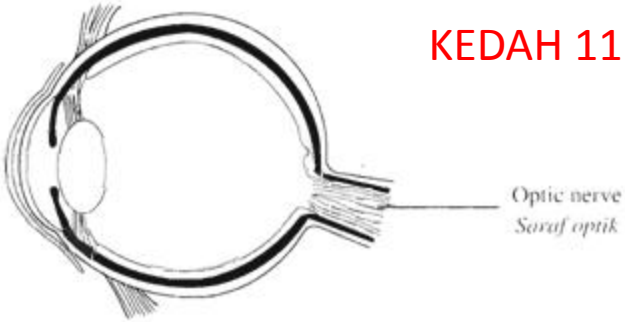


Diagram 19
Rajah 19

J, K, L and M are four different positions of the thread. Where should the thread be placed in order to cut it with the least effort ?
J, K, L dan M merupakan empat posisi berlainan bagi benang tersebut. Di posisi manakah benang itu harus diletakan supaya daya yang paling kurang digunakan untuk memotongnya ?

A J
B K
C L
D M

gram 6 shows a cross section of the human eye.
ih 6 menunjukkan keratan rentas mata manusia.



KEDAH 11

What is the function of the optic nerve?
Apakah fungsi saraf optik?

A Contracts or relaxes to change the thickness of the lens
Menegang atau mengendur untuk mengubah ketebalan kanta

B Carries nerve impulses from the retina to the brain
Membawa impuls saraf dari retina ke otak

C Refracts and focuses light to form an image on the retina
Membias dan memfokus cahaya untuk menghasilkan imej pada retina

D Controls the amount of light entering the eye
Mengawal jumlah cahaya yang memasuki mata

11 Old people generally cannot hear as well as young people, this is because
Orang tua biasanya kurang pendengaran berbanding dengan orang muda, ini adalah kerana

A the pinna cannot collect sound efficiently
cuping telinga tidak dapat mengumpul bunyi dengan berkesan

B the ear drums become less elastic
gegendang telinga menjadi kurang kenyal

C the cochlea cannot convert vibration into impulse
koklea tidak dapat menukar getaran kepada impuls

D the ear canal produces too much earwax
salur telinga mengeluarkan banyak tahi telinga

12 The following statements show responses of a plant towards stimuli.
Pernyataan berikut menunjukkan gerak balas tumbuhan terhadap rangsangan.

- Shows positive phototropism
  Menunjukkan fototropisme positif
- Shows negative geotropism
  Menunjukkan geotropisme negatif

Which part of the plant is described?
Bahagian manakah pada tumbuhan yang diterangkan?

A Roots
Akar

B Shoots
Pucuk

C Tendrils
Sulur paut

D Fruits
Buah

13 Which of the following person requires foods rich in energy?

Antara berikut, siapakah yang memerlukan makanan yang kaya dengan tenaga?

A Fauzi,14 years old, a student.

Fauzi, umur 14 tahun, seorang pelajar.

B Rodzi, 40 years old, a teacher.

Rodzi, umur 40 tahun, seorang guru.

C Jamal, 36 years old, a labourer.

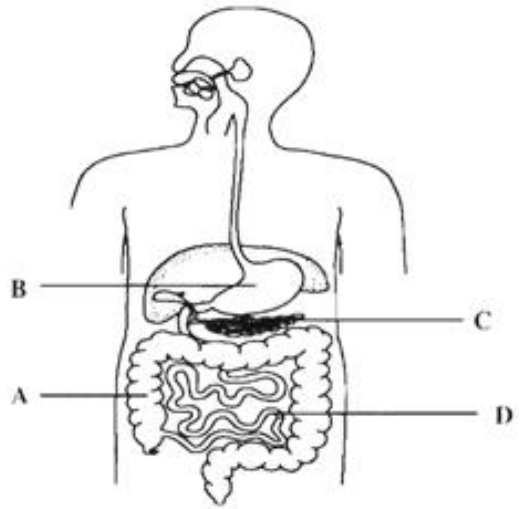
Jamal, umur 36 tahun, seorang buruh.

D Hafizah, 26 years old, a clerk.

Hafizah, umur 26 tahun, seorang kerani.

14 Diagram 7 shows the human digestive system.

Rajah 7 menunjukkan sistem pencernaan manusia.



Which of the part labelled **A**, **B**, **C** or **D**, absorbs water?

Bahagian manakah berlabel **A**, **B**, **C** *atau* **D** *yang menyerap air.*

15 The animals listed below can be classified into the same group.

Haiwan yang tersenarai di bawah boleh dikelaskan dalam kumpulan yang sama.

- Tapir

  Tenuk
- Tiger

  Harimau
- Cat

  Kucing
- Monkey

  Monyet

What is the common physical characteristic which can be used?

Apakah ciri-ciri fizikal sepunya yang boleh digunakan?

A Bodies are covered with hair or fur

Badan diliputi dengan rambut atau bulu

B Giving birth to young

Melahirkan anak

C Warm blooded

Berdarah panas

D Carry out internal fertilisation

Menjalankan persenyawaan dalam

KEDAH 11

16 Diagram 8 shows the interaction between two organisms.

Rajah 8 menunjukkan interaksi antara dua organisma.

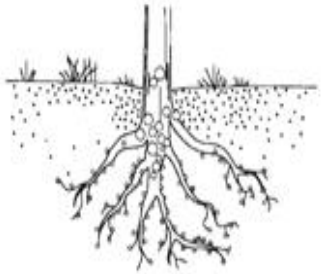


Diagram 8

Rajah 8

What is the type of interaction and the example of organisms similar to Diagram 8?

Apakah jenis interaksi dan contoh organisma yang sama seperti Rajah 8?

	Type of interaction *Jenis interaksi*	Example of organisms *Contoh organisma*
A	Commensalism *Komensalisme*	Shark and remora fish *Jerung dan ikan remora*
B	Competition *Persaingan*	Paddy and *lallang* *Padi dan lalang*
C	Mutualism *Mutualisme*	Sea anemone and hermit crab *Buran dan umang-umang*
D	Parasitism *Parasitisme*	*Rafflesia* and tree *Raflesia dan pokok*

17 Diagram 9 shows an experiment to study the composition of water.

Rajah 9 menunjukkan satu eksperimen untuk mengkaji komposisi air.

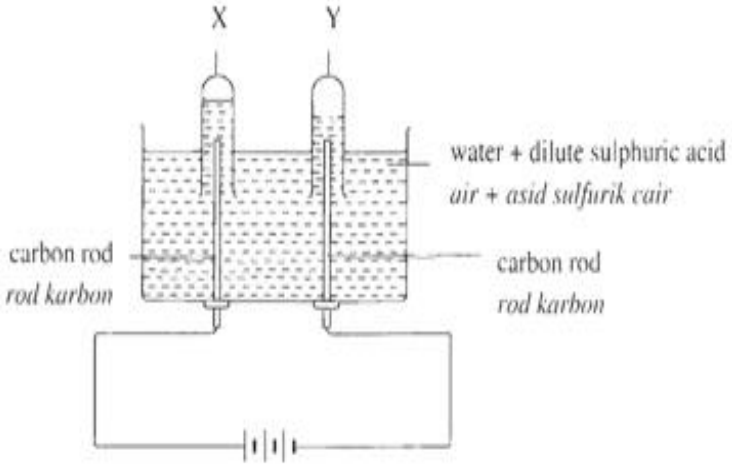


Diagram 9

What tests can be carried out to determine the identity of gas X and gas Y?

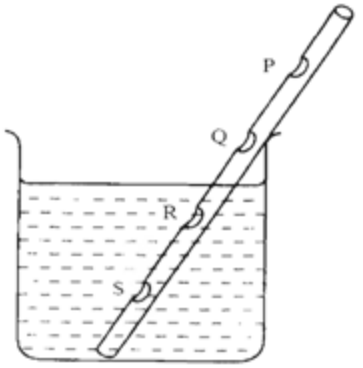
Apakah ujian yang boleh dijalankan untuk mengenalpasti gas X *dan gas* Y*?*

	Test for gas X *Ujian untuk gas* X	Test for gas Y *Ujian untuk gas* Y
A	Use a burning wooden splint *Menggunakan kayu uji bernyala*	Use lime water *Menggunakan air kapur*
B	Use lime water *Menggunakan air kapur*	Use universal indicator *Menggunakan penunjuk universal*
C	Use universal indicator *Menggunakan penunjuk universal*	Use a glowing wooden splint *Menggunakan kayu uji berbara*
D	Use a glowing wooden splint *Menggunakan kayu uji berbara*	Use a burning wooden splint *Menggunakan kayu uji bernyala*

19 Diagram 10 shows a drinking straw with four holes, P, Q, R and S placed in a beaker of water.

Rajah 10 menunjukkan satu penyedut minuman dengan empat lubang P, Q, R *dan* S *di dalam sebuah bikar yang berisi air.*

KEDAH 11



Which holes will prevent the water from being sucked up?

Lubang yang manakah tidak membenarkan air disedut ke atas?

A P and Q only
P dan Q sahaja

B Q and R only
Q dan R sahaja

C P and S only
P dan S sahaja

D R and S only
R dan S sahaja

20 Diagram 11 shows an object being pushed to the right.

Rajah 11 *menunjukkan sebuah objek ditolak ke sebelah kanan.*

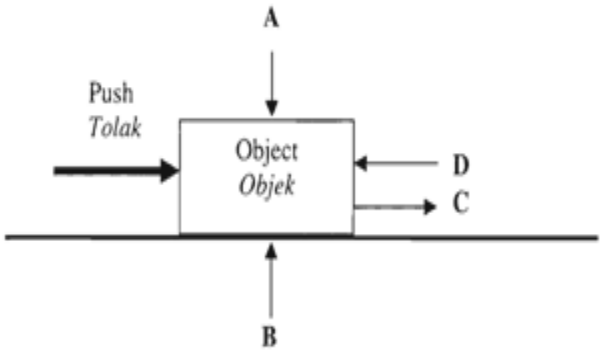


Diagram 11

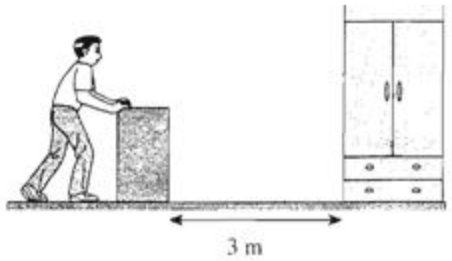
Rajah 11

Which direction represents the frictional force?

Arah yang manakah mewakili daya geseran?

21 Diagram 12 shows a man pushing a wooden box weighing 50 kg towards a wardrobe in 10 seconds.

Rajah 12 menunjukkan seorang lelaki sedang menolak sebuah kotak kayu yang beratnya 50 kg ke arah almari dalam masa 10 saat.



Calculate the power.

Hitung kuasa.

A 100 W

B 150 W

C 350 W

D 400 W

KEDAH 11

22 Which of the following organism is correctly matched with its support system?

Antara berikut, organisma yang manakah dipadankan dengan betul dengan sistem sokongannya?

	Organism *Organisma*	Support system *Sistem sokongan*
A		Exoskeleton *Rangka luar*
B		Hydrostatic skeleton *Rangka hidrostatik*
C		Exoskeleton *Rangka luar*
D		Endoskeleton *Rangka dalam*

24 Diagram 14 shows a giraffe.

Rajah 14 menunjukkan seekor zirafah.

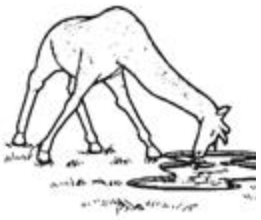


Diagram 14

Rajah 14

The giraffe spreads its leg while drinking water to

Zirafah tersebut mengangkangkan kakinya semasa minum air untuk

A increase its base area

menambahkan luas permukaan tapaknya

B increase its body weight

meningkatkan berat badannya

C increase water intake

meningkatkan pengambilan air

D increase its centre of gravity

menambahkan pusat gravitinya

23 Diagram 13 shows a plant using structure P for additional support.

Rajah 13 menunjukkan sejenis tumbuhan menggunakan struktur P sebagai sokongan tambahan.

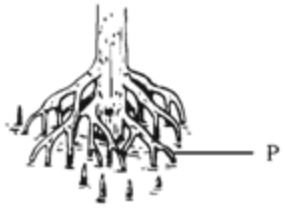


Diagram 13

Rajah 13

A Stilt roots

Akar jangkang

B Air sac

Pundi udara

C Thorn

Duri

D Tendrils

Sulur paut

25 Diagram 15 shows a paper cutter.

Rajah 15 menunjukkan sebuah alat pemotong kertas.

Diagram 15

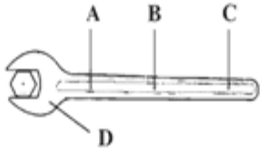
Rajah 15

Which of the following represents X, Y and Z?

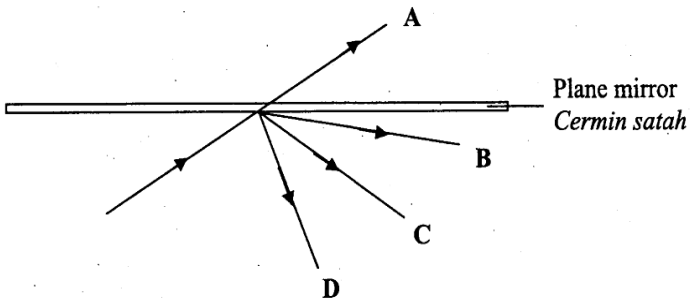
	X	Y	Z
A	Load *Beban*	Effort *Daya*	Fulcrum *Fulkrum*
B	Effort *Daya*	Load *Beban*	Fulcrum *Fulkrum*
C	Fulcrum *Fulkrum*	Effort *Daya*	Load *Beban*
D	Fulcrum *Fulkrum*	Load *Beban*	Effort *Daya*

26 Diagram 16 shows a spanner being used to remove a nut.

At which position, labelled **A**, **B**, **C** or **D**, the least effort is applied?



13. Which rays labelled **A, B, C** or **D**, is the reflected ray when a light ray hit a plane mirror?
*Sinar berlabel **A, B, C** dan **D**, manakah adalah sinar pantulan apabila satu sinar cahaya terkena pada cermin satah?*



14. Which is the sensory organ used to detect pain and pressure?
Organ deria manakah yang digunakan untuk mengesan kesakitan dan tekanan?

A. Tongue
Lidah

B. Skin
Kulit

C. Eyes
Mata

D. Nose
Hidung

15. Diagram 9 shows a food pyramid.
Rajah 9 menunjukkan suatu piramid makanan.

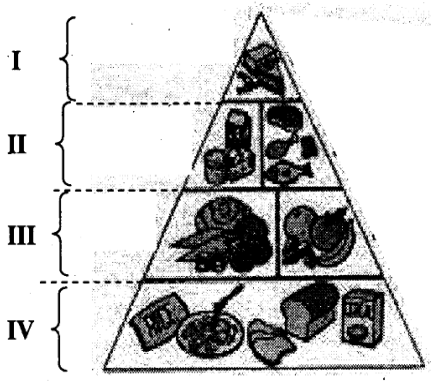


Diagram 9
Rajah 9

KELANTAN 11

Which level of the food pyramid if taken excessively in a long period by a person can cause obesity?
Aras manakah dalam piramid makanan jika diambil secara berlebihan dalam jangka panjang oleh seseorang akan menyebabkan obesiti?

A. I and II
I *dan* II

B. II and III
II *dan* III

C. I and IV
I *dan* IV

D. III and IV
III *dan* IV

16. The information below is related to a certain class of food.
Maklumat di bawah berkait dengan suatu kelas makanan.

* Supply material for repairing of damaged tissues
Membekalkan bahan untuk membaiki tisu rosak.
* Supply material for the building of new cells
Membekalkan bahan untuk membina tisu baharu.
* Build enzymes and hormones
Membina enzim dan hormon.

Which food are categorized in this class?
Makanan manakah yang dikategorikan dalam kelas ini?

A Bread and milk.
Roti dan susu.

B Rice and chicken meat
Nasi dan daging ayam

C. Milk and chicken meat.
Susu dan daging ayam

D. Rice and bread
Nasi dan roti

17. Diagram 10 shows a food web.
Rajah 10 menunjukkan suatu siratan makanan.

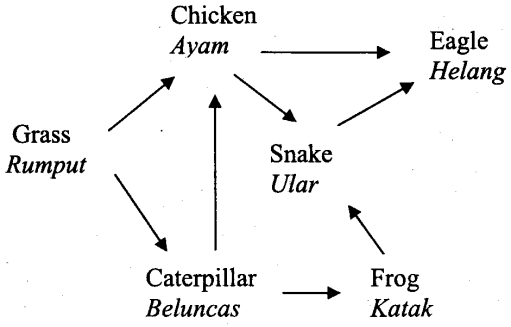


Diagram 10
Rajah 10

How many food chains are there in the food web?
Berapakah bilangan rantai makanan yang terdapat dalam siratan makanan itu?

A. 2 B. 3

C. 4 D. 5

18. The table 1 shows different characteristics of plant S and T.
Jadual 1 menunjukkan ciri-ciri berbeza antara tumbuhan berbunga S dan T.

Characteristics *Ciri-ciri*	Plant *Tumbuhan*	
	S	T
Soft stem *Batang lembut*		√
Tap root system *Sistem akar tunjang*	√	
Fibrous root system *Sistem akar serabut*		√
Parallel veined leaves *Daun berurat selari*		√
Net-veined leaves *Daun berurat jejala*	√	

Table 1
Jadual 1

Which of these plants have the above characteristics?
Tumbuhan manakah yang mempunyai ciri-ciri di atas?

	S	T
A	Balsam plant *Pokok keembung*	Sugarcane plant *Pokok tebu*
B	Sugar cane plant *Pokok tebu*	Paddy plant *Pokok padi*
C	Durian tree *Pokok durian*	Balsam plant *Pokok keembung*
D	Paddy plant *Pokok padi*	Durian tree *Pokok durian*

19. Which process takes place when temperature of water changes from 28 ^{0}C to 0 ^{0}C?
Proses manakah yang berlaku apabila suhu air berubah dari 28 ^{0}C kepada 0 ^{0}C?

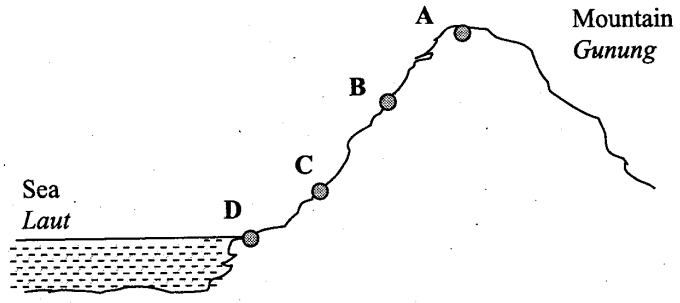
A. Melting
Peleburan

B. Freezing
Pembekuan

C. Evaporation
Penyejatan

D. Boiling
Pendidihan

20. Which level labeled **A, B, C** or **D** will a climber experience lowest air pressure when he climbs up the mountain?
*Aras berlabel **A, B, C dan D** manakah, seorang pendaki akan mengalami tekanan udara paling rendah apabila mendaki gunung?*



21. Diagram 11 show a woman with a mass of 56 kg carrying a bag with a mass of 4 kg.
Rajah 11 menunjukkan seorang wanita berjisim 56 kg sedang mengangkat beg yang berjisim 4 kg.

[1 kg = 10 N]

$$\text{Power (W)} = \frac{\text{Force (N) x Distance (m)}}{\text{Time (s)}}$$

$$\textit{Kuasa} \text{ (W)} = \frac{\textit{Daya} \text{ (N) x } \textit{Jarak} \text{ (m)}}{\textit{Masa} \text{ (s)}}$$

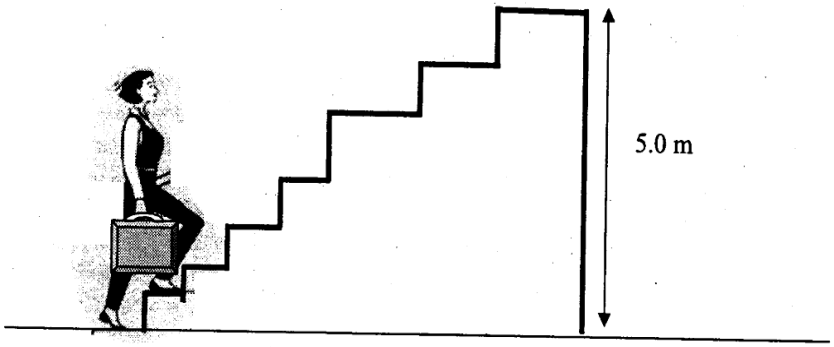


Diagram 11
Rajah 11

Calculate the power generated if she took 20 second to climb the stairs.
Hitungkan kuasa yang dijanakan jika dia mengambil masa 20 saat untuk menaiki tangga.

A. 14 W

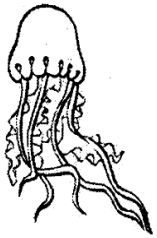
B. 15 W

C. 140 W

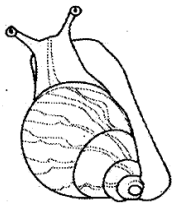
D. 150W

22. Which animal is supported by an exoskeleton?
Haiwan manakah yang disokong oleh rangka luar?

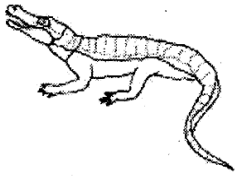
A



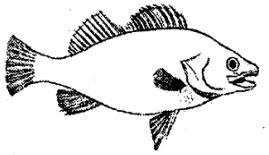
B.



C.



D.



23. Diagram 12 shows a sign board.
Rajah 12 menunjukkan satu papan tanda.

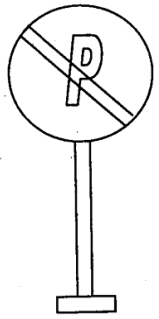


Diagram 12
Rajah 12

Which step should be taken to improve the stability of the board?
Langkah manakah yang patut diambil untuk meningkatkan kestabilannya?

A. Increase the height.
Menambahkan ketinggiannya

B. Increase its base area
Menambahkan keluasan tapak

C. Reduce the weight of the base.
Mengurangkan berat tapak.

D. Enlarge the size of the board.
Membesarkan lagi saiz papan.

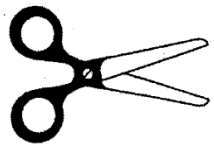
24. Which tool is a third class lever.
Peralatan manakah adalah tuas kelas ketiga?

A.

B.

C

D.



25. Diagram 13 shows a lever in balance.
Rajah 13 menunjukkan satu tuas dalam keadaan seimbang.

Force x Force distance	=	Load x Load distance
Daya x jarak daya	=	*Beban x jarak beban*

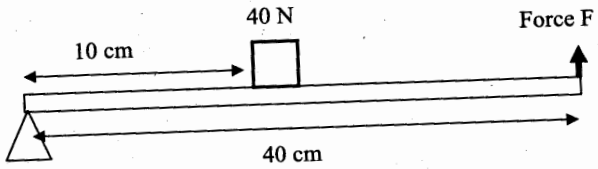


Diagram 13
Rajah 13

Calculate the force F.
Hitungkan daya F.

A. 5 N
B. 10 N
C. 15 N
D. 20 N

8 Diagram 6 shows human tongue.
Rajah 6 menunjukkan lidah manusia.

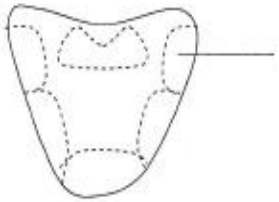


Diagram 6
Rajah 6

Part labelled P is sensitive towards
Bahagian berlabel P adalah sensitif terhadap

A sour
masam
B salty
masin
C sweet
manis
D bitter
pahit

10 Diagram 7 shows tests for certain classes of food.
Rajah 7 menunjukkan ujian bagi kelas-kelas makanan tertentu.

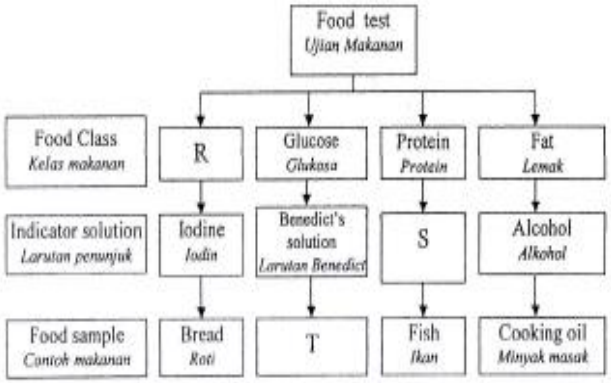


Diagram 7
Rajah 7

9 Benedict's test is carried out on food K.
What can be observed to show the presence of glucose in K?

Ujian Benedict dijalankan ke atas makanan K.
Apakah pemerhatian yang menunjukkan kehadiran glukosa dalam makanan K?

A White precipitate.
Mendakan putih.
B Dark red precipitate.
Mendakan merah gelap.
C Brick red precipitate.
Mendakan merah bata.
D Blue-black precipitate.
Mendakan biru gelap.

Give suitable examples for R, S and T.
Berikan contoh yang sesuai bagi R, S dan T.

	R	S	T
A	Starch *Kanji*	Millon's reagent *Reagen Millon*	Sugar *Gula*
B	Starch *Kanji*	Iodine *Iodin*	Bread *Roti*
C	Glucose *Glukosa*	Benedict's Solution *Larutan Benedict*	Sugar *Gula*
D	Protein *Protein*	Millon's reagent *Reagen Millon*	Fish *Ikan*

11 Diagram 8 shows a maize plant.
Rajah 8 menunjukkan pokok jagung.

Maize plant
Pokok jagung

Diagram 8
Rajah 8

What characteristic can be found on the plant?
Apakah ciri yang boleh didapati pada pokok tersebut?

A Leaves with parallel veins.
Daun berurat selari.

B Leaves with network veins.
Daun berurat jejala.

C A woody-stem plants.
Pokok batang berkayu.

D Has tap root.
Mempunyai akar tunjang.

12 Diagram 9 shows a type of interaction between two organisms.
Rajah 9 menunjukkan sejenis interaksi antara dua organisma.

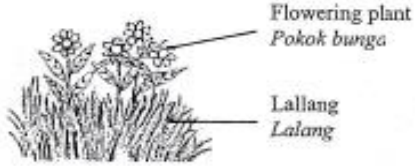


Diagram 9
Rajah 9

State the type of interaction involved.
Nyatakan jenis interaksi yang terlibat.

A Prey-predator
Mangsa-pemangsa

B Competition
Persaingan

C Parasitism
Parasitisme

D Mutualism
Mutualisme

15 Diagram 12 shows an experiment to determine the composition of water by electrolysis process.
Rajah 12 menunjukkan satu eksperimen untuk menentukan komposisi air melalui proses elektrolisis.

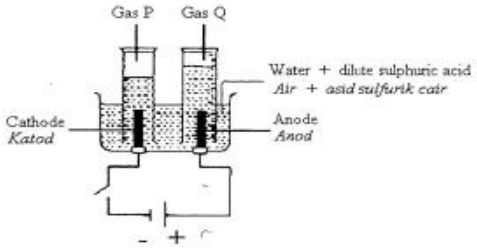


Diagram 12
Rajah 12

What are gas P and Q?
Apakah gas P dan Q?

	Gas P	Gas Q
A	Oxygen *Oksigen*	Hydrogen *Hidrogen*
B	Hydrogen *Hidrogen*	Oxygen *Oksigen*
C	Oxygen *Oksigen*	Oxygen *Oksigen*
D	Hydrogen *Hidrogen*	Hydrogen *Hidrogen*

16 Diagram 13 shows an activity that investigates air pressure.
Rajah 13 menunjukkan satu aktiviti yang mengkaji tekanan udara.

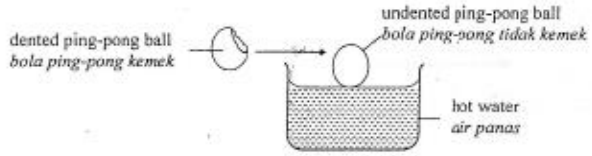


Diagram 13
Rajah 13

Which of the following explanations is **true** about the air particles in the ping-pong ball ?
*Antara penerangan berikut,yang manakah **benar** mengenai zarah –zarah udara dalam bola ping-pong itu?*

A Air particles in the ping-pong ball expand.
Zarah-zarah udara dalam bola ping-pong itu mengembang.

B Mass of the air particles in the ping-pong ball increases.
Jisim zarah-zarah udara dalam bola ping-pong itu bertambah.

C Air particles in the ping-pong ball exert greater pressure.
Zarah-zarah udara dalam bola ping-pong mengenakan tekanan yang lebih tinggi.

D Kinetic energy of the air particles in the ping-pong ball decreases.
Tenaga kinetik zarah-zarah udara dalam bola ping-pong itu berkurang.

17 Diagram 14 shows a brick which is being pulled to the left.
Rajah 14 menunjukkan sebuah batu-bata yang ditarik ke kiri.

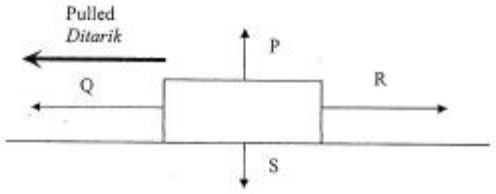


Diagram 14
Rajah 14

Which of the following is the direction of the frictional force that acts on the brick?
Yang manakah di antara berikut menunjukkan arah daya geseran yang bertindak ke atas batu bata tersebut?

A P

B Q

C R

D S

18 Diagram 15 shows a boy with a body mass of 50 kg climbing up a monkey bar.
Rajah 15 menunjukkan seorang budak lelaki yang mempunyai jisim 50 kg sedang memanjat palang besi.

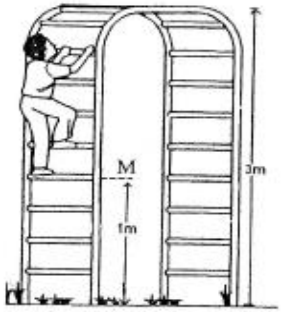


Diagram 15
Rajah 15

Calculate the power of the student if he climbs up to the top of the monkey bar in 5 seconds from position M.
Kirakan kuasa budak lelaki itu jika ia dapat memanjat ke bahagian atas palang besi itu dari kedudukan M dalam masa 5 saat.

A 20 W

B 100 W

C 200 W

D 300 W

21 Diagram 17 shows a wooden stool.
Rajah 17 menunjukkan sebuah bangku kayu.

Diagram 17
Rajah 17

It is unstable because
Ia tidak stabil kerana

A it has a lower centre of gravity.
pusat gravitinya rendah.
B it has a small base area.
luas tapaknya kecil.
C it is made of wood.
diperbuat daripada kayu.
D it is light.
kerusi itu ringan.

22 The following diagrams show a boat with four passengers. Which boat is the most stable?
Rajah berikut menunjukkan sampan dengan empat orang penumpang. Sampan manakah yang paling stabil?

A

C

B

D

23 Diagram 18 shows a bar with a load.
Rajah 18 menunjukkan sebatang kayu dengan beban.

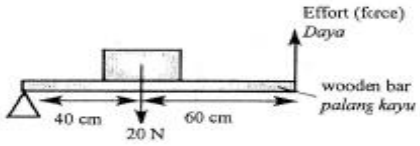


Diagram 18
Rajah 18

Calculate the effort needed to keep the bar in equilibrium.
Kira daya yang diperlukan supaya batang kayu itu berada dalam keadaan seimbang.

A 8.0 N
B 12.0 N
C 13.3 N
D 20.0 N

19 Diagram 16 shows a plant with a special structure S.
Rajah 16 menunjukkan tumbuhan dengan satu struktur khas S.

Diagram 16
Rajah 16

Which of the following represents S ?
Antara berikut, yang manakah mewakili S ?

A Buttress root
Akar banir
B Clasping root
Akar cengkam
C Tendril
Sulur paut
D Thorn
Duri

20 The following information shows the characteristics of an organism.
Maklumat berikut menunjukkan ciri-ciri satu organisma.

- Invertebrate organism
  Organisma invertebrata
- Hydrostatic skeleton
  Rangka hidrostatik
- Aquatic organism
  Organisma akuatik

Which of the following organisms has these characteristics?
Antara organisma-organisma berikut, yang manakah mempunyai ciri tersebut?

A Sea cucumber
Gamat laut
B Earthworm
Cacing tanah
C Caterpillar
Beluncas
D Crab
Ketam

9 Diagram 6 shows the human digestive system.

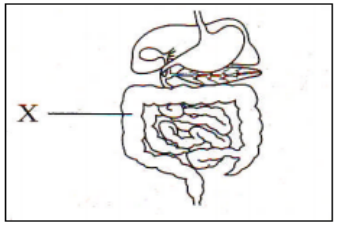


Diagram 6

The main function of the part labeled **X** is the

A digestion of fats.
B absorption of water.
C absorption of amino acids.
D digestion of carbohydrates.

SBP 08

10 Diagram 7 shows the apparatus set-up to study the absorption of digested food. After 30 minutes, a sample of water is taken and tested.

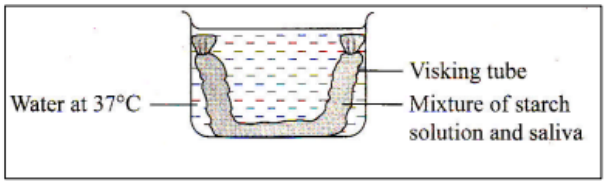


Diagram 7

What is the result of the test?

A A translucent mark on the filter paper is formed.
B The sample turns dark blue when tested with iodine solution.
C A brick-red precipitate is formed when the sample is tested with Millon's reagent.
D A brick-red precipitate is formed when the sample is tested with Benedict's solution.

11 Salmon, salamanders and snakes

A are reptiles
B are cold-blooded
C breathe through gills
D have dry scales on their bodies

12 Diagram 8 shows the structure of a leaf.

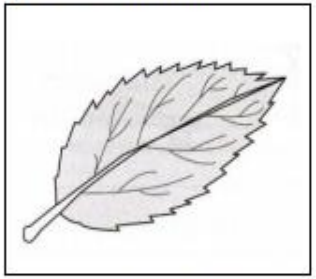


Diagram 8

Which of the following plants has the same leaf structure as shown above?

A Chilli plant
B Maize plant
C Orchid plant
D Coconut plant

13 Diagram 9 shows the Rafflesia which lives on the root of a woody plant.

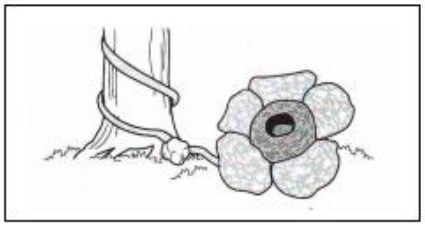


Diagram 9

The Rafflesia is a parasite because it

A provides food for the plant.
B absorbs food from the root of the plant.
C provides food for the plant while the plant protects it.
D competes with the plant to get the same necessities to survive.

14 Which of the following shows the correct organization of an ecosystem?

A Community → population → ecosystem
B Ecosystem → population → community
C Community → ecosystem → population
D Population → community → ecosystem

15 Diagram 10 shows a beaker of water mixed with a lot of copper sulphate powder being stirred.

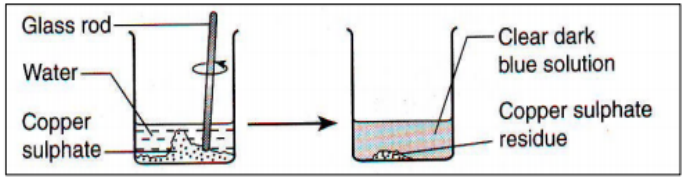


Diagram 10

Which of the following suggestions can make the remaining copper sulphate fully dissolve in the solution?

P: Add more water to the solution
Q: Apply heat to the solution
R: Stir the water faster
S: Add more copper sulphate to the solution

A P and Q only
B Q and R only
C P, Q and R only
D P, Q, R and S only

SBP 08

16 **X** is used in water treatment plant to reduce the acidity of water. Which of the following correctly represents **X**?

A Alum
B Fluorine
C Slaked lime
D Chlorine water

17 Diagram 11 shows the different levels of water when the piston is pulled up.

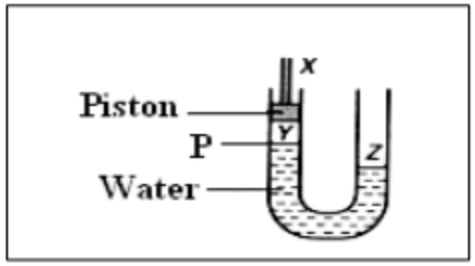


Diagram 11

Why does the water level at **P** rise when the piston is pulled up'

A The air pressure at **X** is the same as the air pressure at **Y**.
B The air pressure at **Z** is the same as the air pressure at **X**.
C The air pressure at **Y** is higher than the air pressure at **X**.
D The air pressure at **Z** is higher than the air pressure at **Y**

18 The pressure of a gas in a container increases when

A the gas changes to liquid
B the volume of the container is reduced
C the volume of the container is increased
D part of the gas is removed from the container

20 Which of the following has the same unit as work?

A Mass
B Power
C Energy
D Gravity

22 Aquatic plants are able to float in water because they

A have large air spaces in their stems and leaves
B have wax-like coating on their stems and leaves
C produce a lot of oxygen which keeps them afloat
D have small leaves and thin stem to keep themselves afloat

19 Diagram 12 shows a lift carried three passengers, each with a mass of 50kg, 60kg and 75kg respectively. The lift moved from ground floor to the top floor, through a vertical distance of 10m.

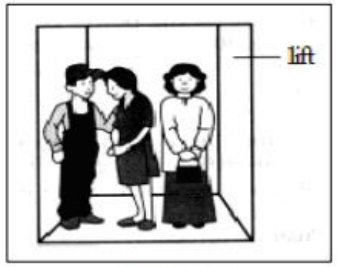


Diagram 12

Calculate the work done by the lift. (1kg=10N)

A 185 J
B 600 J
C 1 850 J
D 18 500 J

21 Diagram 13 shows the classification of supporting systems in animals.

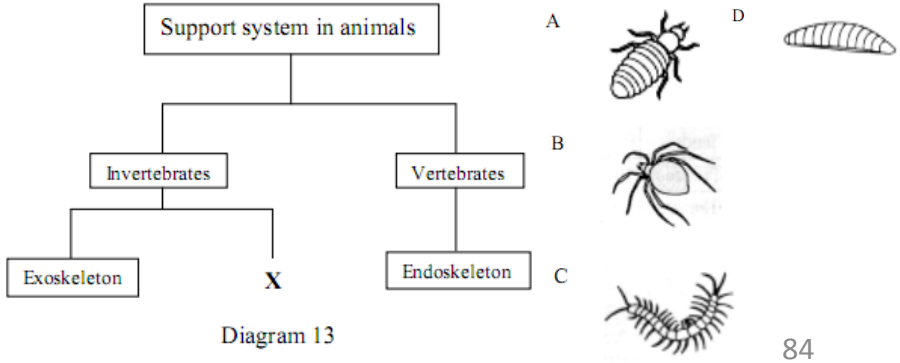


Diagram 13

Which of the following animals can be represented by **X**?

23 Which of the following actions can increase stability?

A Lengthen the legs of stools
B Put heavy luggage on the roof of a bus
C Put small stones into an empty flower vase
D Put a ladder close to the wall while painting

24 Diagram 14 shows Fazli painting the wall of his house.

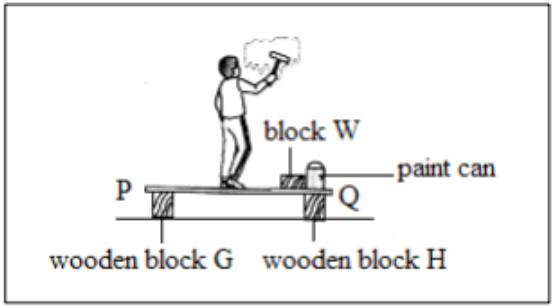


Diagram 14

Which of the following can make Fazli more stable?

A Place wooden block W and a paint can on the floor
B Place wooden block W in the middle of PQ and stand on it
C Replace wooden block G and H with a taller wooden block
D Move wooden block G towards P and wooden block H towards Q

25 Diagram 15 shows a lever.

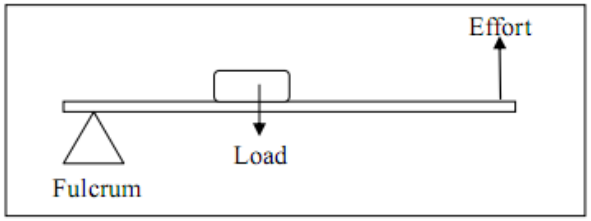


Diagram 15

Which of the following devices is the example of the above lever?

A Scissor
B Ice Tong
C Fishing rod
D Wheelbarrow

26. Which of the following feature helps gas exchange between the alveolus and the blood capillaries to take place efficiently ?
Antara ciri berikut, yang manakah membantu pertukaran gas antara alveolus dan kapilari darah berlaku secara berkesan ?

	Alveolus wall *Dinding alveolus*		Number of blood capillaries *Bilangan kapilari darah*
	Thickness *Ketebalan*	Condition *Keadaan*	
A	Thick *Tebal*	Moist *Lembap*	A few *Sedikit*
B	Thin *Nipis*	Dry *Kering*	Many *Banyak*
C	Thick *Tebal*	Dry *Kering*	A few *Sedikit*
D	Thin *Nipis*	Moist *Lembap*	Many *Banyak*

JOHOR

27. Diagram 20 shows blood that have been donated.
Rajah 20 menunjukkan darah yang telah didermakan.

Diagram 20
Rajah 20

If the donor's blood group is AB, which type of blood will be compatible with it ?
Jika jenis darah penderma ini ialah AB, jenis darah yang manakah sesuai dengannya ?

A AB
B A
C B
D 0

28. Diagram 21 shows a cross section of a plant's stem.
Rajah 21 menunjukkan keratan rentas batang tumbuh

Diagram 21
Rajah 21

What is the function of K ?
Apakah fungsi K ?

A Transports glucose
Mengangkut glukosa
B Transports water only
Mengangkut air sahaja.
C Transports water and mineral
Mengangkut air dan garam mineral
D Transports glucose and mineral
Mengangkut glukosa dan garam mineral

29. Which of the following are excretory products of a plant ?
Manakah antara berikut merupakan hasil perkumuhan tumbuhan ?

A Water and oxygen
Air dan oksigen
B Water and carbon dioxide
Air dan karbon dioksida
C Oxygen and carbon dioxide
Oksigen dan karbon dioksida
D Water, oxygen and carbon dioxide
Air, oksigen dan karbon dioksida

30. Diagram 22 shows four stages involved in pregnancy
Rajah 22 menunjukkan empat peringkat ketika hamil.

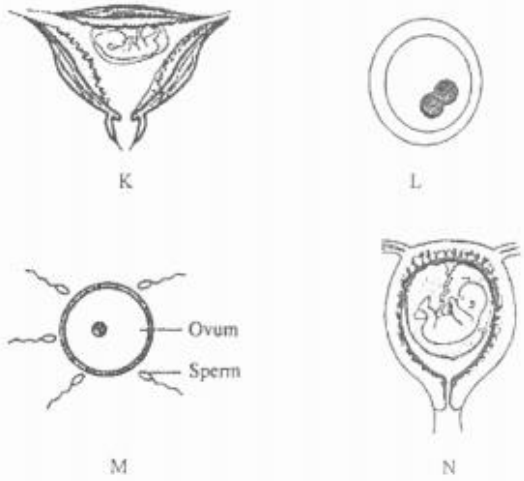


Diagram 22
Rajah 22

Which of the following is the correct sequence of the stages ?
Manakah antara berikut adalah urutan peringkat yang betul ?

A M → L → N → K
B L → M → K → N
C M → L → K → N
D L → K → M → N

31. Diagram 23 shows vegetative reproduction shown by plants P, Q, and R.
Rajah 23 menunjukkan pembiakan vegetatif yang ditunjukkan oleh tumbuhan P, Q, dan R

What are the types of vegetative reproduction for P, Q and R ?
Apakah jenis pembiakan vegetatif bagi P, Q, dan R ?

	P	Q	R
A	Rhizome *Rizom*	Bulb *Bebawang*	Runner *Batang rayap*
B	Runner *Batang rayap*	Tuber *Tuber*	Rhizome *Rizom*
C	Rhizome *Rizom*	Sucker *Anak pokok*	Runner *Batang rayap*
D	Tuber *Tuber*	Rhizome *Rizom*	Sucker *Anak pokok*

JOHOR

32. Diagram 24 shows the human growth curve.
Rajah 24 menunjukkan lengkuk pertumbuhan manusia.

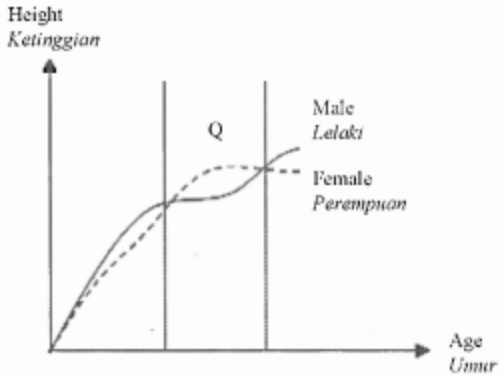


Diagram 24
Rajah 24

What can you conclude from the information obtained from the growth curve at Q ?
Apakah kesimpulan daripada maklumat yang didapati daripada lengkuk pertumbuhan di Q ?

A Male is taller than female
Lelaki lebih tinggi berbanding perempuan

B Male grows faster than female
Lelaki membesar lebih cepat berbanding perempuan

C Male grows slower than female
Lelaki membesar lebih lambat berbanding perempuan

D Male and female are at the same weight
Lelaki dan perempuan adalah sama berat

33. Which of the following are made from silicon compounds ?
Antara berikut, yang manakah diperbuat daripada sebatian silikon ?

I Electronic chips used in computers
Cip electronik yang digunakan dalam komputer

II Ceramic pots
Pasu seramik

III Plastic cup
Cawan plastik

A I only
I sahaja

B II only
II sahaja

C I and II only
I dan II sahaja.

D II and III only
II dan III sahaja.

34. Diagram 25 shows the fractional distillation of petroleum.
Rajah 25 menunjukkan penyulingan berperingkat petroleum.

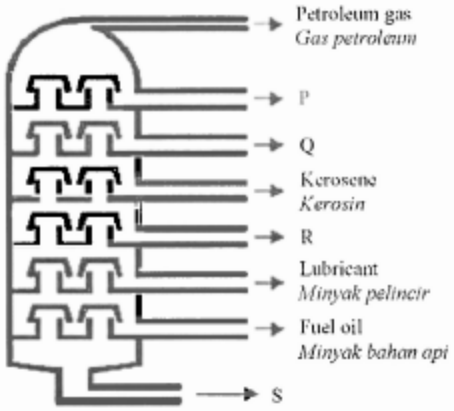


Diagram 25
Rajah 25

Which of the following pair is **correct** ?
Antara pasangan berikut, yang manakah adalah **betul** ?

	Petroleum fraction *Pecahan petroleum*	**Usage** *Kegunaan*
A	P	Fuel for aeroplanes *Bahan bakar untuk kapalterbang*
B	Q	To make plastic *Untuk membuat plastik*
C	R	As a solvent *Sebagai bahan pelarut*
D	S	Lubricant for machines *Minyak pelincir untuk mesin*

35. Diagram 26 shows a negatively charged electroscope.
Rajah 26 menunjukkan sebuah elektroskop yang bercas negatif.

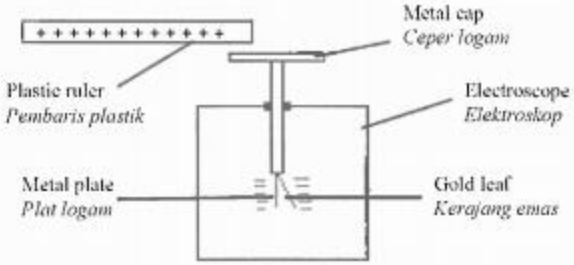


Diagram 26
Rajah 26

A positively charged plastic ruler is put on the metal cap of the electroscope.
What will happen to the gold leaf in the electroscope ?

Sebatang pembaris plastik bercas positif diletakkan di atas ceper logam elektroskop itu. Apakah yang akan berlaku kepada kerajang emas dalam elektroskop tersebut ?

A It gets closer to the metal plate and then diverges
Merapat ke plat logam dan kemudian mencapah

B It gets closer to the metal plate
Merapat ke plat logam

C Nothing happens
Tiada apa yang berlaku

D Diverges wider
Mencapah lebih luas

JOHOR

36. Diagram 27 shows a series circuit.
Rajah 27 menunjukkan satu litar bersiri.

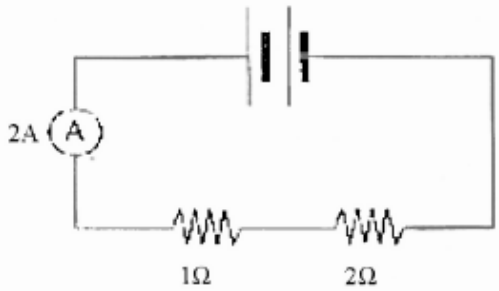
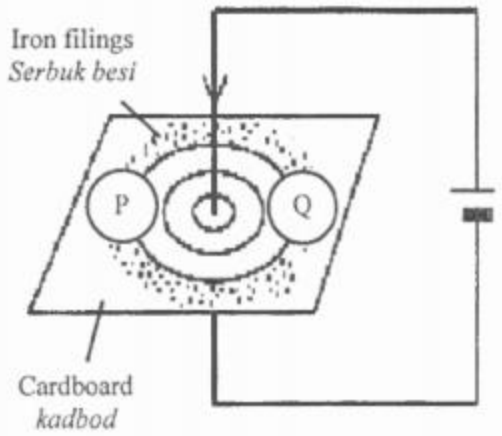


Diagram 27
Rajah 27

What is the voltage value in this circuit ?
Apakah nilai voltan dalam litar ini ?

A 0.67 V
B 1.50 V
C 3.00 V
D 6.00 V

37. Diagram 28 shows a straight wire carrying current. Iron filings are sprinkled on the cardboard to show the pattern of the magnetic field. Two compasses, P and Q are placed at the positions shown.
Rajah 28 menunjukkan wayar lurus yang mengalirkan arus elektrik. Serbuk besi ditabur di atas kadbod untuk menunjukkan corak medan magnet. Dua kompas, P dan Q diletakkan pada kedudukan yang ditunjukkan.



Which of the direction of the needle for compasses P and Q are correct ?
Arah jarum kompas P dan Q yang manakah adalah betul ?

A 

B 

C 

D 

38. Rajah 29 shows the wiring system at home.
Rajah 29 menunjukkan sistem pendawaian di rumah.

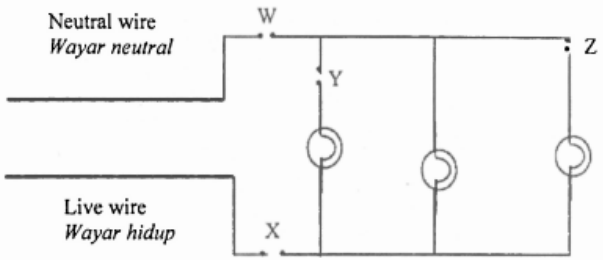


Diagram 29
Rajah 29

Which is the correct position to connect a fuse in this circuit ?
Yang manakah adalah kedudukan yang betul untuk menyambung fius di dalam litar ini ?

A W
B X
C Y
D Z

JOHOR

39. Diagram 30 shows a galaxy.
Diagram 30 menunjukkan satu galaksi.

Diagram 30
Diagram 30

It is known that the Sun is situated in this galaxy.
Matahari diketahui terletak di dalam galaksi ini.

Which of the following is **true** about this galaxy ?
Manakah antara berikut **benar** *tentang galaksi ini ?*

I It consists of millions of stars
Ia terdiri daripada berjuta-juta bintang
II It is the only galaxy in space
Cuma galaksi ini yang terdapat di angkasa lepas
III The Sun and other stars move around the centre of this galaxy
Matahari dan bintang-bintang lain beredar mengelilingi pusat galaksi ini

A I only
I *sahaja*
B III only
III *sahaja*
C I and III only
I *dan* III *sahaja*
D I, II, and III
I, II *dan* III

40. Diagram 31 shows the first reusable spacecraft launched in 1981. Since then, astronauts have used it to travel to space.
Rajah 31 menunjukkan kapal angkasa lepas pertama yang boleh digunakan semula yang dilancarkan pada tahun 1981. Sejak itu, para angkasawan menggunakannya untuk mengembara ke angkasa lepas.

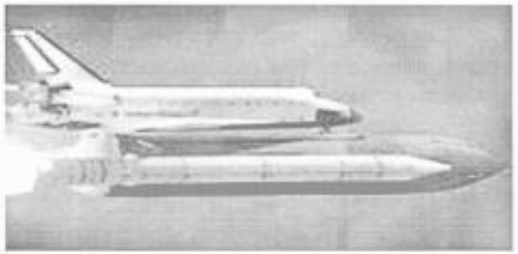


Diagram 31
Rajah 31

Which type of spacecraft is mentioned above?
Antara berikut, yang manakah jenis kapal angkasa lepas yang dimaksudkan di atas?

A Rocket
Roket
B Satellite
Satelit
C Space shuttle
Kapal angkasa ulang alik
D Space station
Stesen angkasa lepas

KEDAH

27 Which of the following process takes place during inhalation?
Antara berikut, proses yang manakah berlaku semasa menarik nafas?

I The rib moves upwards and outwards
Tulang rusuk bergerak ke atas dan ke luar
II The diaphragm curves up
Diafragma melengkung ke atas
III The volume of the thoracic cavity increases
Isipadu rongga toraks bertambah
IV The air pressure in the thoracic cavity decreases
Tekanan udara di dalam rongga toraks berkurang

A I and II
I *dan* II
B I and III
I *dan* III
C I, III and IV
I, III *dan* IV
D I, II, III and IV
I, II, III *dan* IV

28 Diagram 17 shows a cross section of the root of a dicotyledon plant.
Rajah 17 menunjukkan keratan rentas akar tumbuhan dikotiledon.

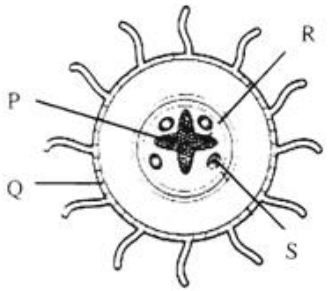


Diagram 17
Rajah 17

Which of the following parts are correctly labelled?
Antara berikut, bahagian manakah dilabelkan dengan betul?

	Xylem *Xilem*	Phloem *Floem*
A	P	R
B	P	S
C	Q	R
D	Q	S

KEDAH

29 Diagram 18 shows the human excretory organs.

Rajah 18 menunjukkan organ perkumuhan manusia.

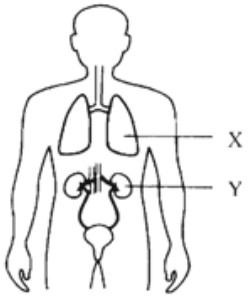


Diagram 18
Rajah 18

What are the products excreted by organs X and Y?

Apakah bahan-bahan yang disingkirkan oleh organ X dan Y?

	X	Y
A	Mineral salts and urea *Garam mineral dan urea*	Mineral salts and water *Garam mineral dan air*
B	Mineral salts and water *Garam mineral dan air*	Mineral salts and water *Garam mineral dan air*
C	Mineral salts, water and urea *Garam mineral, air dan urea*	Carbon dioxide and water vapour *Karbon dioksida dan wap air*

30 Which of the following is the correct pathway of urea in the human urinary system?

Antara berikut, manakah laluan yang betul bagi urea dalam sistem urinari manusia?

A Kidney → Urinary bladder → Urethra → Ureter
Ginjal → Pundi Kencing → Uretra → Ureter

B Ureter → Kidney → Urethra→ Urinary bladder
Ureter → Ginjal → Uretra → Pundi kencing

C Kidney → Ureter → Urinary bladder → Urethra
Ginjal → Ureter → Pundi kencing → Uretra

D Kidney → Urethra → Urinary bladder → Ureter
Ginjal → Uretra → Pundi kencing → Ureter

31 Which of the following statement is true about the differences between sexual and asexual reproduction?

Antara berikut, pernyataan yang manakah benar tentang perbezaan antara pembiakan seks dan aseks?

	Sexual reproduction *Pembiakan seks*	Asexual reproduction *Pembiakan aseks*
A	Takes place in animals only *Berlaku dalam haiwan sahaja*	Takes place in plants only *Berlaku dalam tumbuhan sahaja*
B	Offspring does not show genetic variation *Individu baru tidak menunjukkan variasi genetik*	Offspring shows genetic variation *Individu baru menunjukkan variasi genetik*
C	Involves fusion of male and female gametes *Melibatkan percantuman gamet jantan dan gamet betina*	Does not involve gametes *Tidak melibatkan gamet*
D	Involves only one parent *Melibatkan satu induk sahaja*	Involves two parents *Melibatkan dua induk*

32 Diagram 19 shows pollination in plants.

Rajah 19 menunjukkan pendebungaan dalam tumbuhan.

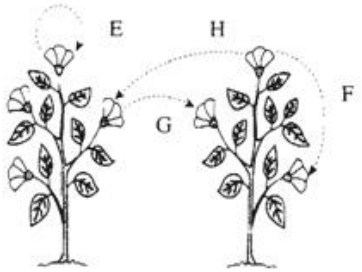


Diagram 19
Rajah 19

Which of the following shows self-pollination?

Antara berikut, yang manakah menunjukkan pendebungaan sendiri?

A G and H
G *dan* H

B F and H
F *dan* H

C E and G
E *dan* G

D E and F
E *dan* F

33 Anaemia is a nutrient deficiency disease caused by less intake of food such as

Anemia adalah penyakit kekurangan zat makanan yang disebabkan oleh kekurangan pengambilan makanan seperti

A bread and potatoes
roti dan kentang

B milk and eggs
susu dan telur

C meat and liver
daging dan hati

D vegetables and fruits
sayuran dan buahan

KEDAH

35 Diagram 21 shows an electric circuit.

Rajah 21 menunjukkan satu litar elektrik.

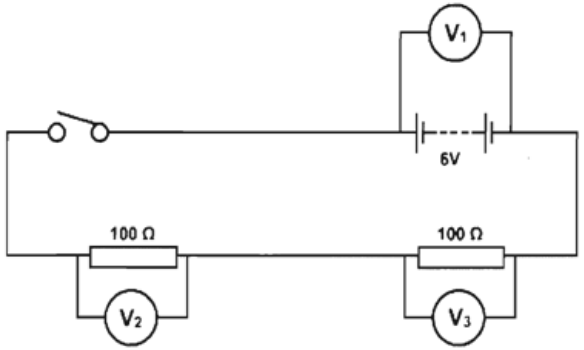


Diagram 21

What are the readings of voltmeter V_1, V_2 and V_3 when the switch is on?

Apakah bacaan voltmeter V_1, V_2 dan V_3 apabila suis dihidupkan?

	V_1	V_2	V_3
A	6 V	12 V	12 V
B	3 V	3 V	12 V
C	6 V	3 V	3 V
D	6 V	6 V	6 V

34 Diagram 20 shows the chemical changes that occur to iron powder through heating.

Rajah 20 menunjukkan perubahan kimia yang berlaku kepada serbuk besi melalui pemanasan.

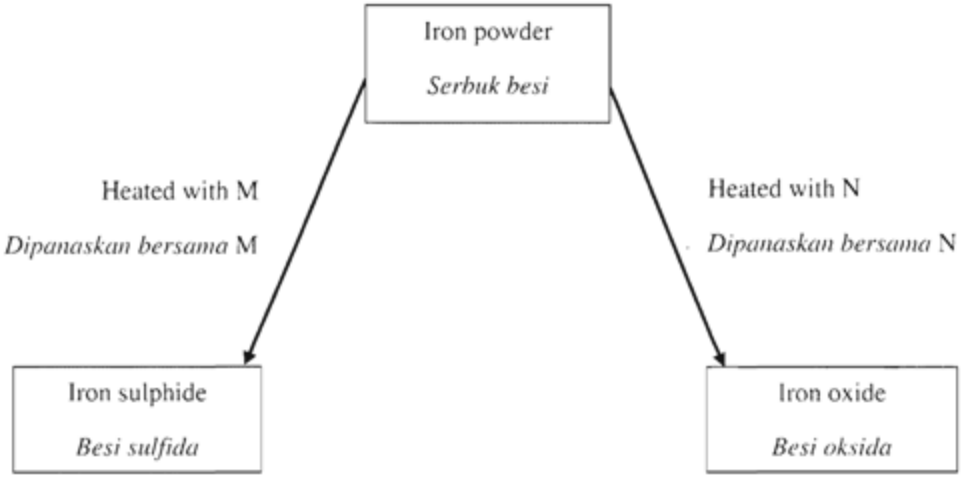


Diagram 20

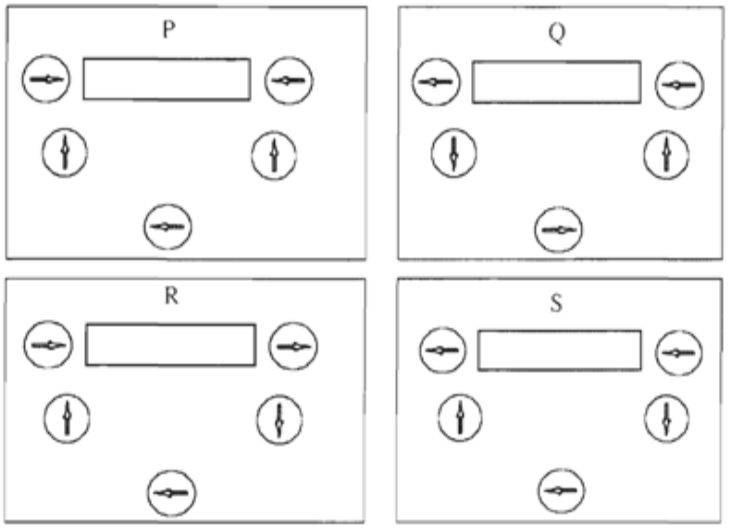
Which of the following represents M and N?

Antara berikut, yang manakah mewakili M dan N?

	M	N
A	Sulphide *Sulfida*	Carbonate *Karbonat*
B	Sulphur *Sulfur*	Oxygen *Oksigen*
C	Potassium manganate(VII) *Kalium manganat*(VII)	Sulphur *Sulfur*
D	Potassium manganate(VII) *Kalium manganat*(VII)	Oxygen *Oksigen*

36 Diagram 22 shows five compasses placed around a bar magnet to determine the direction of its magnetic field.

Rajah 22 menunjukkan lima buah kompas diletakkan di sekeliling sebuah magnet bar untuk menentukan arah medan magnetnya.



Which of the following shows the correct directions of the compasses needle?

Antara berikut, yang manakah menunjukkan arah jarum kompas dengan betul?

A P only
P *sahaja*

B R and S
R *dan* S

C P and S
P *dan* S

D Q and R
Q *dan* R

37 Diagram 23 shows an air conditioner which is labelled 240V, 2.5 kW.

Rajah 23 menunjukkan sebuah pendingin udara yang berlabel 240V, 2.5 kW.

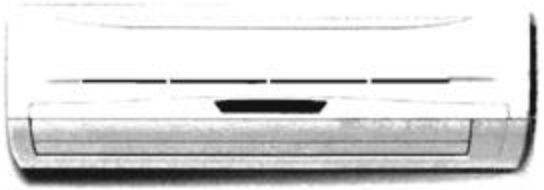


Diagram 23

What is the rating of a fuse that is suitable for the air conditioner?

Apakah nilai fius yang sesuai bagi pendingin udara itu?

A 5 A

B 10 A

C 12 A

D 20 A

38 Which of the following are the electrical safety measures needed to be taken to prevent electrical accidents?

Antara berikut, langkah-langkah keselamatan yang manakah perlu diambil untuk mengelakkan kemalangan disebabkan elektrik?

I Check wires for damaged insulation
Periksa wayar-wayar bagi penebat yang rosak

II Do not touch any switch with wet hands
Jangan sentuh suis dengan tangan yang basah

III Check for any loose connections
Periksa sebarang penyambungan yang longgar

A I and III
I *dan* III

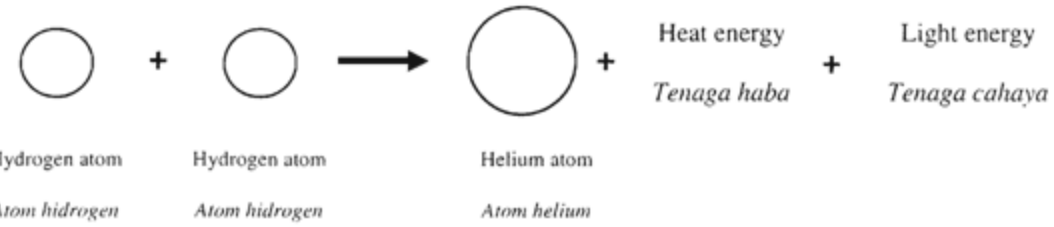
B I and II
I *dan* II

C II and III
II *dan* III

D I, II and III

39 Diagram 24 shows nuclear reaction that occurs in the Sun. Two hydrogen atoms fuse together to form one helium atom.

Rajah 24 menunjukkan tindak balas nuklear yang berlaku dalam Matahari. Dua atom hidrogen berpadu untuk membentuk satu atom helium.



Where does the reaction occur?

Di manakah tindak balas itu berlaku?

A Corona
Korona

B Core
Teras

C Chromosphere
Kromosfera

D Photosphere
Fotosfera

40 Which of the following can return to the Earth after being launched into space?

Antara berikut, yang manakah dapat kembali semula ke Bumi selepas dilancarkan ke angkasa lepas?

A Space shuttles
Kapal angkasa ulang-alik

B Space stations
Stesen angkasa lepas

C Space probes
Prob angkasa lepas

D Satellites
Satelit

26. Diagram 14 shows the process of gases exchange between body tissue and blood capillary.

Rajah 14 menunjukkan proses pertukaran gas antara tisu badan dan kapilari darah.

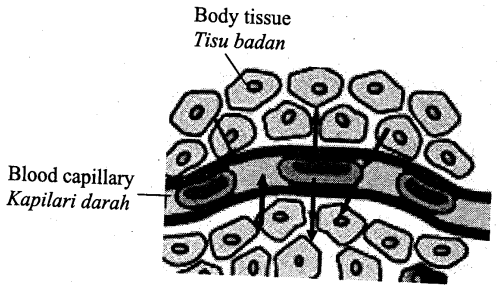


Diagram 14
Rajah 14

What is the process of gases exchanged involved?

Apakah proses pertukaran gas yang terlibat?

A. Assimilation
Asimilasi

B. Defecation
Penyatinjaan

C. Diffusion
Peresapan

D. Excretion
Perkumuhan

27. Diagram 15 shows the effect of substance contained in cigarette smoke on human lungs.
Rajah 15 menunjukkan kesan bahan yang terkandung di dalam asap rokok ke atas peparu manusia.

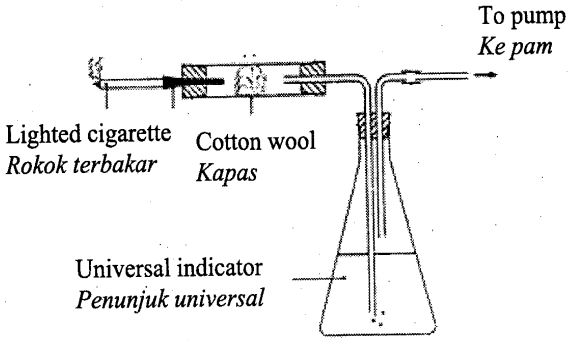
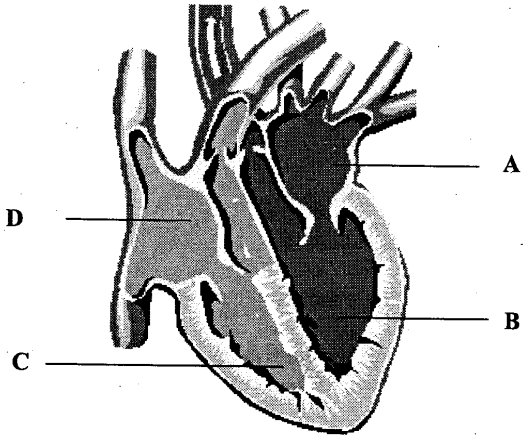


Diagram 15
Rajah 15

Which substances in cigarette smoke caused the changes of colour of the universal indicator and cotton wool?
Bahan dalam asap rokok manakah yang menukarkan warna penunjuk universal dan kapas?

	Colour of universal indicator ***Warna penunjuk universal***	**Colour of cotton wool** ***Warna kapas***
A.	Acidic gas *Gas berasid*	Tobacco tar *Tar tembakau*
B.	Acidic gas *Gas berasid*	Nicotine *Nikotin*
C.	Tobacco tar *Tar tembakau*	Acidic gas *Gas berasid*
D.	Nicotine *Nikotin*	Tobacco tar *Tar tembakau*

28. Which part of the human heart labelled **A, B, C** or **D** received deoxygenated blood from all parts the body?
*Bahagian jantung manusia berlabel **A, B C** dan **D** manakah yang menerima darah terdeoksigen dari seluruh badan?*



29. Which statement shows the importance of transpiration in plants?
Pernyataan manakah menunjukkan kepentingan transpirasi pada tumbuhan?

A. To absorb oxygen
Untuk menyerap oksigen

B. To remove nitrogenous waste
Untuk menyingkirkan sisa bernitrogen

C. To absorb carbon dioxide
Untuk menyerap karbon dioksida

D. To remove excess water
Untuk menyingkirkan air berlebihan

30. Which excretory organ is correctly matched with its excretory products?
Organ perkumuhan manakah yang betul dipadankan dengan hasil perkumuhannya?

	Excretory organ ***Organ perkumuhan***	**Excretory products** ***Hasil perkumuhan***
A	Lungs *Peparu*	Water, urea and carbon dioxide *Air, urea dan karbon dioksida*
B	Kidney *Ginjal*	Water, urea and mineral salt *Air, urea dan garam mineral*
C	Skin *Kulit*	Water and mineral salt *Air dan garam mineral*
D	Liver *Hati*	Water and carbon dioxide *Air dan karbon dioksida*

31. Diagram 16 shows the foetus developed in the mother's uterus
Rajah 16 menunjukkan fetus yang berkembang di dalam uterus ibunya.

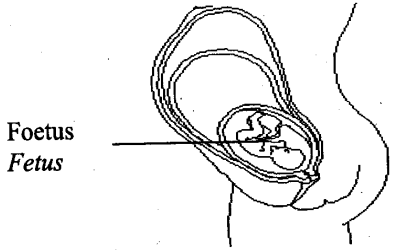


Diagram 16
Rajah 16

Which class of food should be taken more by the mother to ensure a healthy development for the foetus?
Kelas makanan manakah yang perlu diambil lebih banyak oleh ibu untuk memastikan perkembangan fetus yang sihat?

A. Protein and fats
Protein dan lemak

B. Carbohydrates and fats
Karbohidrat dan lemak

C. Protein and minerals
Protein dan mineral

D. Carbohydrates and vitamins
Karbohidrat dan vitamin

32. Diagram 17 shows a Bryophyllum plant.
Rajah 17 menunjukkan pokok setawar

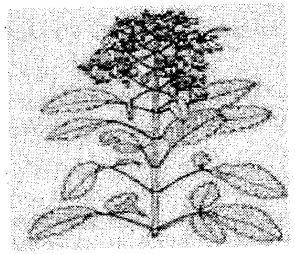


Diagram 17
Rajah 17

Which part of the plant enable it to reproduce vegetatively?
Bahagian tumbuhan manakah membolehkannya membiak secara vegetatif?

A. Roots
Akar

B. Leaf
Daun

C. Stem
Batang

D. Flower
Bunga

33. Diagram 18 is a growth curve of a boy.
Rajah 18 menunjukkan lengkung pertumbuan seorang

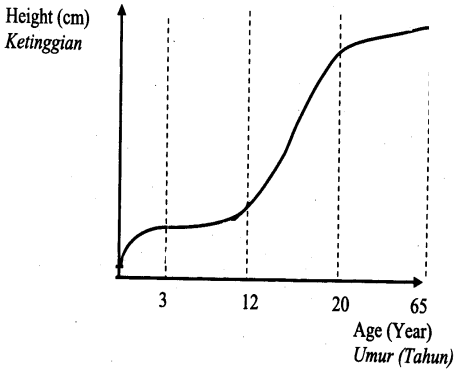


Diagram 18

Which statement about the age and height of the boy is correct?
Pernyataan manakah mengenai umur dan ketinggian budak lelaki itu betul?

A. At age between 3 to 12 the growth is rapid.
Pada umur 3 hingga 12 pertumbuhan adalah pesat.

B. During infancy stage, the growth rate is slow.
Semasa peringkat bayi, kadar pertumbuhan adalah perlahan

C. Positive growth is still experienced when he reached old age
Pertumbuhan positif masih dialami apabila dia mencapai usia tua.

D. Minimal growth rate is experienced when the boy reach age 20.
Kadar pertumbuhan minimum dialami apabila budak lelaki itu mencapai umur 20.

34. Which mineral is a silicon compound?
Mineral manakah adalah suatu sebatian silikon?

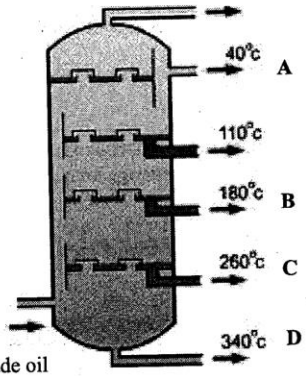
A. Galena
Galena

B. Hematite
Hematit

C. Quartz
Kuartza

D. Malachite
Malakit

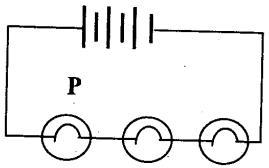
35. Which product of fractional distillation of petroleum labelled **A, B, C** or **D** is used as tar for road paving ?
*Hasil penyulingan berperingkat petroleum berlabel **A, B, C** dan **D** manakah yang digunakan sebagai tar untuk menurap jalan?*



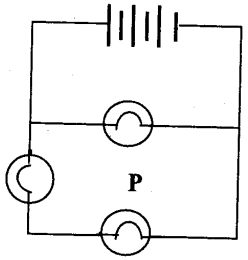
Heated crude oil
Minyak mentah dipanaskan

36. In which electric circuit if bulb P goes off, the other bulbs will still light up?
Dalam litar elektrik manakah jika mentol P terbakar, mentol-mentol lain terus menyala?

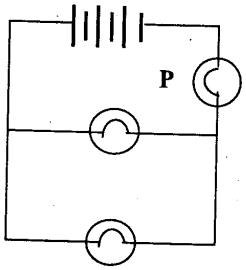
A



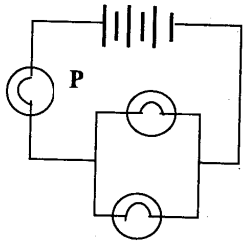
B



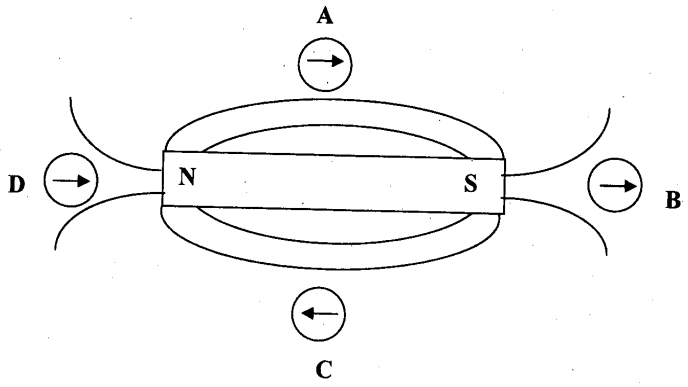
C



D



37. Which compass lebelled **A, B, C** or **D** shows the correct direction of magnetic field lines?
*Kompas berlabel **A, B, C** dan **D** manakah yang betul menunjukkan arah garis daya medan magnet?*



38. Diagram 18 shows an electrical wiring at home.
Rajah 18 menunjukkan pendawaian elektrik di rumah.

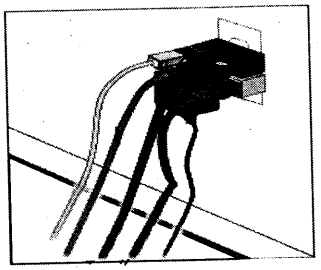


Diagram 18
Rajah 18

Which statement explains why it is dangerous to do so?
Pernyataan manakah yang menerangkan mengapa berbahaya melakukannya?

A. The electrical appliances easy to damage.
Alat elektrik mudah rosak

B. It can cause electric shock to the person near it
Ia boleh mengakibatkan renjatan elektrik kepada seseorang berdekatan.

C. The consumer has to pay higher electrical bill.
Pengguna terpaksa membayar bil elektrik lebih tinggi.

D. It can cause overload of electric usage that lead to fire
Ia boleh mengakibatkan penggunaan elektrik berlebihan yang menyebabkan kebakaran.

JOHOR 10

24 Diagram 19 shows the human respiratory system.
Rajah 19 menunjukkan sistem respirasi manusia.

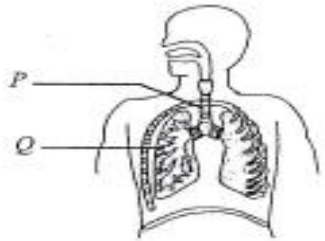


Diagram 19
Rajah 19

What are the parts labelled P and Q?
Apakah bahagian-bahagian yang berlabel P dan Q?

	P	Q
A	Bronchiole *Bronkiol*	Alveolus *Alveolus*
B	Trachea *Trakea*	Bronchiole *Bronkiol*
C	Trachea *Trakea*	Bronchus *Bronkus*
D	Bronchus *Bronkus*	Trachea *Trakea*

25 The information given below shows how the transportation of oxygen takes place in our body.
Maklumat yang diberi di bawah menunjukkan bagaimana pengangkutan oksigen berlaku di dalam badan kita.

P : Oxygen diffuses into the capillaries.
Oxygen meresap ke dalam kapilari.

Q : The heart pumps the blood to the lungs.
Jantung mengepam darah ke peparu.

R : Oxygenated blood is then sent to all cells in the body through aorta.
Darah beroksigen kemudian dihantar ke sel-sel badan menerusi aorta.

S : Haemoglobin combines with oxygen to form oxyhaemoglobin and returns to the heart.
Hemoglobin bergabung dengan oksigen untuk membentuk oksihemoglobin dan kembali ke jantung.

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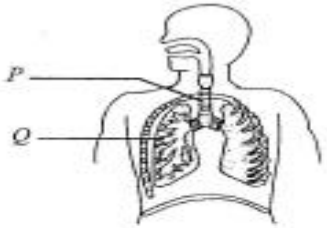

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D	Bronchus *Bronkus*	Trachea *Trakea*

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Hemoglobin bergabung dengan oksigen untuk membentuk oksihemoglobin dan kembali ke jantung.

26 Diagram 20 shows the condition of a stem.
Rajah 20 menunjukkan satu keadaan pada batang pokok.

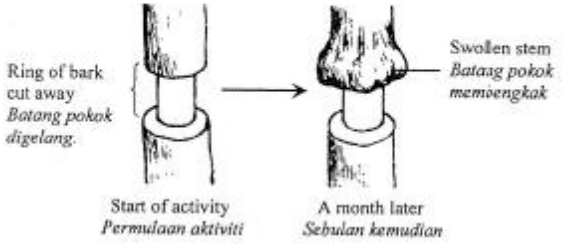


Diagram 20
Rajah 20

Which of the following explains the condition above ?
Antara berikut, yang manakah menerangkan keadaan di atas ?

A The plant could not produce food.
Pokok tidak dapat menghasilkan makanan.

B Food could not be transported to the root.
Makanan tidak dapat dihantar ke akar.

C Water could not be transported to the roots.
Air tidak dapat diangkut ke akar.

D Mineral salts could not be transported upwards.
Garam mineral tidak boleh dihantar ke atas.

28 Which of the following processes remove carbon dioxide from the plants?
Antara proses berikut, yang manakah menyingkirkan karbon dioksida daripada tumbuhan?

A Respiration
Respirasi

B Germination
Percambahan

C Transpiration
Transpirasi

D Photosynthesis
Fotosintesis

The information below shows four stages of a menstrual cycle.
Pernyataan di bawah menunjukkan empat peringkat dalam kitaran haid.

I. The ovulation process occurs.
Proses ovulasi berlaku.

II. The uterus wall starts to thicken.
Dinding uterus mula menebal.

III. The process of menstruation takes place.
Proses menstruasi berlaku.

IV. The uterus wall continues to thicken to prepare for implantation.
Dinding uterus terus menebal sebagai persediaan untuk penempelan.

Which of the following shows the correct sequence of the menstrual cycle?
Antara berikut, yang manakah menunjukkan urutan yang betul dalam kitaran haid tersebut?

A II → IV → I → III
B III → II → I → IV
C I → II → III → IV
D II → IV → III → I

30 Diagram 21 shows two mature flowers on two different trees.
Rajah 21 menunjukkan dua kuntum bunga yang telah matang pada pokok-pokok yang berlainan.

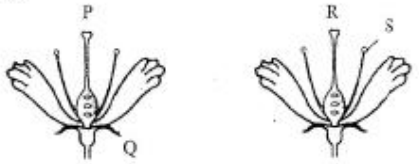


Diagram 21
Rajah 21

Which of the following shows the transfer of pollen grains brought by bees during cross-pollination ?
Antara berikut yang manakah menunjukkan pemindahan butir debunga yang dibawa oleh lebah semasa pendebungaan kacuk?

A S → R

B R → S

C S → P

D R → P

31 Diagram 22 shows the human growth curve.
Rajah 22 menunjukkan graf lengkuk pertumbuhan manusia.

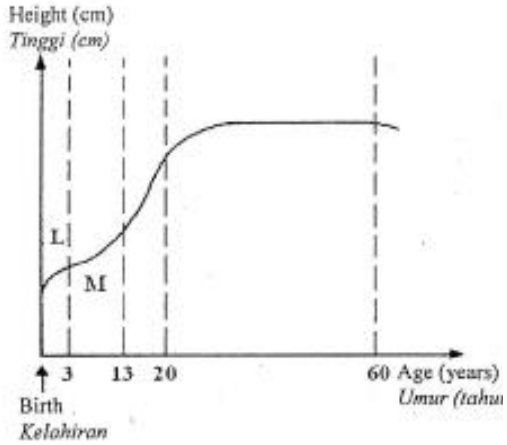


Diagram 22
Rajah 22

Choose the correct growth rate at parts L and M.
Pilih kadar pertumbuhan yang betul pada bahagian L dan M.

	L	M
A	Minimal growth *Pertumbuhan minima*	Negative growth *Pertumbuhan negatif*
B	Slow growth *Pertumbuhan perlahan*	Minimal growth *Pertumbuhan minima*
C	Rapid growth *Pertumbuhan pesat*	Slow growth *Pertumbuhan perlahan*
D	Negative growth *Pertumbuhan negatif*	Rapid growth *Pertumbuhan pesat*

32 Diagram 23 shows an experiment to study the effect of heat on lead sulphide.
Rajah 23 menunjukkan satu eksperimen untuk mengkaji kesan haba ke atas plumbum sulfide.

Diagram 23
Rajah 23

Which of the following word equations represents the reaction that takes place?
Antara berikut, persamaan perkataan yang manakah mewakili tindakbalas tersebut?

A Lead sulphide $\xrightarrow{\text{heated}}$ Lead + sulphur
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ *Plumbum + sulfur*

B Lead sulphide $\xrightarrow{\text{heated}}$ Lead oxide + sulphur
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ *Plumbum oksida + sulfur*

C Lead sulphide $\xrightarrow{\text{heated}}$ Lead + sulphur dioxide
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ *Plumbum + sulfur dioksida*

D Lead sulphide $\xrightarrow{\text{heated}}$ Lead oxide + sulphur dioxide
Plumbum sulfida $\xrightarrow{\text{dipanaskan}}$ *Plumbum oksida + sulfur dioksida*

33 Diagram 24 shows a petroleum distillation tower.
Rajah 24 menunjukkan menara penyulingan petroleum.

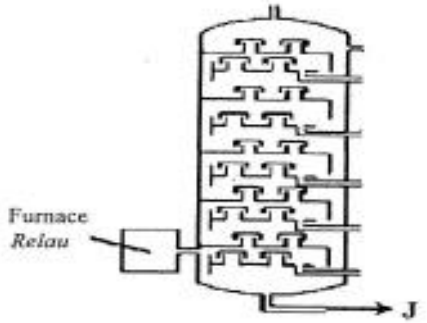


Diagram 24
Rajah 24

Which of the following is a characteristic of J ?
Antara berikut, yang manakah merupakan ciri J ?

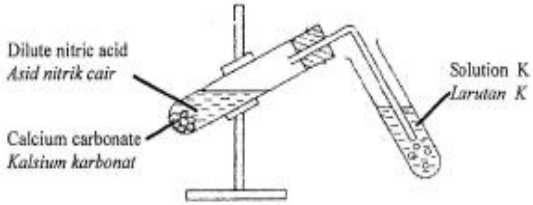
A Produces a lot of soot when burnt.
Menghasilkan banyak jelaga apabila dibakar.

B Burns with blue flame.
Terbakar dengan nyalaan biru.

C Light yellow in colour.
Berwarna kuning muda.

D Very viscous.
Sangat likat.

34 Diagram 25 shows an experiment to study the reaction between calcium carbonate and dilute nitric acid.
Rajah 25 menunjukkan satu eksperimen untuk mengkaji tindakbalas antara kalsium karbonat dengan asid nitrik cair.



After a few minutes, solution K turns chalky.
Name solution K.
Selepas beberapa minit, larutan K menjadi keruh.
Namakan larutan K.

A Potassium manganate(VII) solution.
Larutan kalium manganat(VII).

B Sodium hydroxide solution.
Larutan sodium hidroksida.

C Calcium sulphate solution.
Larutan kalsium sulfat.

D Lime water.
Air kapur.

35 Diagram 26 shows an electric circuit.
Rajah 26 menunjukkan satu litar elektrik.

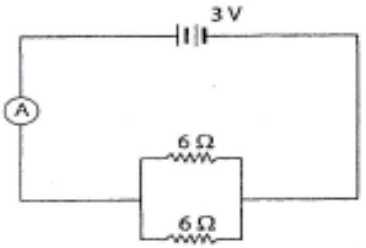


Diagram 26
Rajah 26

What is the reading of the ammeter?
Apakah bacaan pada ammeter tersebut?

A 0.25A
B 1.0A
C 4.0A
D 9.0A

37 Diagram 28 shows a simple transformer.
Rajah 28 menunjukkan transformer ringkas.

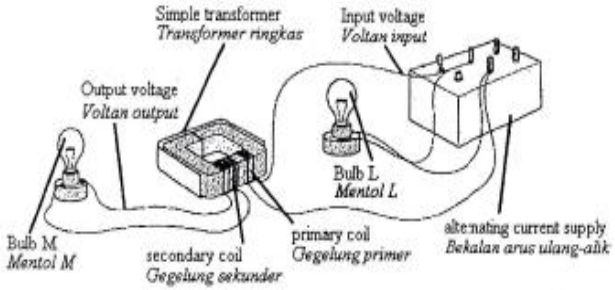


Diagram 28
Rajah 28

Based on the diagram, predict the brightness of bulb L and M.
Berdasarkan rajah, ramalkan kecerahan mentol L dan M.

A L is brighter than M.
L lebih terang daripada M.

B M is brighter than L.
M lebih terang daripada L.

C L and M at the same brightness.
L dan M sama terang.

D L and M do not light up.
L dan M tidak menyala.

38 Calculate the value of current and the most suitable fuse for a washing machine marked 2800W, 240V.
Kirakan nilai arus dan fius yang paling sesuai digunakan oleh mesin basuh yang dilabel 2800W, 240V.

	Current (A) *Arus (A)*	Fuse (A) *Fius (A)*
A	11.7	13
B	11.7	10
C	0.09	3
D	0.09	1

36 Diagram 27 shows an electric circuit.
Rajah 27 menunjukkan satu litar elektrik.

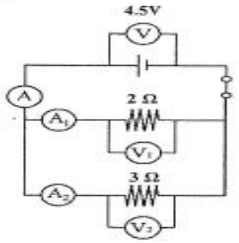


Diagram 27
Rajah 27

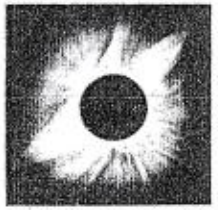
If the voltage supplied is 4.5V, calculate the current at A.
Jika voltan yang dibekalkan ialah 4.5V, kira arus di A.

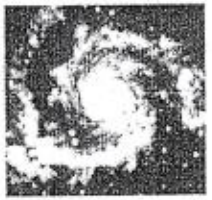
A 0.27A
B 0.90A
C 3.75A
D 5.42A

39 Which of the following is a spiral galaxy?
Antara berikut yang manakah galaksi pilin?

A 

C 

B 

D 

40 The following information shows the benefit of a space technology.
Maklumat berikut menunjukkan manfaat daripada satu teknologi angkasa lepas

- Collects information about objects in space.
  Mengumpulkan maklumat tentang objek di angkasa lepas.
- Collects photographs.
  Mengumpul gambar foto.
- Studies the structure and texture on the Moon's surface.
  Mengkaji struktur dan tekstur permukaan Bulan.

Which is the space technology mentioned above ?
Apakah teknologi angkasa lepas yang dinyatakan di atas ?

Rocket
Roket

Satelite
Satelit

Telescope
Teleskop

Space probe
Prob angkasa

Mass and weight

3 A stone has a volume of 10 cm^3 and a mass of 35 g. Calculate its density.

Seketul batu mempunyai isipadu 10 cm^3 *dan berjisim* 35 g. *Hitung ketumpatannya.*

A 0.29 g/cm^3

B 2.9 g/cm^3

C 3.5 g/cm^3

D 35 g/cm^3

Kedah

1 Which of the following balances is used to measure the mass of a stone?

Antara neraca berikut, yang manakah digunakan untuk mengukur jisim sebiji batu?

A

C

B

D

1. Diagram 1 shows an apparatus that is able to measure 11.5 cm^3 of a liquid.
Rajah 1 menunjukkan sebuah alat yang dapat menyukat 11.5 cm^3 suatu cecair.

Diagram 1 / *Rajah 1*

What is the name of this apparatus ?
Apakah nama alat ini ?
A. Test tube / *Tabung uji*
B. Measuring cylinder / *Silinder penyukat*
C. Beaker / *Bikar*
D. Burette / *Buret*

5. Diagram 3 shows two metals P and Q with the volume of each metal is 3 cm^3. The mass of P is 15 g and mass of Q is 12 g.
Rajah 3 menunjukkan dua jenis logam P dan Q dengan isipadu setiap logam adalah 3 cm^3. *Jisim P adalah 15 g dan Q adalah 12 g.*

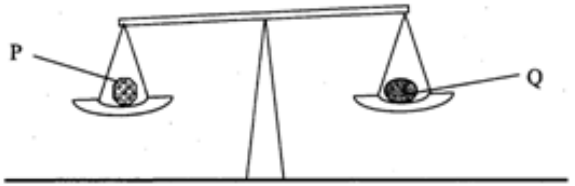


Diagram 3
Rajah 3

Which statement about their densities is correct?
Pernyataan manakah yang betul mengenai ketumpatannya?

Kelate

A. Q is denser than P.
Q lebih tumpat daripada P.

B. The density of Q is 4g/cm^3.
Ketumpatan Q ialah 4g/cm^3.

C. The density of P is 6 g/cm^3.
Ketumpatan P ialah 6g/cm^3.

D. The densities of P and Q are the same
Ketumpatan P dan Q adalah sama

2. Diagram 2 shows the level of water in a measuring cylinder.
Rajah 2 menunjukkan aras air di dalam satu silinder penyukat.

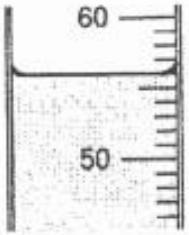


Diagram 2 / *Rajah 2*

What is the volume of the water in the measuring cylinder ?
Berapakah isi padu air dalam silinder penyukat tersebut ?
A. 50.5 ml
B. 50.6 ml
C. 55 ml
D. 56 ml

Cell

2. Diagram 2 shows various types of microorganisms.
Rajah 2 menunjukkan pelbagai jenis mikroorganisma.

Diagram 2
Rajah 2

Which microorganism is a unicellular organism ?
Mikroorganisma yang manakah merupakan organisma unisel

A P only
P *sahaja*
B R only
R *sahaja*
C P and Q
P *dan* Q
D P and R
P *dan* R

Johor

28 Diagram 23 shows two components of blood.
Rajah 23 menunjukkan dua komponen darah.

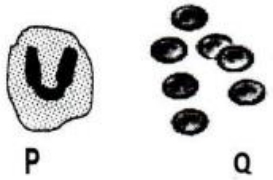
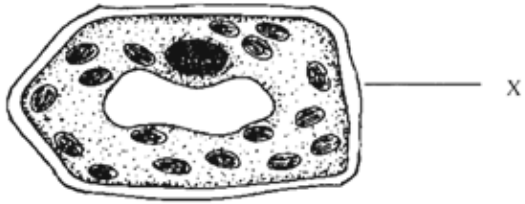


Diagram 23 / *Rajah 23*

What are the function of component P and Q?
Apakah fungsi komponen P dan Q?

	P	Q
A	Fight infections *Melawan jangkitan*	Helps in blood clotting *Membantu dalam pembekuan darah*
B	Transport oxygen *Mengangkut oksigen*	Fight infections *Melawan jangkitan*
C	Fight infections *Melawan jangkitan*	Transport oxygen *Mengangkut oksigen*
D	Transport hormone *Mengangkut hormon*	Transport waste product *Mengangkut bahan buangan*

2 Diagram 1 shows a plant cell.
Rajah 1 menunjukkan satu sel tumbuhan.



Kedah

Diagram 1
Rajah 1

What is the function of structure X?
Apakah fungsi struktur X?

A Supports and gives the cell a regular shape.
Menyokong dan memberi bentuk yang tetap kepada sel.
B Controls the movement of substances into or out of the cell.
Mengawal pergerakan masuk atau keluar bahan dalam sel.
C Controls all activities of the cell.
Mengawal semua aktiviti dalam sel.
D Stores salt solution and sugar solution.
Menyimpan larutan garam dan larutan gula.

29. Diagram 16 shows the reproduction of a *Paramecium*.
Rajah 16 menunjukkan pembiakan Paramecium.

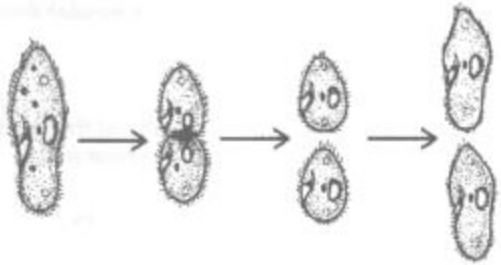


Diagram 16
Rajah 16

How does the *Paramecium* reproduced?
Bagaimanakah Paramecium tersebut membiak?

A Budding
Penunasan
B Binary fission
Belahan dedua
C Regeneration
Regenerasi
D Spore formation
Pembentukan spora

3 Diagram 2 shows various level of a cell organization.
Rajah 2 menunjukkan pelbagai aras bagi organisasi sel.

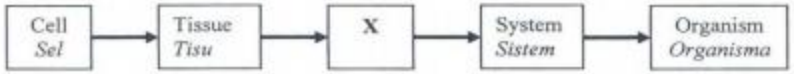


Diagram 2 / *Rajah 2*

Which of the following is the correct example for **X**?
Yang manakah di antara berikut adalah contoh yang betul untuk **X**?

A Heart
Jantung
B Muscle
Otot
C Neuron
Sel saraf
D Ovum
Ovum

Density

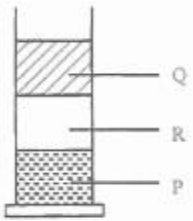
Johor

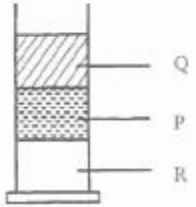
3. Table 1 shows the density of three liquids.
Jadual 1 menunjukkan ketumpatan tiga cecair.

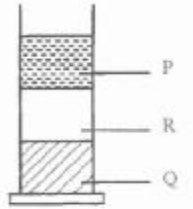
Liquid *Cecair*	Density *Ketumpatan* ($g\ cm^{-3}$)
P	5.3
Q	1.7
R	6.9

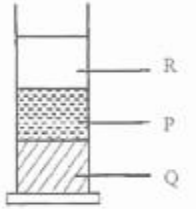
Table 1
Jadual 1

Which of the following shows the correct positions of liquid P, Q and R ?
Antara rajah berikut, yang manakah menunjukkan kedudukan yang betul bagi cecair P, Q dan R ?

A


C


B


D


4 Diagram 3 shows the observation before and after a balloon deflated.
Rajah 3 menunjukkan pemerhatian sebelum dan selepas satu belon mengecut.

Diagram 3 / *Rajah 3*

What conclusion can you make from this observation?
Apakah kesimpulan yang boleh dibuat dari pemerhatian ini?

A Air can be compressed.
Udara boleh dimampatkan

B Air has mass.
Udara mempunyai jisim.

C Air occupies space.
Udara memenuhi ruang.

D Air has energy
Udara mempunyai tenaga.

3. Table 1 shows the density of four different types of substances.
Jadual 1 menunjukkan ketumpatan bagi empat jenis bahan yang berbeza.

Substance *Bahan*	Density ($g\ cm^{-3}$) *Ketumpatan* ($g\ cm^{-3}$)
P	0.76
Q	4.50
R	0.45
S	7.60

Table 1
Table 1

Given that the density of water is 1.0 gcm^{-3}. Which substances can sink in water ?
Diberi bahawa ketumpatan air ialah 1.0 g^{cm-3}. Bahan yang manakah boleh tenggelam di dalam air ?

A P and R
P dan R

B Q and S
Q dan S

C P and Q
P dan Q

D R and S
R dan S

6 Diagram 5 shows a gold bar that has a mass of 700 g.
Rajah 5 menunjukkan satu jongkong emas yang berjisim 700 g.

Diagram 5 / *Rajah 5*

What is the density of the bar?
Apakah ketumpatan jongkong ini?

A 0.228 $g\ cm^{-3}$

B 2.692 $g\ cm^{-3}$

C 4.400 $g\ cm^{-3}$

D 4.375 $g\ cm^{-3}$

9 Diagram 5 shows air ventilation system in the house.
Rajah 5 menunjukkan sistem pengudaraan di dalam sebuah rumah.

Diagram 5
Rajah 5

Which of the following have the same principle as the diagram above?
Antara yang berikut, yang manakah mempunyai prinsip yang sama se

A Melting some ice cube in a glass
Meleburkan ketulan ais dalam gelas

B Boiling water in an electric kettle
Mendidihkan air dalam cerek elektrik

C Ironing clothes with an iron
Menyeterika pakaian dengan seterika

D Driving car to work
Memandu kereta ke tempat kerja

Table 1 shows four substances with different densities.
Jadual 1 menunjukkan empat bahan yang berlainan ketumpatan.

Substances *Bahan*	Density / g/cm³ *Ketumpatan / g/cm³*
Ice *Ais*	0.9
Iron *Besi*	7.9
Oil *Minyak*	0.8
Mercury *Merkuri*	13.6

Table 1 / *Jadual 1*

Given that the density of water is 1.0 g/cm³, which substances can float on water?
Diberi bahawa ketumpatan air ialah 1.0 g/cm³, bahan yang manakah boleh terapung di atas air?

A Ice and iron
Ais dan besi

B Ice and oil
Ais dan minyak

C Oil and mercury
Minyak dan merkuri

D Iron and mercury
Besi dan merkuri

5 Diagram 3 shows an object, P, which floats on water.
Rajah 3 menunjukkan satu objek, P, yang terapung di atas air.

Selangor

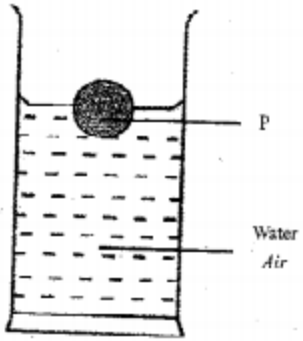


Diagram 3
Rajah 3

The density of the water is 1 g/cm³. What is the density of P?
Ketumpatan air ialah 1 g/cm³. Apakah ketumpatan bagi P?

A 0.8 g/cm³
B 1.2 g/cm³
C 2.2 g/cm³
D 13.6 g/cm³

3 Diagram 1 shows a hot air balloon.
Rajah 1 menunjukkan satu belon udara panas.

Diagram 1

Which of the following is **correct** about a hot air balloon?
*Antara berikut, yang manakah **benar** mengenai belon udara panas?*

A The balloon is made up of a heavy material
Belon diperbuat daripada bahan yang berat

B Hot air in the balloon is denser than cold air
Udara panas di dalam belon lebih tumpat daripada udara sejuk

C Hot air in the balloon is less dense than the air in the atmosphere.
Udara panas dalam belon kurang tumpat daripada udara di atmosfera.

D The air in the balloon expands when heated and becomes denser than the surrounding air
Udara dalam belon akan mengembang apabila dipanaskan dan menjadi lebih tumpat dari udara persekitaran.

6 Diagram 4 shows the apparatus used for the preparation of gas X.
Rajah 4 menunjukkan radas yang digunakan untuk penyediaan gas X.

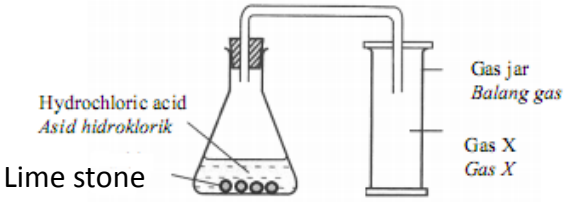


Diagram 4
Rajah 4

Based on above diagram, which of the statements below is correct about gas X?
Berdasarkan rajah di atas, yang manakah pernyataan di bawah betul mengenai gas X?

A Gas X is lighter than air
Gas X lebih ringan daripada udara

B Gas X can burn by itself
Gas X boleh terbakar dengan sendiri

C Gas X supports combustion
Gas X membantu proses pembakaran

D Gas X turns limewater cloudy
Gas X mengeruhkan air kapur

Diagram 7 shows two copper blocks of different sizes are put into boiling water for 30 minutes. The copper blocks are then transferred into two beakers, beaker **P** and **Q**, each containing the same volume of water.
*Rajah 7 menunjukkan dua blok kuprum yang berlainan saiz dimasukkan ke dalam air yang mendidih selama 30 minit. Blok kuprum itu kemudian dipindahkan ke dalam dua bikar, **P** dan **Q**. Setiap bikar mengandungi isipadu air yang sama.*

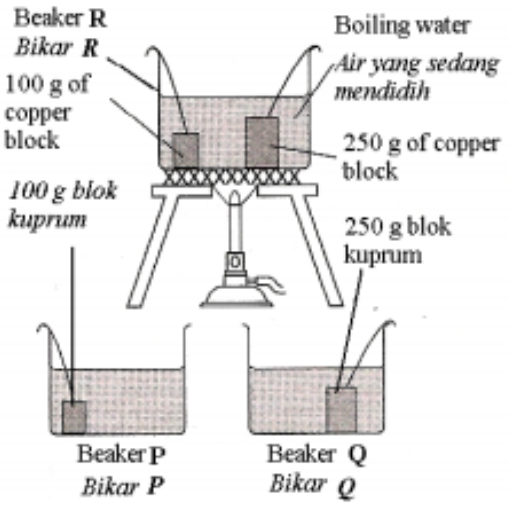


Diagram 7
Rajah 7

Which of the following are the variables in the experiment?
Antara yang berikut, yang manakah pemboleh ubah dalam eksperimen ini?

	Manipulated variable ***Pemboleh ubah yang dimanipulasikan***	**Responding variable** ***Pemboleh ubah yang bergerakbalas***
A	Mass of copper block *Jisim blok kuprum*	Water temperature in beaker **P** and beaker **Q** *Suhu air dalam bikar **P** dan bikar **Q***
B	Mass of copper block *Jisim blok kuprum*	Water temperature in beaker **R** *Suhu air dalam bikar **R***
C	Volume of water in beaker **R** *Isipadu air dalam bikar **R***	Water temperature in beaker **R** *Suhu air dalam bikar **R***
D	Volume of water in beaker **P** and beaker **Q**	Water temperature in beaker **P** and beaker **Q**

10 Diagram 3 shows a railway track.
Rajah 3 menunjukkan landasan keretapi.

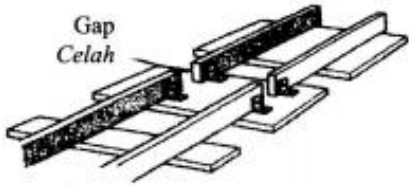


Diagram 3
Rajah 3

What is the purpose of the gap between the iron rails?
Apakah tujuan celah di antara landasan besi itu?

A To allow the rails to contract at night.
Membolehkan landasan besi mengecut pada waktu malam.

B To allow the rails to expand during hot days.
Membolehkan landasan besi mengembang pada hari yang panas.

C To reduce friction between the wheels and the rail.
Mengurangkan geseran antara roda dan landasan.

D To make it easier to repair the railway tracks.
Memudahkan kerja membaiki landasan keretapi.

Diagram 4 shows the condition of a bimetallic strip after being heated.
Rajah 4 menunjukkan keadaan jalur dwilogam selepas dipanaskan.

Diagram 4
Rajah 4

Which of the following explain the observation in Diagram 4 ?
Antara berikut, yang manakah menerangkan pemerhatian pada Rajah 4 ?

A Metal P is hotter than metal Q
Logam P lebih panas daripada logam Q.
B Metal Q is hotter than metal P
Logam Q lebih panas daripada logam P
C Metal P expands more than metal Q
Logam P mengembang lebih daripada logam Q
D Metal Q expands more than metal P
Logam Q mengembang lebih daripada logam P

The variety resources on Earth

4. Diagram 3 shows three types of substances.
Rajah 3 menunjukkan tiga jenis bahan.

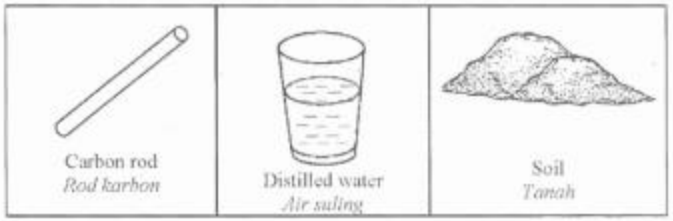
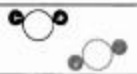
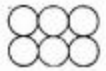


Diagram 3
Rajah 3

Johor

Which of the following shows the arrangement of particles in the three substances?
Antara berikut, yang manakah menunjukkan susunan zarah dalam bahan-bahan tersebut?

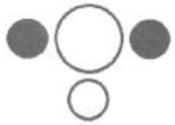
	Carbon rod *Rod karbon*	Distilled water *Air suling*	Soil *Tanah*
A			
B			
C			
D			

4. Which of the following represents compound ?
Antara yang berikut, manakah yang mewakili satu sebatian ?

A 

B 

C 

D 

Melaka

8. Diagram 5 shows the arrangement of particles in **M, N** and **O**.
Rajah 5 menunjukkan susunan zarah-zarah M, N dan O.

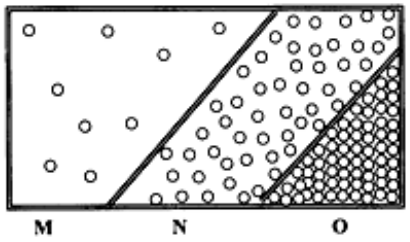


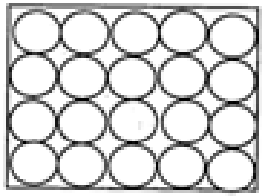
Diagram 5
Rajah 5

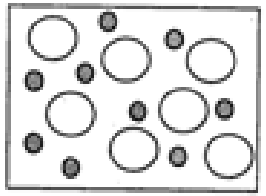
kelate

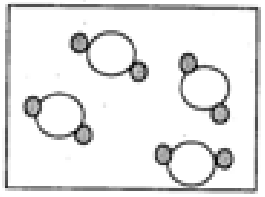
What are the examples of substances represented by **M, N** and **O**?
Apakah contoh bahan yang diwakili oleh M, N dan O?

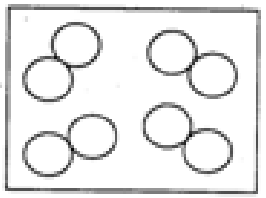
	M	N	O
A	Water *Air*	Iron *Besi*	Oxygen *Oksigen*
B	Iron *Besi*	Oxygen *Oksigen*	Water *Air*
C	Oxygen *Oksigen*	Water *Air*	Iron *Besi*
D	Water *Air*	Oxygen *Oksigen*	Iron *Besi*

7. Which diagram represents molecules of carbon dioxide?
Rajah manakah yang mewakili molekul karbon dioksida?

A. 

B. 

C. 

D. 

4 Diagram 2 shows the arrangement of particles.
Rajah 2 menunjukkan susunan zarah-zarah.

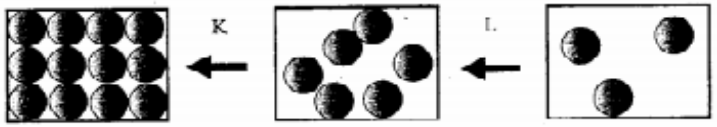


Diagram 2
Rajah 2

What processes represent K and L?
Apakah proses yang mewakili K dan L?

	K	L
A	Condensation *Kondensasi*	Evaporation *Penyejatan*
B	Freezing *Pembekuan*	Condensation *Kondensasi*
C	Condensation *Kondensasi*	Freezing *Pembekuan*
D	Melting *Peleburan*	Boiling *Pendidihan*

5 Diagram 3 shows two methods to separate the components of a mixture.
Rajah 3menunjukkan dua kaedah pengasingan komponen suatu campuran.

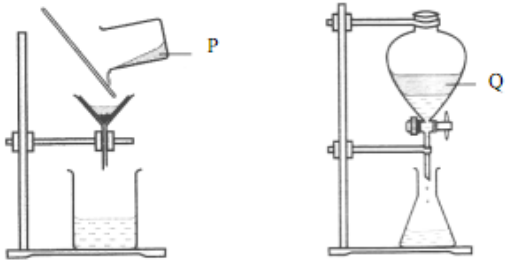


Diagram 3
Rajah 3

Which of the following correctly represent P and Q?
Manakah antara berikut mewakili P dan Q dengan betul?

	P	Q
A	Water and sand *Air dan pasir*	Oil and water *Minyak dan air*
B	Alcohol and water *Alkohol dan air*	Chalk and water *Kapur tulis dan air*
C	Coffee powder and coffee drink *Serbuk kopi dan air kopi*	Milk and coffee drink *Susu dan air kopi*
D	Sulphur powder and iron powder *Serbuk sulfur dan serbuk besi*	Flour and sand *Tepung dan pasir*

7 Diagram 6 shows a physical method to separate a component of mixture.
Rajah 6 menunjukkan kaedah fizikal untuk memisahkan komponen campuran.

Diagram 6 / *Rajah 6*

Which of the following mixture is suitable for this method?
Antara campuran berikut yang manakah sesuai menggunakan kaedah ini?

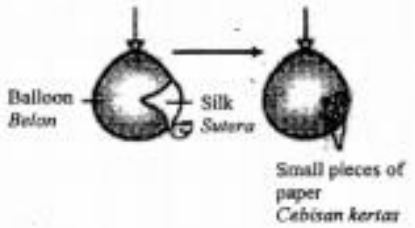
A Sulphur and gold
Sulfur dan emas

B Sulphur and iron
Sulfur dan besi

C Carbon and lead
Karbon dan plumbum

D Gold and sand
Emas dan pasir

19 Diagram below shows a balloon is rubbed with a piece of dry cloth. The balloon small pieces of paper.
Rajah di bawah menunjukkan sebiji belon digosok dengan sehelai kain kering. Belon itu kemudian menarik cebisan-cebisan kertas.



What type of force is produced in this activity?
Apakah jenis daya yang dihasilkan dalam aktiviti ini?

A Electrostatic force
Daya elektrostatik

B Magnetic force
Daya magnet

C Gravitatironal force
Daya graviti

D Frictional force
Daya geseran

Matter

4 Diagram 2 shows a classification of matter.
Rajah 2 menunjukkan pengelasan jirim.

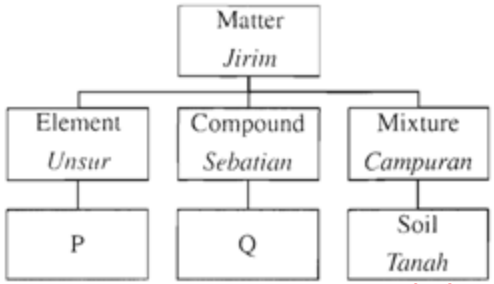


Diagram 2
Rajah 2

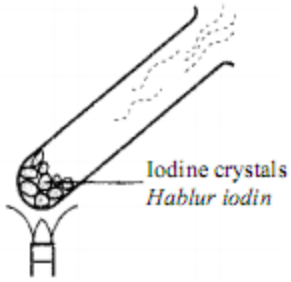
Kedah

9 Diagram 6 shows a set-up apparatus to study the changes in the state of matter.
Rajah 6 menunjukkan susunan radas untuk mengkaji perubahan keadaan jirim.

SBP

Which of the following represents P and Q?
Manakah antara berikut mewakili P dan Q?

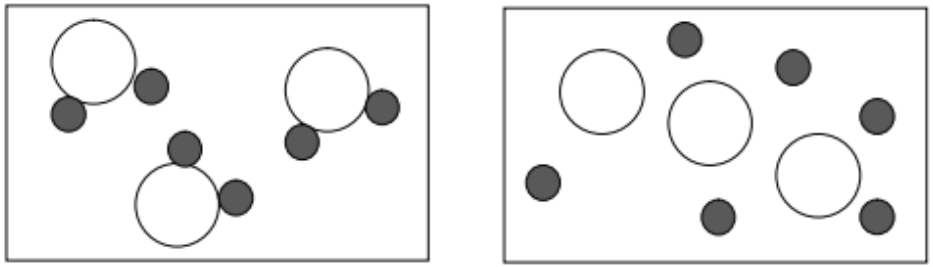
	P	Q
A	Carbon *Karbon*	Water *Air*
B	Salt *Garam*	Ammonia *Ammonia*
C	Oxygen *Oksigen*	Gold *Emas*
D	Sulphur *Sulfur*	Air *Udara*



What is the process that occurs to the iodine crystals?
Apakah proses yang berlaku kepada hablur iodin tersebut?

A Boiling
Pendidihan
B Sublimation
Pemejalwapan
C Evaporation
Penyejatan
D Condensation
Kondensasi

4. Diagram 4 shows the particles of material M and material N.



M N

Diagram 4

Which of the following material is true about material M and material N?

	M	N
A	Orange juice	Gold
B	Gold	Sea water
C	Carbon dioxide	Sea water
D	Orange Juice	Carbon dioxide

Diagram 2 shows an experiment to investigate pollutants in vehicle exhaust fumes.
Rajah 2 menunjukkan satu eksperimen untuk menyiasat bahan pencemar di dalam asap kenderaan.

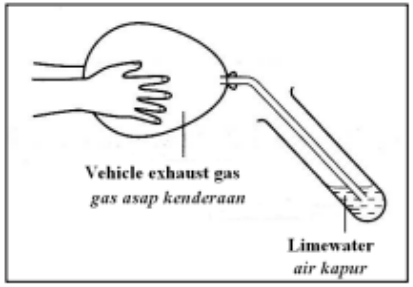


Diagram 2
Rajah 2

The limewater turns chalky after a few minutes.
What inference can be made based on the observation?
Air kapur bertukar keruh selepas beberapa minit.
Apakah kesimpulan awal yang boleh dibuat berdasarkan pemerhatian ini?

A Vehicle exhaust gas contains water vapour
Gas asap kenderaan mengandungi wap air
B Vehicle exhaust gas contains lead compound
Gas asap kenderaan mengandungi sebatian plumbum
C Vehicle exhaust gas contains smoke particles
Gas asap kenderaan mengandungi zarah asap
D Vehicle exhaust gas contains carbon dioxide
Gas asap kenderaan mengandungi karbon dioksida

Combustion

6. Diagram 3 shows an experiment set up to determine the percentage of air used up in the combustion of a candle.
Rajah 3 menunjukkan radas satu eksperimen untuk menentukan peratus udara yang digunakan dalam pembakaran lilin.

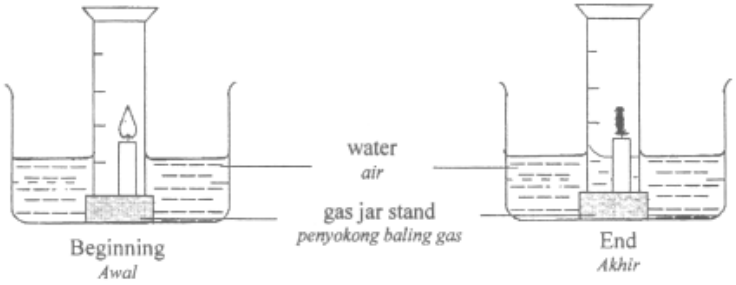


Diagram 3
Rajah 3

How many percent of air is used up in the combustion of the candle ?
Berapa peratuskah udara digunakan dalam pembakaran lilin ?

A 10%
B 20%
C 40%
D 50%

8. **Diagram 5 shows an experiment.**
Rajah 5 menunjukkan suatu eksperimen.

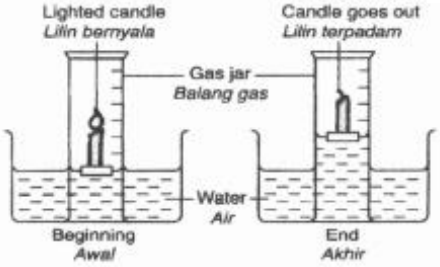


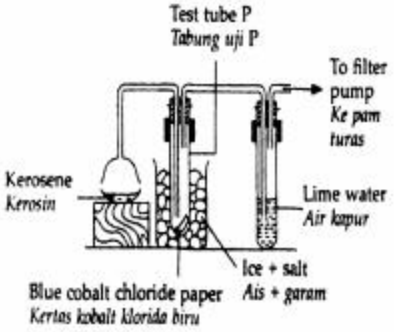
Diagram 5 / *Rajah 5*

As the candle burns, the water rises into the gas jar to fill up the space vacated by
Sewaktu lilin bernyala, air naik ke dalam balang gas untuk mengisi ruang yang ditinggalkan oleh

A. **oxygen / *oksigen***
B. **nitrogen / *nitrogen***
C. **carbon dioxide / *karbon dioksida***
D. **water vapour / *wap air***

SBP

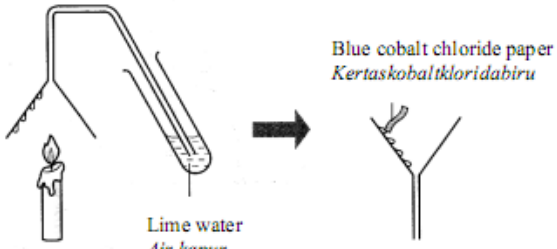
7 Diagram 4 shows the apparatus set-up to investigate the products of combustion.
Rajah 4 menunjukkan susunan radas untuk menyiasat hasil pembakaran.



The kerosene is lit and a liquid is collected in test tube P
What will happen to the blue cobalt chloride paper and the lime water?
Kerosin itu dinyalakan dan sejenis cecair dikumpulkan dalam tabung uji P.
Apakah yang terjadi pada kertas kobalt klorida biru dan air kapur itu?

	Blue cobalt chloride paper *Kertas kobalt klorida biru*	Lime water *Air kapur*
A	Turns pink *Menjadi merah jambu*	Turns cloudy *Menjadi keruh*
B	Remains blue *Kekal biru*	Remains clear *Kekal jernih*
C	Remains blue *Kekal biru*	Turns cloudy *Menjadi keruh*
D	Turns pink *Menjadi merah*	Remains clear

7 Diagram 5 shows an experiment to investigate the product of combustion of a candle.
Rajah 5 menunjukkan satu eksperimen untuk menyiasat hasil pembakaran satu lilin.



At the end of the experiment, the liquid in the filter funnel is tested with blue cobalt chloride paper. Changes of cobalt chloride paper and limewater are observed. Which of the following observation is correct?
Di hujung eksperimen, cecair di dalam corong turas diuji dengan kertas kobalt klorida biru. Perubahan pada kertas kobalt klorida dan air kapur diperhatikan. Manakah antara pemerhatian berikut adalah benar?

	Blue cobalt chloride paper ***Kertas kobalt klorida biru***	**Limewater** ***Air kapur***
A	Turns pink *Bertukar kepada merah jambu*	Remains clear *Kekal jernih*
B	Turns pink *Bertukar kepada merah jambu*	Turns chalky *Bertukar menjadi keruh*
C	Remains blue *Kekal biru*	Remains clear *Kekal jernih*
D	Remains blue *Kekal biru*	Turns chalky *Bertukar menjadi keruh*

Absorption and radiation of heat

Johor

9. Diagram 7 shows electrical cables.
Rajah 7 menunjukkan kabel-kabel elektrik .

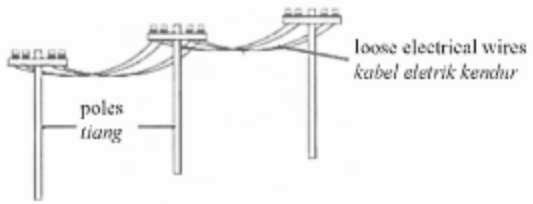


Diagram 7
Rajah 7

Why are the cables hung loosely between the poles ?
Mengapakah kabel-kabel itu dipasang kendur antara tiang-tiang tersebut ?

A To strengthen the cables
Untuk menguatkan kabel-kabel
B To allow expansion during hot weather
Untuk membenarkan pengembangan semasa cuaca panas
C To allow contraction during cold weather
Untuk membenarkan pengecutan semasa cuaca sejuk
D To allow the cables to conduct electricity efficiently
Untuk membenarkan kabel-kabel tersebut mengalirkan elektrik dengan lebih cekap

8. Diagram 3 shows three beakers containing different amounts of water at the same temperature.
Rajah 3 menunjukkan tiga buah bikar yang mengandungi kuantiti air yang berbeza pada suhu yang sama.

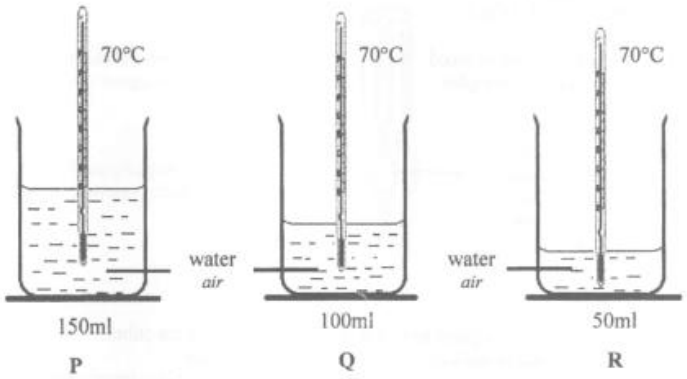
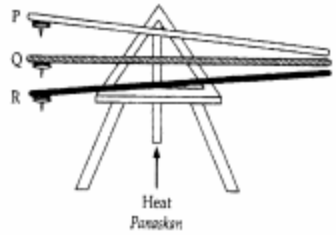


Diagram 3
Rajah 3

Which of the following is the correct arrangement of increasing amount of heat content ?
Antara berikut, yang manakah susunan yang betul kandungan haba dalam urutan menaik ?

A P, Q, R
B P, R, Q
C Q, P, R
D R, Q, P

9 Diagram 6 shows the heating of three metal rods P, Q and R.
Rajah 6 menunjukkan pemanasan tiga rod logam P, Q dan R.



The time taken for the thumbtacks to drop is recorded in Table 2.
Masa yang diambil untuk paku tekan jatuh dicatatkan dalam Jadual 2.

Thumbtacks Paku tekan	P	Q	R
Time / s Masa / s	150	210	90

Table 2 / *Jadual 2*

Which of the following shows the metals in descending order of their conductivity of heat?
Antara berikut, yang manakah menunjukkan kedudukan logam-logam dalam urutan menurun kekonduksian haba?

A Q, P, R
B P, Q, R
C R, P, Q
D Q, R, P

8 Diagram 5 shows an experiment to study how heat flows through solids.
Rajah 5 menunjukkan satu eksperimen untuk mengkaji bagaimana haba mengalir melalui pepejal.

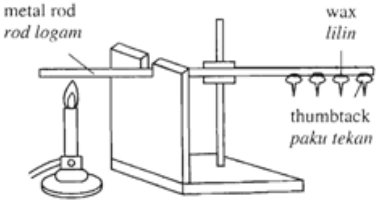


Diagram 5
Rajah 5

Heat flows in a solid by
Haba mengalir di dalam pepejal melalui

A contraction
pengecutan
B conduction
konduksi
C convection
perolakan
D radiation
sinaran

Kedah

9 W, X, Y and Z are steps in a fire alarm.
W, X, Y dan Z adalah langkah-langkah dalam penggera kebakaran.

W - Bimetallic strip bends
Jalur dwilogam membengkok
X - The fire alarm bell rings
Loceng penggera kebakaran berbunyi
Y - The temperature of bimetallic strip rises
Suhu jalur dwilogam meningkat
Z - Bimetallic strip completes the circuit
Jalur dwilogam melengkapkan litar

kelate

Arrange the steps in the correct sequence.
Susunkan langkah-langkah tersebut mengikut urutan yang betul.

A Y, W, Z, X
B Y, Z, W, X
C W, Y, X, Z
D W, Z, X, Y

SBP

10 Diagram 7 shows a set-up apparatus to study the absorption and reflection of heat.
Rajah 7 menunjukkan susunan radas untuk mengkaji penyerapan dan pantulan haba.

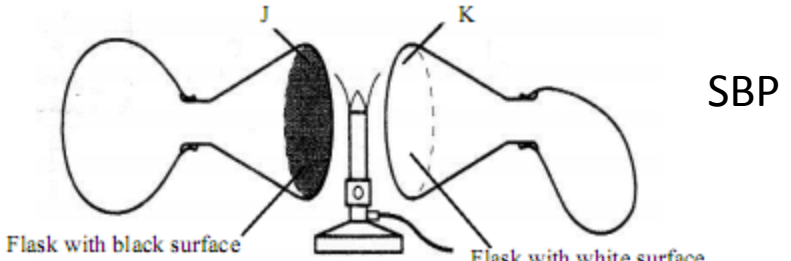


Diagram 7
Rajah 7

At the end of the experiment, the balloon attached to J expands more than the balloon attached to K. Which of the following explanations is correct?
Di akhir eksperimen, belon yang dilekatkan pada J mengembang lebih besar berbanding belon yang dilekatkan pada K. Manakah antara berikut adalah benar?

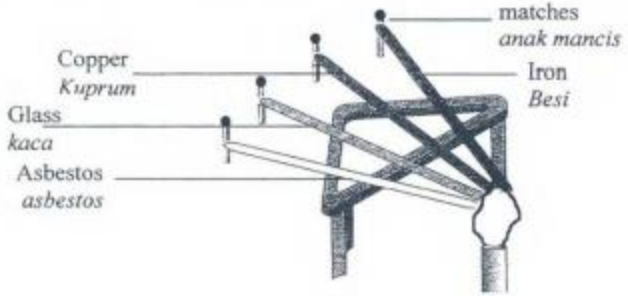
A Dark and dull surface conducts heat better than white and shiny surface
Permukaan gelap dan pudar adalah pengalir haba yang baik daripada permukaan putih dan berkilat.

B Dark and dull surface reflects heat better than white and shiny surface
Permukaan gelap dan pudar adalah pemantul haba yang lebih baik daripada permukaan putih dan berkilat.

C Dark and dull surface radiates heat better than white and shiny surface
Permukaan gelap dan pudar adalah pemancar haba yang lebih baik daripada permukaan putih dan berkilat.

D Dark and dull surface absorbs heat better than white and shiny surface
Permukaan gelap dan pudar adalah penyerap haba yang lebih baik daripada permukaan putih dan berkilat.

11 In the experiment shown in Diagram 10, the matches drop one by one starting with copper rod, followed by the iron and lastly glass rod.
Dalam eksperimen yang ditunjukkan pada Rajah 10 anak mancis jatuh satu persatu bermula dari rod kuprum, diikuti dengan besi dan akhir sekali rod kaca.



2 Diagram 11 shows the changes in state of matter.
Rajah 11 menunjukkan perubahan keadaan jirim.

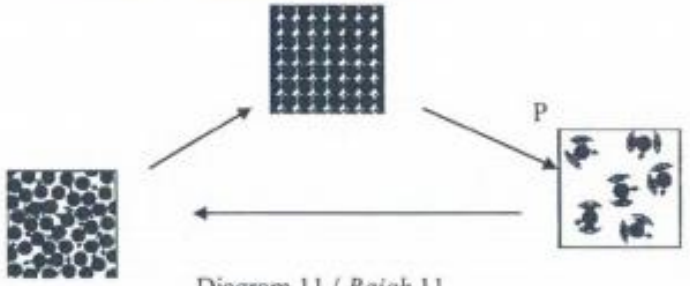


Diagram 11 / *Rajah 11*

Name process **P** and state whether heat is absorbed or released.
Namakan proses **P** *dan nyatakan samada haba diserap atau dibebaskan.*

	Process *Proses*	Heat *Haba*
A	Sublimation *Pemejalwapan*	Absorbed *Diserap*
B	Evaporation *Penyejatan*	Released *Dibebaskan*
C	Condensation *Kondensasi*	Released *Dibebaskan*
D	Boiling *Pendidihan*	Absorbed *Diserap*

Which of the following **cannot** be concluded from the experiment?
Manakah di antara berikut ***bukan*** *kesimpulan daripada eksperimen tersebut?*

A The best heat conductor is copper
Konduktor haba yang paling baik ialah kuprum

B The best insulator is glass
Penebat haba yang paling baik ialah kaca

C Different metals conduct heat at different rates.
Logam berbeza menkonduksi haba pada kadar berbeza.

D Conduction of heat by a rod depend on its diameter
Konduksi haba oleh rod bergantung kepada diameternya.

Diagram 4 shows an activity to study the conductivity of heat. After five minutes the reading of the thermometer increases.
Rajah 4 menunjukkan satu aktiviti untuk mengkaji pemindahan haba. Selepas lima minit bacaan termometer bertambah.

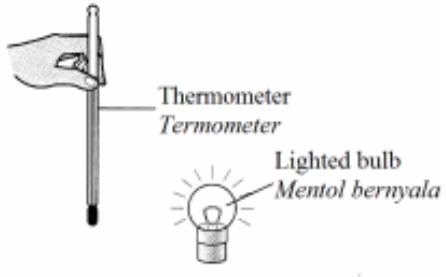


Diagram 4

Heat energy reaches the thermometer by
Tenaga haba sampai ke termometer melalui

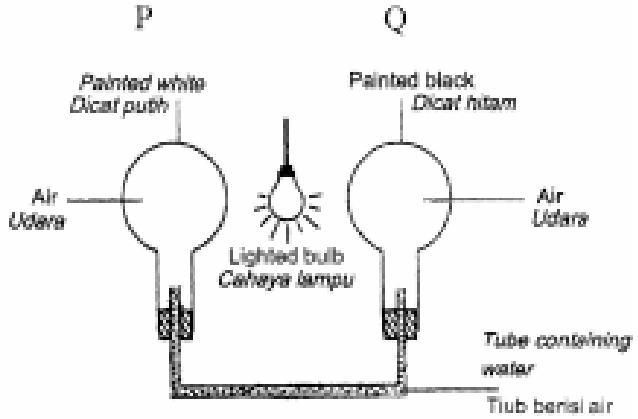
A convection
perolakan

B reflection
pantulan

C radiation
sinaran

D conduction
konduksi

10 Diagram 7 shows absorption of heat by two different surfaces.
Rajah 7 menunjukkan penyerapan haba oleh dua permukaan yang berbeza.



What is the observation and inference?
Apakah pemerhatian dan inferensnya?

	Observation *Pemerhatian*	Inference *Inferens*
A	Water in the glass tube overflows at P *Air dalam tiub kaca melimpah di P*	White surface is a good heat absorber *Permukaan putih adalah penyerap haba yang baik*
B	Water in the glass tube remains unchanged at P *Air dalam tiub kaca tidak berubah di P*	Both surfaces are bad heat absorbers *Kedua-dua permukaan adalah penyerap haba yang tidak baik*
C	Water in the glass tube overflows at P *Air dalam tiub kaca melimpah di P*	Black surface is a good heat absorber *Permukaan hitam adalah penyerap haba yang baik*
d	Water in the glass tube overflows on both sides *Air di dalam tiub kaca melimpah di kedua-dua belah tiub*	Both surfaces are bad heat absorbers *Kedua-dua permukaan adalah penyerap haba yang tidak baik*

What happens to the particles of a liquid when it is heated?
Apakah yang berlaku kepada zarah-zarah suatu cecair apabila dipanaskan?

A The particles move closer.
Zarah-zarah bergerak lebih dekat.

B The particles vibrate slowly
Zarah-zarah bergetar perlahan

C The particles move further apart
Zarah-zarah bergerak menjauhi antara satu dengan lain

D The particles are attracted to each other
Zarah-zarah tertarik antara satu dengan lain

Which of the following is **correct** about dull dark surface and white shiny surface?
*Antara berikut,yang manakah **betul** tentang permukaan gelap yang pudar dan permukaan putih berkilat?*

	Dark and dull surface ***Permukaan gelap dan pudar***	**White and shiny surface** ***Permukaan putih dan berkilat***
A	Good reflector of heat *Pemantul haba yang baik*	Good absorber of heat *Penyerap haba yang baik*
B	Good absorber of heat *Penyerap haba yang baik*	Good radiator of heat *Penyinar haba yang baik*
C	Good reflector of heat *Pemantul haba yang baik*	Good radiator of heat *Penyinar haba yang baik*
D	Good absorber of heat *Penyerap haba yang baik*	Good reflector of heat *Pemantul haba yang baik*

Sensory organ

9 Diagram 6 shows the ice in the bowl has melted.
Rajah 6 menunjukkan ais di dalam mangkuk melebur.

Diagram 6 / *Rajah 6*

Why did the process happened?
Mengapakah proses ini berlaku?

A Particles of ice absorb heat
Zarah-zarah ais menyerap haba

B Particles of ice radiate heat
Zarah-zarah ais menyinar haba

C Particles of ice reflect heat
Zarah-zarah ais memantul haba

D Particles of ice release heat
Zarah-zarah ais membebaskan haba

10 Diagram 7 shows two workers P and Q wearing different coloured uniforms working on a hot day. Worker P sweats more than worker Q.
Rajah 7 menunjukkan dua pekerja, P dan Q memakai pakaian seragam berlainan warna bekerja di hari yang panas. Pekerja P berpeluh lebih banyak daripada pekerja Q.

Diagram 7 / *Rajah 7*

What can be concluded from the above situation?
Apakah kesimpulan dari situasi di atas?

A Black uniform releases heat better than white uniform
Pakaian seragam hitam membebaskan haba lebih baik daripada pakaian seragam putih.

B White uniform releases heat better than black uniform
Pakaian seragam putih membebaskan haba lebih baik daripada pakaian seragam hitam

C Black uniform absorbs heat better than white uniform
Pakaian seragam hitam menyerap haba lebih baik daripada pakaian seragam putih

D White uniform absorbs heat better than black uniform
Pakaian seragam putih menyerap haba lebih baik daripada pakaian seragam hitam

31 Diagram 24 shows the cross section of the human skin.
Rajah 24 menunjukkan keratan rentas kulit manusia.

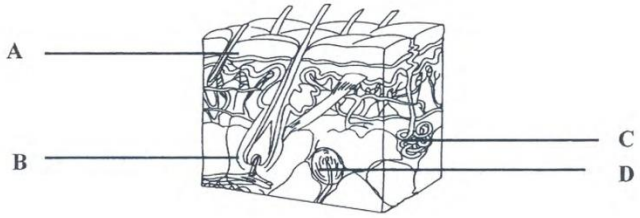


Diagram 24 / *Rajah 24*

Which of the following label **A, B, C** and **D** represent sweat gland?
Di antara label **A, B, C** *dan* **D** *berikut yang manakah kelenjar peluh?*

Diagram 5 shows the front view of the eye.
Rajah 5 menunjukkan pandangan hadapan mata.

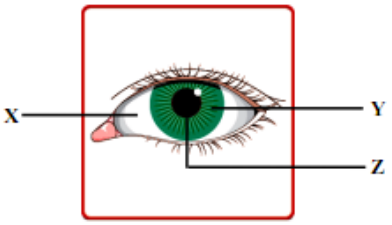


Diagram 5
Rajah 5

What are the structures represented by X, Y and Z?
Apakah struktur yang mewakili X, Y dan Z?

	X	Y	Z
A	Sclera *Sklera*	Pupil *Anak mata*	Iris *Iris*
B	Pupil *Anak mata*	Iris *Iris*	Sclera *Sklera*
C	Iris *Iris*	Sclera *Sklera*	Pupil *Anak mata*
D	Sclera *Sklera*	Iris *Iris*	Pupil *Anak mata*

Diagram 6 shows the areas of a human tongue that are sensitive to different tastes.
Rajah 6 menunjukkan kawasan lidah manusia yang sensitif terhadap rasa yang berbeza.

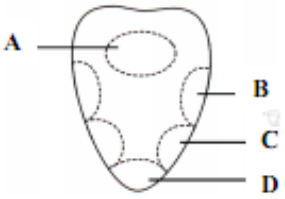


Diagram 6
Rajah 6

The taste sensation caused by acid is most felt at the area labelled...
Rasa sensasi yang disebabkan oleh asid akan lebih dirasai di kawasan yang berlabel...

Diagram 8 shows two types of eye defects and their correction.
Rajah 8 menunjukkan dua jenis kecacatan mata dan cara pembetulannya.

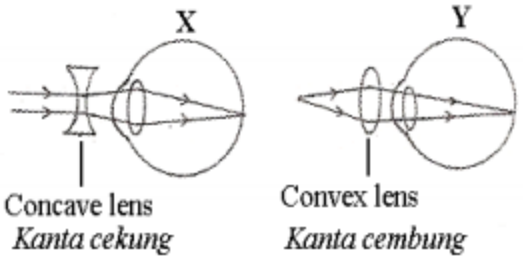


Diagram 8
Rajah 8

What type of eye defects are represented by **X** and **Y**?
*Apakah jenis kecacatan mata yang diwakili oleh **X** dan **Y**?*

	X	Y
A	Short-sightedness *Rabun jauh*	Long-sightedness *Rabun dekat*
B	Astigmatism *Astigmatisme*	Long-sightedness *Rabun dekat*
C	Long-sightedness *Rabun dekat*	Short-sightedness *Rabun jauh*
D	Short-sightedness *Rabun jauh*	Astigmatism *Astigmatisme*

Diagram 9 shows organs in the human digestive system.
Rajah 9 menunjukkan organ dalam sistem pencernaan manusia.

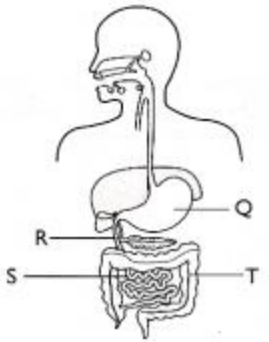


Diagram 9
Rajah 9

The reabsorption of water from undigested food occurs in the part which is labeled
Penyerapan semula air daripada makanan yang tidak tercerna berlaku dalam bahagian yang dilabelkan

A Q
B R
C S
D T

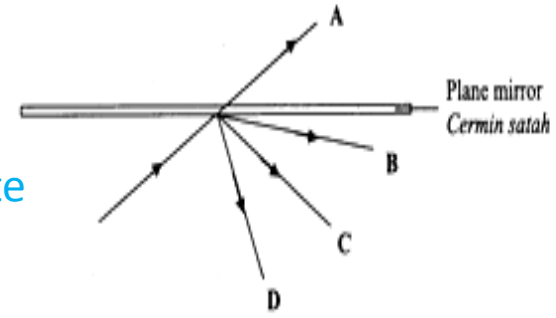
15 The following information shows the flow of food in the human digestive system.
Maklumat berikut menunjukkan laluan makanan di dalam sistem pencernaan manusia.

K → Oesophagus → **L** → **M** → Small intestine → Large intestine
Esofagus *Usus kecil* *Usus besar*

What are the enzymes that can be found in **K**, **L** and **M**?
*Apakah enzim-enzim yang terdapat di **K**, **L** dan **M**?*

	K	L	M
A	Amylase *Amilase*	Protease *Protease*	Lipase *Lipase*
B	Protease *Protease*	Lipase *Lipase*	Amylase *Amilase*
C	Lipase *Lipase*	Protease *Protease*	Amylase *Amilase*
D	Amylase *Amilase*	Lipase *Lipase*	Protease *Protease*

13. Which rays labelled **A, B, C** or **D**, is the reflected ray when a light ray hit a plane mirror?
*Sinar berlabel **A, B, C** dan **D**, manakah adalah sinar pantulan apabila satu sinar cahaya terkena pada cermin satah?*



Kelate

Reflection

Diagram 8 shows the incident ray and the reflected ray from a light source that is projected on a plane mirror.
Rajah 8 menunjukkan sinar tuju dan sinar pantulan daripada satu sumber cahaya yang dipancarkan kepada cermin satah.

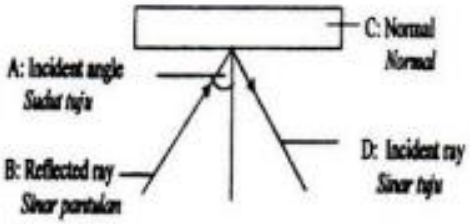


Diagram 8 / *Rajah 8*

Which part A, B, C or D is correctly labelled?
Bahagian manakah A, B, C dan D dilabelkan dengan betul?

Diagram 4 shows a boy throwing a ball up and another boy on the first floor of the building is catching it.
Rajah 4 menunjukkan seorang budak lelaki melambungkan sebiji bola dan seorang budak lelaki lain menangkap bola itu di tingkat satu sebuah bangunan.

What happens to the kinetic energy and potential energy?
Apakah yang berlaku kepada tenaga kinetic dan tenaga keupayaan?

	Potential energy *Tenaga keupayaan*	Kinetic energy *Tenaga kinetik*
A	Increase *Bertambah*	Decrease *Berkurang*
B	Decrease *Berkurang*	Increase *Bertambah*
C	Decrease *Berkurang*	Decrease *Berkurang*
D	Increase *Bertambah*	Increase *Bertambah*

Diagram 7 shows two mirrors J and K which are placed parallel to each other.

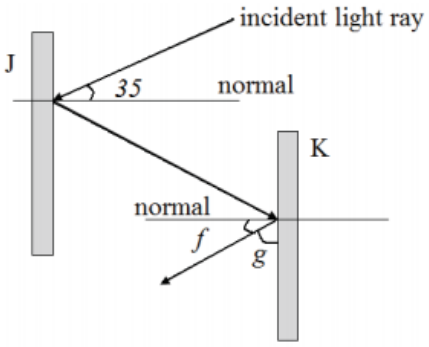


Diagram 7

Which is the value of the angle ***g?***
A 25°
B 35°
C 55°
D 65°

Diagram 3 shows a coconut falling to the ground.
Rajah 3 menunjukkan sebiji buah kelapa sedang jatuh ke tanah.

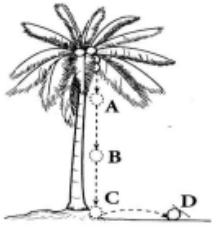


Diagram 3
Rajah 3

At which position does the coconut have the most kinetic energy?
Di kedudukan manakah buah kelapa itu memiliki tenaga kinetik paling banyak?

Energy changes

Diagram 5 shows a boy is sliding down a slide.
Rajah 5 menunjukkan seorang budak lelaki sedang menuruni papan gelongsor.

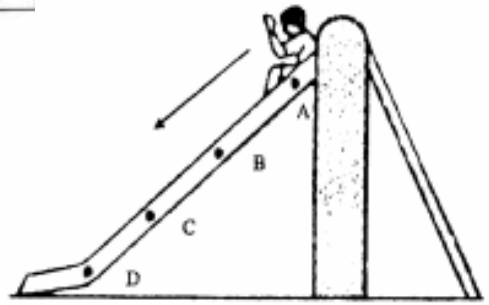


Diagram 5 / *Rajah 5*

At which point he has maximum kinetic energy and minimum potential energy?
Pada titik manakah dia akan mempunyai tenaga kinetik maksimum dan tenaga keupayaan minimum?

7 Diagram 6 shows a ball which is thrown into the net.
Rajah 6 menunjukkan sebiji bola dilontarkan ke dalam jaring.

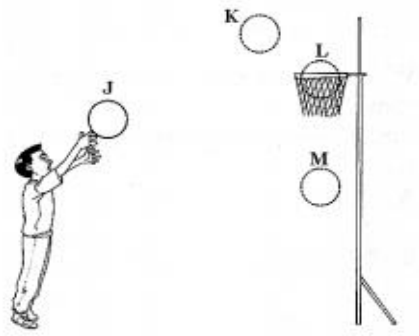


Diagram 6
Rajah 6

At which position does the ball possess the maximum potential energy?
Di kedudukan manakah bola itu mempunyai tenaga keupayaan maksimum?

A J
B K
C L
D M

Energy changes

17 An animal has the following characteristics.
Sejenis haiwan mempunyai ciri-ciri berikut.

- Mostly live on land
  Kebanyakannya hidup di darat
- Have hard-dry scales
  Mempunyai sisik yang keras dan kering
- Cold-blooded
  Berdarah sejuk
- Breath with their lungs
  Bernafas melalui paru-paru

Which of these animals has the above characteristics?
Antara haiwan-haiwan berikut, yang manakah mempunyai ciri-ciri seperti di atas?

A Toad
Kodok
B Snake
Ular
C Elephant
Gajah
D Snails
Siput

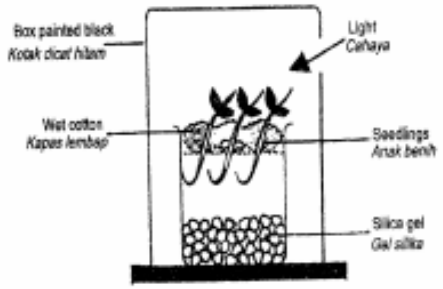


Diagram 9 / *Rajah 9*

Which of the following responses is shown by the seedlings?
Antara gerakbalas berikut, yang manakah ditunjukkan oleh anak benih?

	Shoot *Pucuk*	Root *Akar*
A	Positive phototropism *Fototropisme positif*	Positive hydrotropism *Hidrotropisme positif*
B	Positive geotropism *Geotropisme positif*	Positive phototropism *Fototropisme positif*
C	Negative phototropism *Fototropisme negatif*	Negative hydrotropism *Hidrotropisme negatif*
D	Geotropism negative *Geotropisme negatif*	Positive phototropism *Fototropisme positif*

Tropism

12 Diagram 9 shows a plant that was left for two weeks during an experiment.
Rajah 9 menunjukkan eksperimen ke atas tumbuhan yang ditinggalkan selama dua minggu.

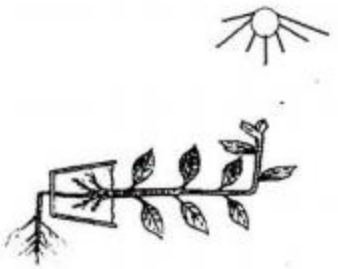


Diagram 9 / *Rajah 9*

State the stimuli that cause this type of response in the root and the shoot of the plant.
Nyatakan rangsangan yang menghasilkan jenis gerak balas pada akar dan pucuk tumbuhan itu.

	Root *Akar*	Shoot *Pucuk*
A	Touch *Sentuhan*	Water *Air*
B	Gravity *Graviti*	Water *Air*
C	Touch *Sentuhan*	Gravity *Graviti*
D	Gravity *Graviti*	Light *Cahaya*

Classification of animal and plant

Interaction between living thing

Kedah

14. Diagram 11 shows a type of interaction between living organisms. 6
Rajah 11 menunjukkan sejenis interaksi antara organisma hidup.

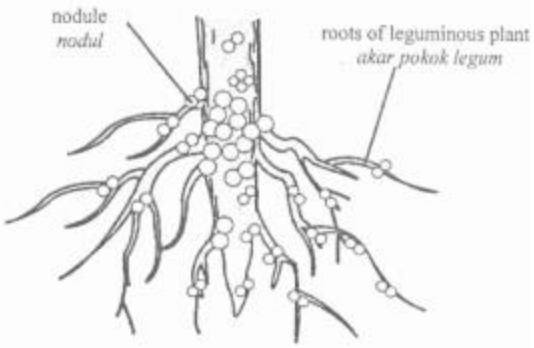


Diagram 11
Rajah 11

Which of the following pairs of living things has the same interaction as above ?
Antara pasangan hidupan berikut, yang manakah mempunyai interaksi yang sama seperti di atas ?

A Wolf and lion
Serigala dan singa
B Remora fish and shark
Ikan remora dan jerung
C Hermit crab and sea anemone
Umang-umang dan buran
D Guppy fish and mosquito larvae
Ikan gapi dan larva nyamuk

Diagram 3 shows three grasshopper are placed in the bell jar.
Rajah 3 menunjukkan tiga belalang diletakkan di dalam serkup kaca.

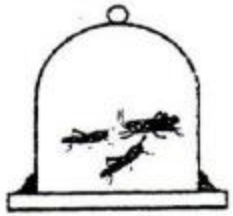


Diagram 3 / *Rajah 3*

Which of the following shows the correct changes in the composition of air after 30 minutes?
Antara berikut yang manakah menunjukkan komposisi udara yang betul selepas 30 minit?

	Oxygen *Oksigen*	Carbon dioxide *Karbon dioksida*
A	Increases *Meningkat*	Decreases *Menurun*
B	Decreases *Menurun*	Decreases *Menurun*
C	Decreases *Menurun*	Increases *Meningkat*
D	Increases *Meningkat*	Increases *Meningkat*

Air pressure

20 Diagram 8 shows a piston being pulled upward.
Rajah 8 menunjukkan piston yang ditarik ke atas.

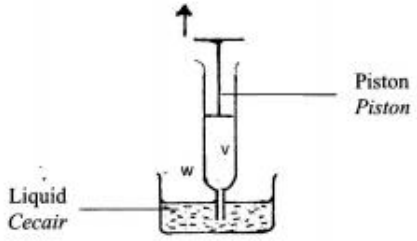


Diagram 8
Rajah 8

What causes the liquid in the beaker to enter the syringe?
Apakah yang menyebabkan cecair dalam bikar memasuki picagari?

A The air pressure at V is the same as the air pressure at W.
Tekanan udara pada V adalah sama dengan tekanan udara pada W.

B The air pressure at W is the same as the atmospheric pressure.
Tekanan udara pada W adalah sama dengan tekanan atmosfera.

C The air pressure at V is higher than the atmospheric pressure.
Tekanan udara pada V lebih tinggi daripada tekanan atmosfera.

D The air pressure at W is higher than the air pressure at V.
Tekanan udara pada W lebih tinggi daripada tekanan udara pada V.

Nutrition

Kedah

14 Diagram 7 shows the human digestive system.

Rajah 7 menunjukkan sistem pencernaan manusia.

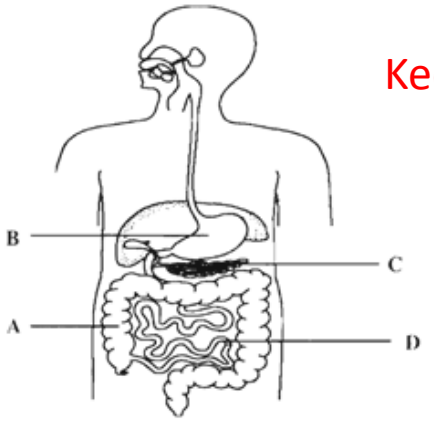


Diagram 7

Rajah 7

Which of the part labelled **A**, **B**, **C** or **D**, absorbs water?

Bahagian manakah berlabel **A**, **B**, **C** *atau* **D** *yang menyerap air?*

12. Diagram 6 shows the movement of food in human digestive system.
Rajah 6 menunjukkan pergerakan makanan di dalam sistem pencernaan manusia.

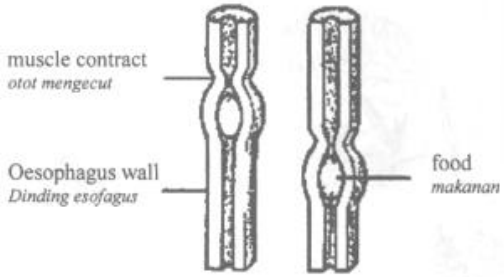


Diagram 6
Rajah 6

What is the movement called ?
Apakah nama pergerakan itu ?

A Osmosis
Osmosis

B Diffusion
Peresapan

C Peristalsis
Peristalsis

D Defecation
Penyahtinjaan

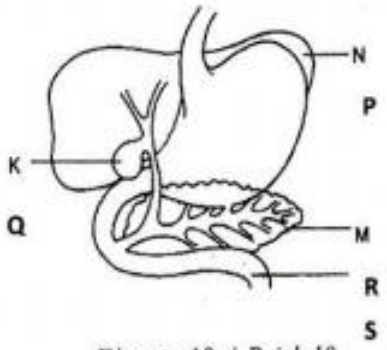


Diagram 10 / *Rajah 10*

Which part labelled P, Q, R and S shows the correct function?
Bahagian manakah yang berlabel P, Q, R dan S menunjukkan fungsinya yang betul?

	Part *Bahagian*	Function *Fungsi*
A	P	To secrecte insulin *Untuk merembeskan insulin*
B	Q	To store bile *Untuk menyimpan hempedu*
C	R	To secrete hydrochloric acid *Untuk merembeskan asid hidroklorik*
D	S	To reabsorb water *Untuk menyerap semula air*

11 Bile is stored in the gall bladder. It helps to
Jus hempedu disimpan di dalam pundi hempedu. Jus hempedu membantu untuk

A dilute fat
mencairkan lemak

B emulsify fat
mengemulsikan lemak

C neutralize fat
meneutralkan lemak

D synthesise fat
mensintesiskan lemak

14 Diagram 11 shows processes in the human digestive system.
Rajah 11 menunjukkan proses-proses dalam sistem pencernaan manusia.

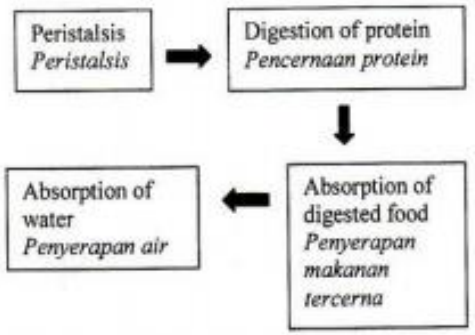


Diagram 11 / *Rajah 11*

Which of the following shows the correct sequence of organs involved in the processes?
Antara berikut yang manakah menunjukkan susunan yang betul organ-organ yang terlibat dalam proses-proses tersebut?

A	Small intestine *Usus kecil*	Large intestine *Usus besar*	Oesophagus *Esofagus*	Stomach *Perut*
B	Large intestine *Usus besar*	Stomach *Perut*	Oesophagus *Esofagus*	Small intestine *Usus kecil*
C	Oesophagus *Esofagus*	Stomach *Perut*	Small intestine *Usus kecil*	Large intestine *Usus besar*
D	Stomach *Perut*	Small intestine *Usus kecil*	Oesophagus *Esofagus*	Large intestine *Usus besar*

Nutrition

13 Table 3 shows the digestion of food.
Jadual 3 menunjukkan pencernaan makanan.

Carbohydrate *Karbohidrat*	R	Glucose *Glukos*
Fats *Lemak*	S	fatty acids *asid lemak*
Protein *Protein*	T	amino acids *asid amino*

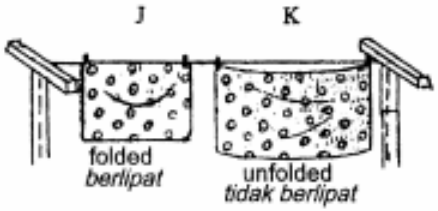
Table 3 / *Jadual 3*

Identify the enzymes involved in digestion process shown above.
Kenalpasti enzim yang terlibat dalam proses pencernaan yang ditunjukkan di atas.

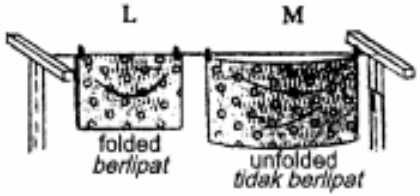
	R	S	T
A	Protease *Protease*	Amylase *Amilase*	Lipase *Lipase*
B	Amylase *Amilase*	Protease *Protease*	Lipase *Lipase*
C	Amylase *Amilase*	Lipase *Lipase*	Protease *Protease*
D	Lipase *Lipase*	Amylase *Amilase*	Protease *Protease*

Evaporation of water

17 Diagram 13 shows four similar wet towels J, K, L and M are hung in different situation.
Rajah 13 menunjukkan empat helai tuala basah yang serupa, J, K, L dan M yang disidai dalam situasi berbeza



Under the sun / *Di bawah matahari*



In the shade / *Di bawah teduhan*

Which of the following take the longest time to dry?
Antara berikut yang manakah mengambil masa yang paling lama untuk kering?

A J

B K

C M

D L

18 Diagram 9 shows three pieces of damp filter papers namely K, L and M are hung under the Sun.
Rajah 9 menunjukkan tiga keping kertas turas lembab K, L dan M yang digantung di bawah sinaran matahari.

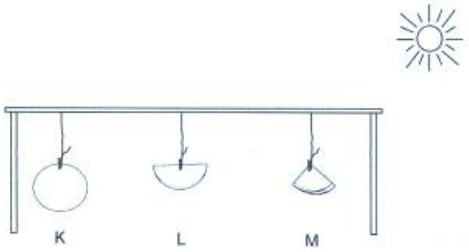


Diagram 9
Rajah 9

What inference can be made from this experiment?
Apakah inferens yang boleh dibuat daripada eksperimen ini?

A The time taken for L to dry depends on wind movement
Masa yang diambil untuk L kering bergantung kepada pergerakan angin

B The larger the surface area the faster it dries
Semakin luas permukaan semakin cepat ia kering

C K receives more sunlight than L and M
K menerima lebih cahaya berbanding L dan M

D K dries the fastest because it has the largest surface area
K kering paling cepat kerana ia mempunyai luas permukaan yang paling besar

15 Diagram 9 shows the changes in the states of water.
Rajah 9 menunjukkan perubahan dalam keadaan bagi air.

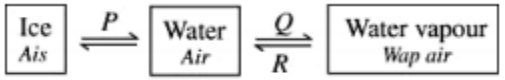


Diagram 9
Rajah 9

What are represented by P, Q and R?
Apakah yang diwakili oleh P, Q, dan R?

	P	Q	R
A	Melting *Peleburan*	Evaporation *Penyejatan*	Condensation *Kondensasi*
B	Condensation *Kondensasi*	Freezing *Pembekuan*	Melting *Peleburan*
C	Freezing *Pembekuan*	Condensation *Kondensasi*	Evaporation *Penyejatan*
D	Melting *Peleburan*	Evaporation *Penyejatan*	Freezing *Pembekuan*

Food Web & Food Chain

Diagram 12 shows two wet towels of the same size, **P** and **Q** hung on a clothes line.
Rajah 12 menunjukkan dua helai tuala lembab **P** *dan* **Q** *yang sama saiz disidai di ampaian kain.*

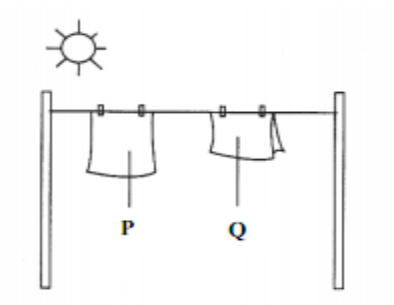
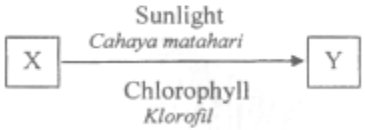


Diagram 12
Rajah 12

P dries up faster than **Q**. What is the factor that causes **P** to dry faster?
***P** kering dengan lebih cepat berbanding **Q**. Apakah faktor yang menyebabkan **P** kering lebih cepat?*

A Surface area
Luas permukaan
B Movement of air
Pergerakan udara
C Surrounding humidity
Kelembapan persekitaran
D Surrounding temperature
Suhu persekitaran

17. Photosynthesis can be represented by the equation below.
Fotosintesis boleh ditunjukkan seperti persamaan di bawah.



What are possible combinations of X and Y ?
Apakah kemungkinan gabungan X dan Y ?

	X	Y
A	Water + Oxygen *Air + Oksigen*	Glucose + Carbon dioxide *Glukosa + Karbon dioksida*
B	Water + Glucose *Air + Glukosa*	Oxygen + Starch *Oksigen + Kanji*
C	Water + Carbon dioxide *Air + Karbon dioksida*	Glucose + Oxygen *Glukosa + Oksigen*
D	Glucose + Oxygen *Glukosa + Oksigen*	Water + Carbon dioxide *Air + Karbon dioksida*

16 Diagram 13 shows a food web in a paddy field.
Rajah 13 menunjukkan siratan makanan di sawah padi.

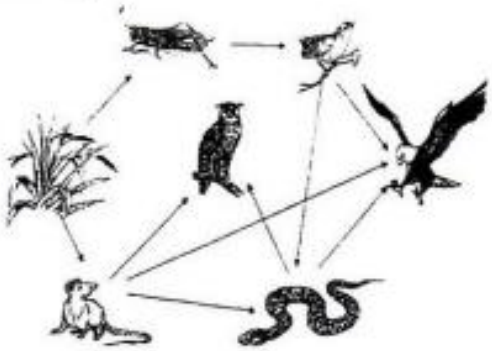


Diagram 13 / *Rajah 13*

Which organisms can be classified as secondary consumers as well as tertiary consumers?
Organisma manakah boleh dikelaskan sebagai pengguna sekunder dan juga pengguna tertier?

A Small bird and eagle
Burung kecil dan helang
B Small bird, owl and snake
Burung kecil, burung hantu dan ular
C Owl, small bird, snake and eagle
Burung hantu, burung kecil. Ular dan helang
D Snake, owl and eagle
Ular, burung hantu dan helang

Photosynthesis

Neutralisation

19 Diagram 11 is a graph which shows the result of an experiment to neutralize the sodium hydroxide solution by using the hydrochloric acid.
Rajah 11 merupakan graf yang menunjukkan keputusan eksperimen untuk meneutralkan larutan natrium hidroksida dengan menggunakan asid hidroklorik.

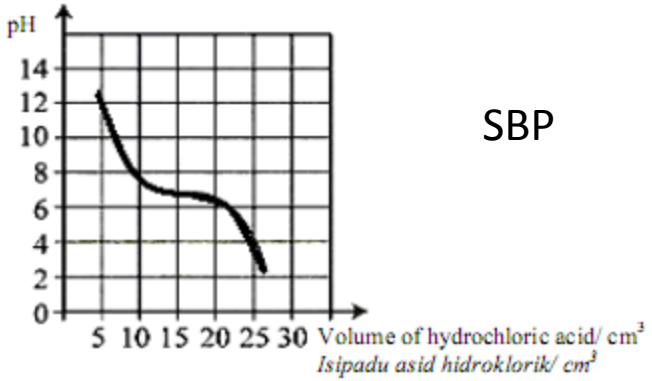


Diagram 11
Rajah 11

SBP

Based on the graph, what is the volume of hydrochloric acid needed to neutralize the sodium hydroxide?
Berdasarkan graf, berapakah isipadu asid hidroklorik diperlukan untuk meneutralkan natrium hidroksida?

A $10cm^2$
B $15cm^2$
C $20cm^2$
D $25cm^2$

Water Treatment

17 Diagram 14 shows the stages in water purification
Rajah 14 menunjukkan peringkat-peringkat pembersihan air.

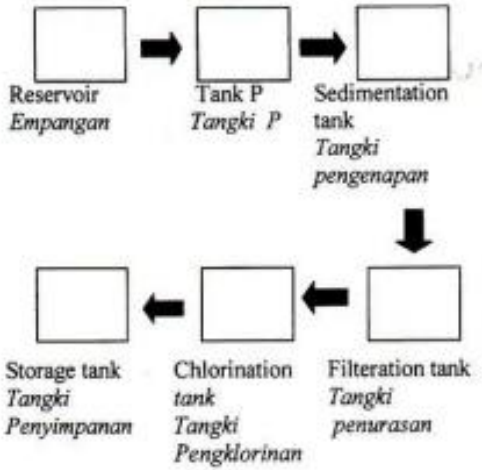


Diagram 14 / *Rajah 14*

What substance added in tank P and its purpose is correct?
Apakah bahan yang ditambah di dalam tangki P dan tujuannya adalah betul?

	Substance *Bahan*	Purpose *Tujuan*
A	Chlorine *Klorin*	To kill microorganisms *Untuk membunuh mikroorganisma*
B	Slaked lime *Kapur mati*	To purify the water *Untuk menulenkan air*
C	Alum *Alum*	To coagulate impurities in water *Untuk menggumpalkan kekotoran di dalam air*
D	Fluorine *Fluorin*	To remove soluble impurities from the water *Untuk membuang bendasing terlarut dalam air*

The information below shows the steps of water treatment in a treatment plant.
Maklumat di bawah menunjukkan langkah-langkah rawatan air di loji pembersihan.

P – Filteration
Penurasan
Q – Sedimentation
Pemendapan
R – Coagulation
Penggumpalan
S – Chlorination
Pengklorinan

Which sequence is correct?
Urutan manakah yang betul?

A R → P → S → Q
B R → Q → S → P
C R → P → Q → S
D R → Q → P → S

Distillation

20 Diagram 16 shows a method to produce distilled water.

Rajah 16 menunjukkan satu kaedah untuk menghasilkan air suling.

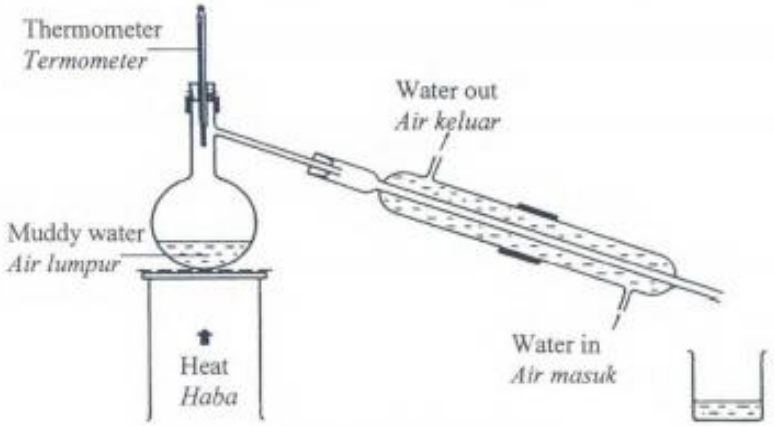


Diagram 16 /*Rajah 16*

Which is **true** about the method shown above?

*Manakah adalah **betul** tentang kaedah yang ditunjukkan di atas?*

A It does not remove dissolved salts
Ia tidak menyingkirkan garam terlarut

B It does not remove suspended particles
Ia tidak menyingkirkan zarah terampai

C It removes fluoride and chlorine
Ia menyingkirkan fluorida dan klorin

D It removes solid particles and microorganism
Ia menyingkirkan zarah pepejal dan mikroorganisma

Solution

20 Based on the information given, which of the following correctly represents the solute, solvent and solution.

Berdasarkan maklumat yang diberikan, antara berikut, yang manakah mewakili zat terlarut, pelarut dan larutan dengan betul?

P - Copper sulphate
Kuprum sulfat
Q - Water
Air
R - Copper sulphate solution
Larutan kuprum sulfat

	P	Q	R
A	Solute *Zat terlarut*	Solution *Larutan*	Solvent *Pelarut*
B	Solvent *Pelarut*	Solute *Zat terlarut*	Solution *Larutan*
C	Solute *Zat terlarut*	Solvent *Pelarut*	Solution *Larutan*
D	Solvent *Pelarut*	Solution *Larutan*	Solute *Zat terlarut*

21. Diagram 11 shows two beakers containing different mixtures.

Rajah 11 menunjukkan dua bikar yang mengandungi campuran berlainan.

Diagram 11 / *Rajah 11*

Which of the following is **true** about the mixtures in the two beakers ?

*Antara berikut, yang manakah **benar** tentang campuran dalam kedua bikar ini ?*

	X	Y
A.	A solution *Satu larutan*	A suspension *Satu ampaian*
B.	Transparent *Lut sinar*	Translucent *Lut cahaya*
C.	Contents can only be separated by evaporation *Kandungan hanya boleh diasingkan melalui penyejatan*	Contents can be separated by filtration *Kandungan boleh diasingkan melalui penurasan*
D.	Does not allow light to pass through *Tidak membenarkan cahaya melaluinya*	Allows lights to pass through *Membenarkan cahaya melaluinya*

Electrolysis of water

18. Diagram 13 shows the apparatus to determine the composition of water by electrolysis process.
Rajah 13 adalah susunan radas untuk menentukan komposisi air melalui proses elektrolisis.

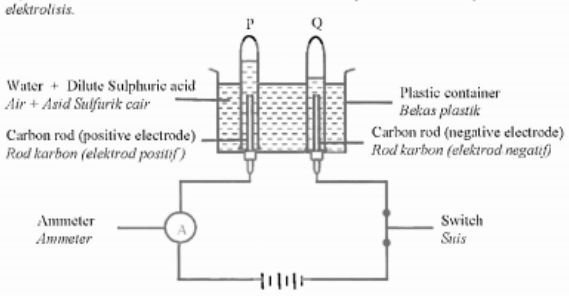


Diagram 13
Rajah 13

Johor

State the name of gas P and gas Q.
Nyatakan nama gas P dan gas Q.

	Gas P *Gas P*	Gas Q *Gas Q*
A	Hydrogen *Hidrogen*	Oxygen *Oksigen*
B	Oxygen *Oksigen*	Hydrogen *Hidrogen*
C	Oxygen *Oksigen*	Carbon dioxide *Karbon dioksida*
D	Hydrogen *Hidrogen*	Carbon dioxide *Karbon dioksida*

18 Diagram 14 shows the set-up of apparatus in the electrolysis of water.
Rajah 14 menunjukkan susunan radas dalam elektrolisis air.

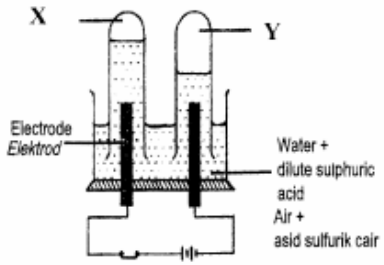


Diagram 14 / *Rajah 14*

Which of the following statement is correct?.
Antara pernyataan berikut yang manakah betul?.

	Gas X	Gas Y
A	Turns lime water cloudy *Menukarkan air kapur menjadi keruh*	Turns moist blue litmus paper to red *Menukarkan warna kertas litmus biru lembap ke merah*
B	Turns bicarbonate indicator from red to yellow *Menukarkan warna penunjuk bikarbonat dari merah ke kuning*	Slightly soluble in water *Larut sedikit dalam air*
C	Ignites the glowing splinter *Menyalakan kayu uji berbara*	Produce a "pop" sound when tested with burning splinter *Menghasilkan bunyi "pop" dengan kayu uji menyala*
D	Turns moist red litmus paper to blue *Menukar warna kertas litmus merah lembap kepada biru*	Rekindles the glowing splinter *Menyalakan kayu uji berbara*

19. Diagram 8 shows the set-up of apparatus in water electrolysis.
Rajah 8 menunjukkan susunan radas dalam elektrolisis air.

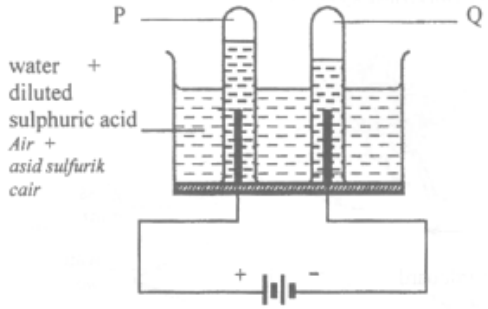


Diagram 8
Rajah 8

Which of the following statement are true about gas P ?
Antara pernyataan yang berikut, manakah betul tentang gas P ?

A Gas P ignites a glowing splinter
Gas P menyalakan kayu uji berbara

B Gas P causes lime water to turn cloudy
Gas P menyebabkan air kapur menjadi keruh

C The volume of gas P collected is twice of volume of gas Q
Isipadu gas P yang dikumpulkan dua kali ganda isipadu gas Q

D Gas P gives a 'pop' sound when tested with a lighted splinter
Gas P menghasilkan bunyi 'pop' apabila diuji dengan kayu uji bernyala

17 Diagram 9 shows an experiment to study the composition of water.
Rajah 9 menunjukkan satu eksperimen untuk mengkaji komposisi air.

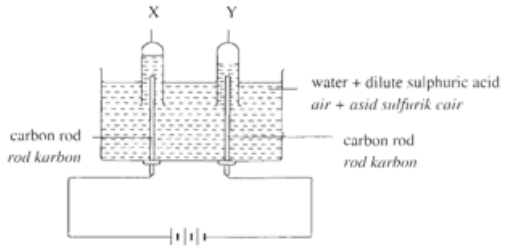


Diagram 9
Rajah 9

Kedah

What tests can be carried out to determine the identity of gas X and gas Y?
Apakah ujian yang boleh dijalankan untuk mengenalpasti gas X dan gas Y?

	Test for gas X *Ujian untuk gas X*	Test for gas Y *Ujian untuk gas Y*
A	Use a burning wooden splint *Menggunakan kayu uji bernyala*	Use lime water *Menggunakan air kapur*
B	Use lime water *Menggunakan air kapur*	Use universal indicator *Menggunakan penunjuk universal*
C	Use universal indicator *Menggunakan penunjuk universal*	Use a glowing wooden splint *Menggunakan kayu uji berbara*
D	Use a glowing wooden splint *Menggunakan kayu uji berbara*	Use a burning wooden splint *Menggunakan kayu uji bernyala*

Acid and Alkali

17 Diagram 8 shows the pH scale and the pH value of some substances.
Rajah 8 menunjukkan skala pH dan nilai pH bagi beberapa bahan.

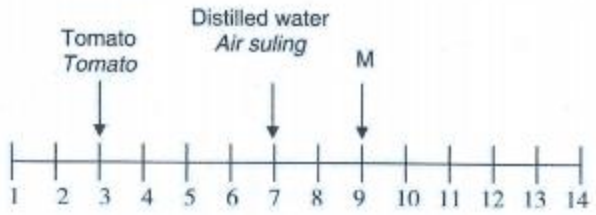


Diagram 8
Rajah 8

Which of the following represents M?
Manakah antara berikut mewakili M?

A Oranges
Oren

B Lime juice
Jus limau

C Apple
Epal

D Toothpaste
Ubat gigi

Milk of magnesia

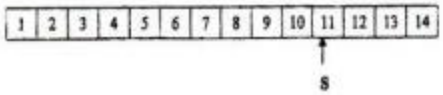
Fresh milk

Lime water

Lime juice

Soda lime

18 The chart below shows the pH value of substance S.
Carta di bawah menunjukkan nilai pH bahan S.



Which of the following may be substance S?
Antara berikut yang manakah kemungkinan bahan S?

A Orange juice
Jus oren

B Distilled water
Air suling

C Lime water
Air kapur

D Hot coffee
Kopi panas

19 Diagram 11 shows three types of solutions.
Diagram 11 menunjukkan tiga jenis larutan.

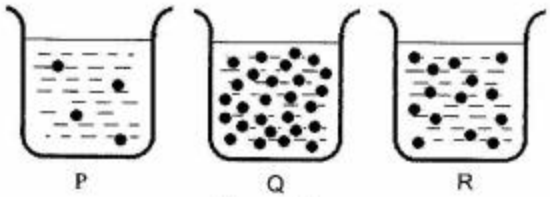


Diagram 11
Rajah 11

Which of the following are represented by P, Q and R?
Antara berikut yang manakah diwakili oleh P, Q dan R?

	P	Q	R
A	Dilute solution *Larutan cair*	Saturated solution *Larutan tepu*	Concentrated solution *Larutan pekat*
B	Dilute solution *Larutan cair*	Concentrated solution *Larutan pekat*	Saturated solution *Larutan tepu*
C	Concentrated solution *Larutan pekat*	Saturated solution *Larutan tepu*	Dilute solution *Larutan cair*
D	Saturated solution *Larutan tepu*	Concentrated solution *Larutan pekat*	Dilute solution *Larutan cair*

Respiration

Johor

5. Diagram 4 shows an apparatus set-up to study a gas released during respiration.
Rajah 4 menunjukkan susunan radas untuk mengkaji gas yang dibebaskan semasa respirasi.

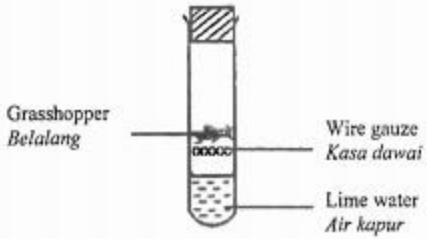


Diagram 4
Rajah 4

The lime water turns cloudy. What gas is released?
Air kapur bertukar menjadi keruh. Apakah gas yang dibebaskan?

A Oxygen
Oksigen
B Nitrogen
Nitrogen
C Hydrogen
Hidrogen
D Carbon dioxide
Karbon dioksida

9 Diagram 8 shows the apparatus setting of an experiment to study the respiration of cockroaches.

Rajah 8 menunjukkan susunan radas bagi eksperimen mengkaji respirasi lipas.

Diagram 8 / *Rajah 8*

What is the conclusion of this experiment?
Apakah kesimpulan bagi eksperimen ini?

A Water vapour is released during respiration.
Wap air dibebaskan semasa respirasi.

B Heat is released during respiration.
Haba dibebaskan semasa respiration.

C Air pressure inside the boiling tube is higher than the outside.
Tekanan udara di dalam tabung didih lebih tinggi daripada udara di luar.

D Oxygen is used during respiration.
Oksigen digunakan semasa respirasi.

28 In Diagram 21, S represent the diaphragm, T represent the ribcage.
Dalam Rajah 21, S mewakili diafragma, T mewakili tulang rusuk.

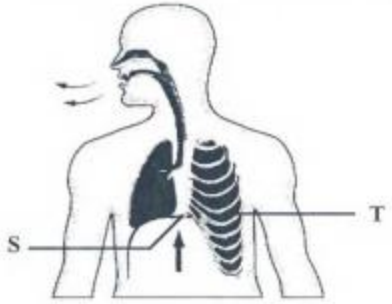


Diagram 21 / *Rajah 21*

Which of the following is **true** about S and T during exhalation?
*Manakah antara berikut **benar** mengenai S dan T semasa hembusan nafas?*

	S	T
A	contracts *mengecut*	move downwards *turun ke bawah*
B	relaxes *mengendur*	move downwards *turun ke bawah*
C	relaxes *mengendur*	Move upwards *Naik ke atas*
D	contracts *mengecut*	Move upwards *Naik ke atas*

Diagram 11 shows an insecticide sprayer.

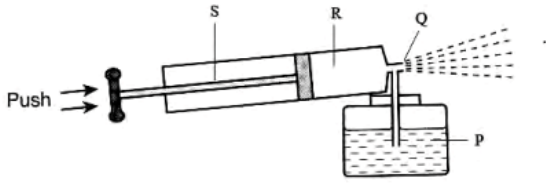


Diagram 11

Which part of the insecticide sprayer has the lowest air pressure when the piston is pushed?

A P
B Q
C R
D S

Air pressure

Johor

19. Diagram 14 shows air exerts pressure.
Rajah 14 menunjukkan udara mewujudkan tekanan.

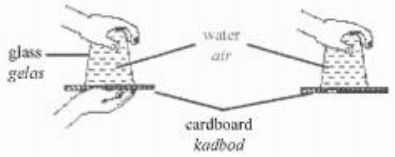


Diagram 14
Rajah 14

When the hand is removed, the cardboard does not fall and neither does the water in the glass flows out.
Apabila tangan dialihkan, kadbod tidak jatuh dan air di dalam gelas tidak mengalir keluar.

Which is not the explanation for this situation ?
Antara yang berikut, yang manakah bukan penjelasan bagi keadaan ini ?

A Air pressure acts upwards and presses on the cardboard
Tekanan udara bertindak ke atas dan menekan pada kadbod
B Air pressure inside the glass is lower than atmospheric pressure
Tekanan udara di dalam gelas lebih rendah daripada tekanan atmosfera
C Air pressure inside the glass is balanced by atmospheric pressure
Tekanan udara di dalam gelas diseimbangkan oleh tekanan atmosfera
D Air pressure is able to support the weight of the water in the glass
Tekanan udara mampu menyokong berat air di gelas

21 Diagram 14 shows water entering the dropper when the rubber is squeezed and released.
Rajah 14 menunjukkan air memasuki penitis apabila getah dipicit dan dilepaskan

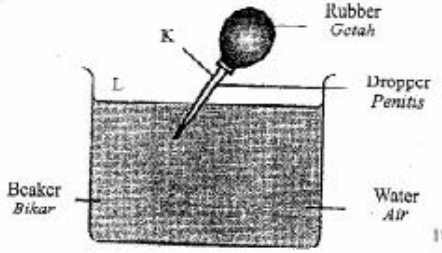
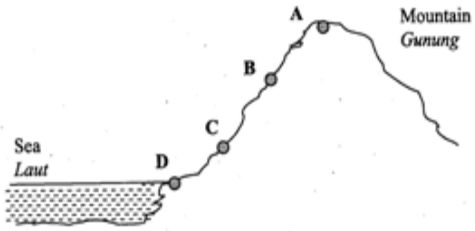


Diagram 14
Rajah 14

Which statement explains the observation above?
Pernyataan manakah yang menjelaskan pemerhatian di atas?

A The pressure at K is the same as the pressure at L
Tekanan pada K adalah sama dengan tekanan pada L
B The pressure at K is higher than the pressure at L
Tekanan pada K adalah lebih tinggi dari tekanan pada L
C The pressure at L is higher than the pressure at K
Tekanan pada L adalah lebih tinggi dari tekanan pada K
D The pressure at L is lower than the atmospheric pressure
Tekanan pada L adalah lebih rendah dari tekanan atmosfera

Which level labeled A, B, C or D will a climber experience lowest air pressure when he climbs up the mountain?
Aras berlabel A, B, C dan D manakah, seorang pendaki akan mengalami tekanan udara paling rendah apabila mendaki gunung?



kelate

6. Diagram 4 shows a cooking gas cylinder.
Rajah 4 menunjukkan satu silinder gas memasak.

Diagram 4
Rajah 4

Why is cooking gas kept in liquid form?
Mengapakah gas memasak disimpan dalam bentuk cecair?

A. To prevent gas particles from diffusing through the gas cylinder.
Untuk menghalang zarah gas daripada meresap melalui silinder gas.
B. To exert more pressure on the gas particles
Untuk mengenakan lebih banyak tekanan pada zarah gas
C. To increase energy content
Untuk meningkatkan kandungan tenaga
D. To reduce the storage space
Untuk mengurangkan ruang simpanan

20. In the activity shown in Diagram 9, the water remains in the glass and the cardboard does not fall. From which direction does the air pressure acts so that the water does not spill ?
Di dalam aktiviti yang ditunjukkan dalam Rajah 9, air kekal di dalam gelas dan kadbod tidak terjatuh. Dari arah manakah tekanan udara bertindak yang menyebabkan air tidak tertumpah ?

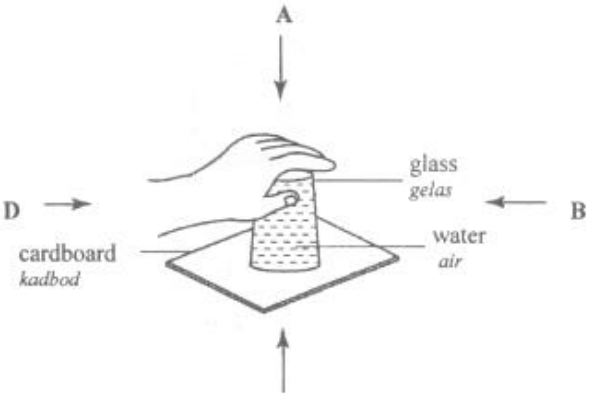
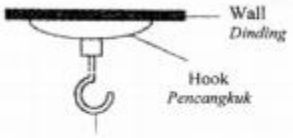


Diagram 9
Rajah 9

19 The diagram shows a hook that is stucked onto a wall.
Rajah di bawah menunjukkan pencangkuk yang melekat pada dinding.



This phenomena is caused by .....
Fenomena ini disebabkan oleh .....

A humidity
kelembapan
B air pressure
tekanan udara
C air expansion
pengembangan udara
D air compression
pemampatan udara

wp

21 Diagram 12 shows a boy pumping a bicycle tyre.
Rajah 12 menunjukkan seorang budak lelaki sedang mengepam tayar basikal.

Diagram 12
Rajah 12

What happens to the air particles in the bicycle tyre when the tyre is being pumpe
Apakah yang berlaku kepada zarah-zarah udara dalam tayar basikal apabila tayar dipam?

A The air particles become larger
Zarah-zarah udara menjadi lebih besar

B The air particles collide with each other more frequently
Zarah-zarah udara berlanggar antara satu sama lain dengan lebih kerap

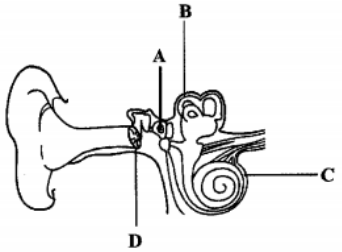
C The distance between the air particles becomes closer
Jarak antara zarah-zarah udara menjadi rapat

D The mass of air particles increases
Jisim zarah-zarah udara bertambah

12 Diagram 10 shows a man climbing a cliff.
Rajah 10 menunjukkan seorang lelaki mendaki sebuah cerun.

Diagram 10
Rajah 10

Which part of the ear helps him to balance his body?
Bahagian telinga manakah yang membantunya untuk mengimbangkan badan?



17. Diagram 8 shows four steps, R, S, T and U to test the presence of starch in a leaf.
Rajah 8 menunjukkan empat langkah, R, S, T dan U bagi mengkaji kehadiran kanji dalam sehelai daun.

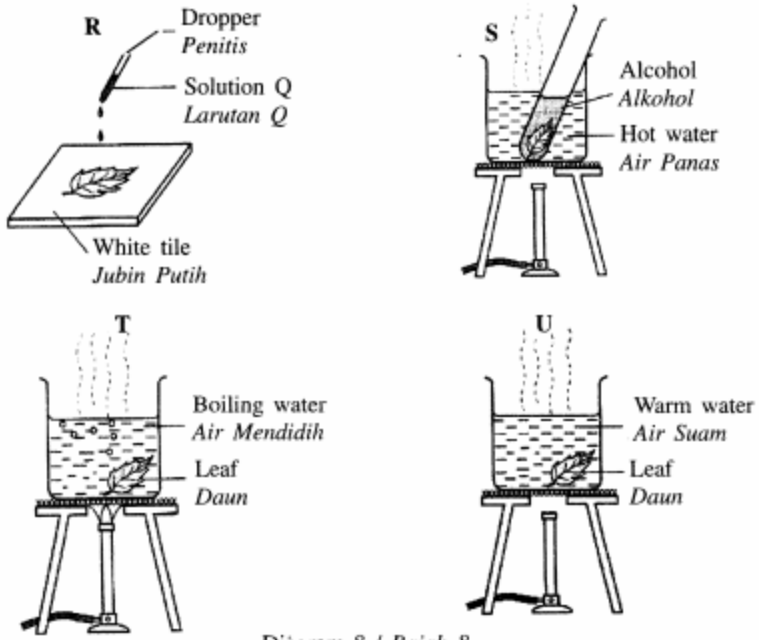


Diagram 8 / *Rajah 8*

Which sequence shows the correct steps of the test?
Urutan manakah yang menunjukkan langkah yang betul?

A S → T → U → R
B T → S → U → R
C U → T → S → R
D T → S → R → U

8 Diagram 7 shows an industrial activity that pollutes the air.
Rajah 7 menunjukkan satu aktiviti perindustrian yang mencemarkan udara.

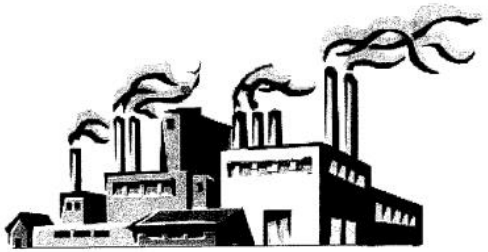


Diagram 7
Rajah 7

Which harmful effect is caused by the above activity?
Kesan merbahaya manakah yang disebabkan oleh aktiviti di atas?

A Acid rain
Hujan asid

B Skin cancer
Kanser kulit

C Brain damage
Kerosakan otak

D Thinning of ozone layer
Penipisan lapisan ozon

ws a space shuttle.
ıjukkan sebuah kapal angkasa ulang alik.

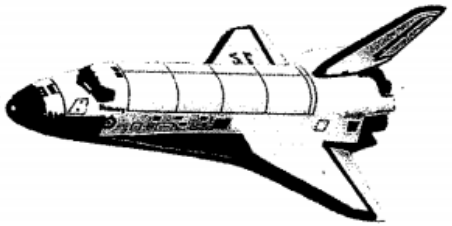


Diagram 9
Rajah 9

Why the space shuttle is painted white?
Mengapakah kapal angkasa ulang alik dicat putih?

A To reflect solar heat while in space
Untuk memantulkan haba solar semasa di angkasa

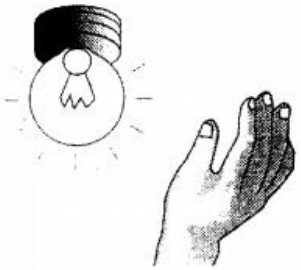
B To prevent the engine from overheating
Untuk mengelakkan enjin menjadi terlalu panas

C To make it more visible from space station
Untuk menjadikan ia lebih mudah dilihat dari stesen angkasa

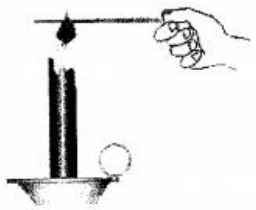
D To prevent heat loss through radiation while in space
Untuk mengelakkan kehilangan haba secara sinaran semasa di angkasa

10 Which of the following situations involve the transfer of heat through convection?
Antara situasi berikut, yang manakah melibatkan pemindahan haba melalui perolakan?

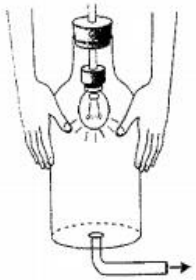
A



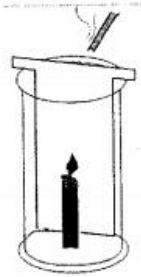
B



C



D



21 Diagram 10 shows an air pack. When it is pushed slightly, it continues to move over a distant.
Rajah 10 menunjukkan satu pak udara. Apabila ia ditolak sedikit, ia terus bergerak melalui suatu jarak.

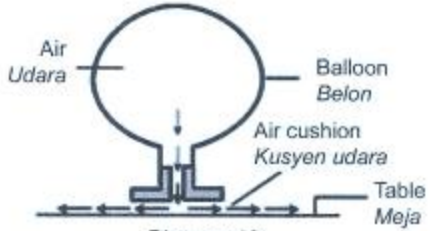


Diagram 10
Rajah 10

Which of the following is true?
Antara yang berikut, manakah benar?

A The air is very light.
Udara sangat ringan.

B The air pack loses its weight.
Pak udara kehilangan beratnya.

C The air cushion reduces friction.
Kusyen udara mengurangkan geseran.

D The air in the balloon overcomes the gravitational
Udara dalam belon mengatasi daya graviti.

19 Diagram 10 shows a U tube.
Rajah 10 menunjukkan tiub U

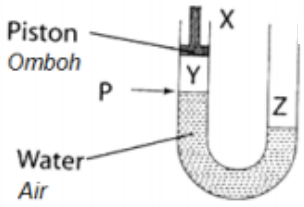
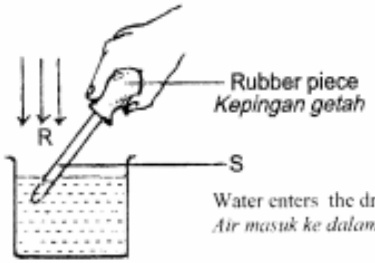


Diagram 10
Rajah 10

When the piston is pulled upward, the level of water at P moves up. Why ?
Apabila omboh ditarik ke atas, paras air di P bergerak ke atas. Kenapa?

A The air pressure at X is the same as the air pressure at Y
Tekanan udara di X sama dengan tekanan udara di Y
B The air pressure at Z is the same as the air pressure at X
Tekanan udara di Z sama dengan tekanan udara di X
C The air pressure at X is higher than the air pressure at Y
Tekanan udara di X lebih tinggi daripada tekanan udara di Y
D The air pressure at Z is higher than the air pressure at Y

Diagram 15 shows a student using a dropper. The rubber piece is squeezed and then released.
Rajah 15 menunjukkan seorang pelajar menggunakan penitik. Kepingan getah dipicit dan kemudian dilepaskan.



Water enters the dropper because the
Air masuk ke dalam penitik kerana

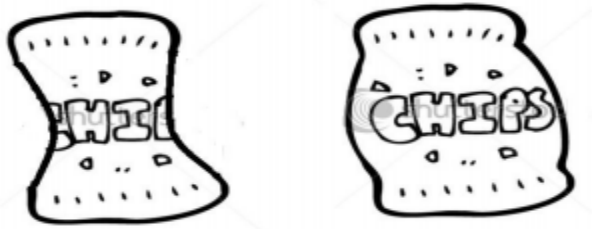
A air pressure at R is lower than that at S
Tekanan udara di R lebih rendah dari di S

B air pressure at R is lower than that at S
Tekanan udara di S lebih rendah dari di R

C air pressure at S is the same as the air pressure at R
Tekanan udara di S sama dengan tekanan udara di R

D rubber piece exerts a suction force on the water in the beaker.
Kepingan getah mengenakan daya sedutan ke atas air dalam bikar.

22 Diagram 12 shows the condition of a packet of chips before and after it is taken from low place to higher place.
Rajah 12 menunjukkan keadaan peket kerepek sebelum dan selepas dibawa dari satu tempat yang rendah ke tempat yang tinggi.



Condition at low place
Keadaan di tempat rendah

Condition at high place
Keadaan di tempat tinggi

Diagram 12
Rajah 12

Why is the size of the packet becomes bigger after it is taken to the higher place?
Mengapakah saiz peket menjadi lebih besar bila dibawa ketempat yang lebih tinggi?

A Air pressure outside the packet is lower.
Tekanan udara di luar peket adalah lebih rendah
B Air pressure inside the packet is lower
Tekanan udara di dalam peket lebih rendah.
C Air pressure are both equal inside and outside.
Tekanan udara adalah sama di luar dan di dalam peket.
D Air pressure inside and outside the packet is equal to zero.
Tekanan udara di dalam dan di luar peket adalah besamaan dengan sifar.

Condensed milk can be poured more easily from the milk tin if the tin has two punctured holes as shown in diagram 13.
Susu sejat mudah dituang dari tin susu jika tin tersebut mempunyai dua lubang seperti yang ditunjukkan dalam rajah 13.

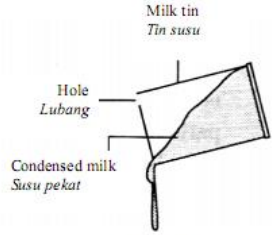


Diagram 13

This is because the
Ini adalah kerana

A air can go into the milk tin
udara boleh masuk ke dalam tin susu
B air can dilute the condensed milk
udara boleh mencairkan susu sejat
C outside air enter the milk tin and pushes out the milk
udara luar masuk ke dalam tin susu dan menolak susu keluar
D air pressure outside the milk tin is lower than air pressure inside the milk tin
tekanan udara di luar tin susu lebih rendah berbanding tekanan udara di dalam tin susu

Support system in plant and animal

11. Diagram 9 shows growth of a plant.
Rajah 9 menunjukkan pertumbuhan satu tumbuhan.

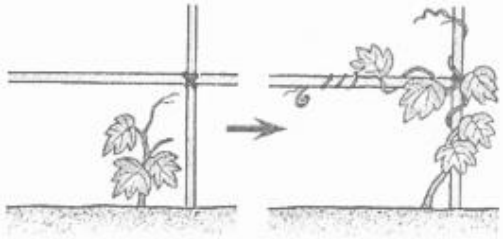


Diagram 9
Rajah 9

What type of the tropism is shown by the plant ?
Apakah jenis tropisma yang ditunjukkan oleh tumbuhan itu ?

A Nastic movement
Gerakan nastik
B Thigmotropism
Tigmotropisme
C Phototropism
Fototropisme
D Geotropism
Geotropisme

Johor

22. Diagram 16 shows the support system of three different organisms.
Rajah 16 menunjukkan sistem sokongan tiga organisma yang berbeza.

Beetle *Kumbang* | Earthworm *Cacing Tanah* | Horse *Kuda*

Diagram 16
Rajah 16

Which of the following shows correctly the support system of the organisms ?
Antara berikut, yang manakah menunjukkan sistem sokongan organisma-organisma tersebut dengan betul ?

	Beetle *Kumbang*	Earthworm *Cacing Tanah*	Horse *Kuda*
A	Endoskeleton *Rangka dalam*	Exoskeleton *Rangka luar*	Hydrostatic skeleton *Rangka hidrostatik*
B	Hydrostatic skeleton *Rangka hidrostatik*	Endoskeleton *Rangka dalam*	Exoskeleton *Rangka luar*
C	Endoskeleton *Rangka dalam*	Hydrostatic skeleton *Rangka hidrostatik*	Exoskeleton *Rangka luar*
D	Exoskeleton *Rangka luar*	Hydrostatic skeleton *Rangka hidrostatik*	Endoskeleton *Rangka dalam*

The following statements show responses of a plant towards stimuli.
Pernyataan berikut menunjukkan gerak balas tumbuhan terhadap ransangan.

- Shows positive phototropism
  Menunjukkan fototropisme positif
- Shows negative geotropism
  Menunjukkan geotropisme negatif

Which part of the plant is described?
Bahagian manakah pada tumbuhan yang diterangkan?

A Roots
Akar
B Shoots
Pucuk
C Tendrils
Sulur paut
D Fruits
Buah

23 Diagram 13 shows a plant using structure P for additional support.
Rajah 13 menunjukkan sejenis tumbuhan menggunakan struktur P sebagai sokongan tambahan.

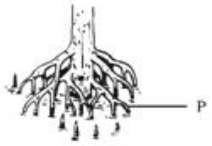


Diagram 13
Rajah 13

Kedah

What is structure P?
Apakah struktur P?

A Stilt roots
Akar jangkang
B Air sac
Pundi udara
C Thorn
Duri
D Tendrils
Sulur paut

13 Diagram 8 shows two organisms.
Rajah 8 menunjukkan dua organisma.

Diagram 8
Rajah 8

How are they similar?
Apakah persamaan antara kedua-duanya?

A They are poisonous
kedua-duanya adalah beracun
B They have soft bodies
Kedua-duanya mempunyai badan lembut
C They have tough exoskeletons
Kedua-duanyamempunyai rangka luar yang keras
D They have the same number of legs
Kedua-duanya mempunyai bilangan kaki yang sama

14. Which of the following is classified as dicotyledonous plant?
Yang manakah antara berikut dikelaskan sebagai tumbuhan dikotiledon ?

Melaka

22. Diagram 11 shows a grasshopper.
Rajah 11 menunjukkan seekor belalang.

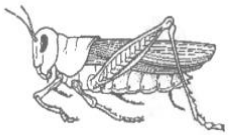


Diagram 11
Rajah 11

Which of the following animals has the same support system as in the diagram above?
Antara haiwan berikut, yang manakah mempunyai sistem sokongan yang sama seperti dalam rajah di atas?

A Fish
Ikan
B Crab
Ketam
C Bird
Burung
D Earth worm
Cacing tanah

FIKIR SEJENAK

KELANTAN 12

Diagram 5.1 shows two fresh aquatic plants are placed in two b
Rajah 5.1 menunjukkan dua tumbuhan akuatik yang segar dilet
dua bikar P dan Q

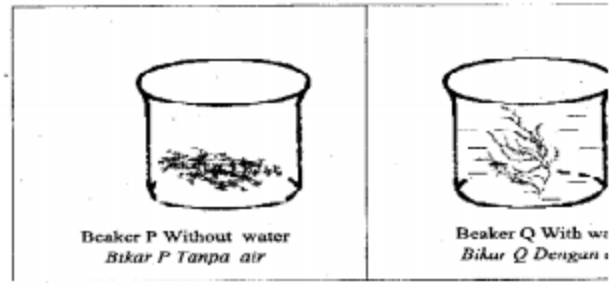


Diagram 5.1
Rajah 5.1

(a) Base on Diagram 5.1:
Berdasarkan Rajah 5.1:

(i) State the differences between aquatic plant P and Q.
Nyatakan perbezaan di antara tumbuhan air P dan Q

.....

.....

(ii) State the function of water in beaker Q
Nyatakan fungsi air dalam bikar Q?

.....

(c) Name support system in Diagram 5.3.
Namakan system sokongan dalam Rajah 5.3.

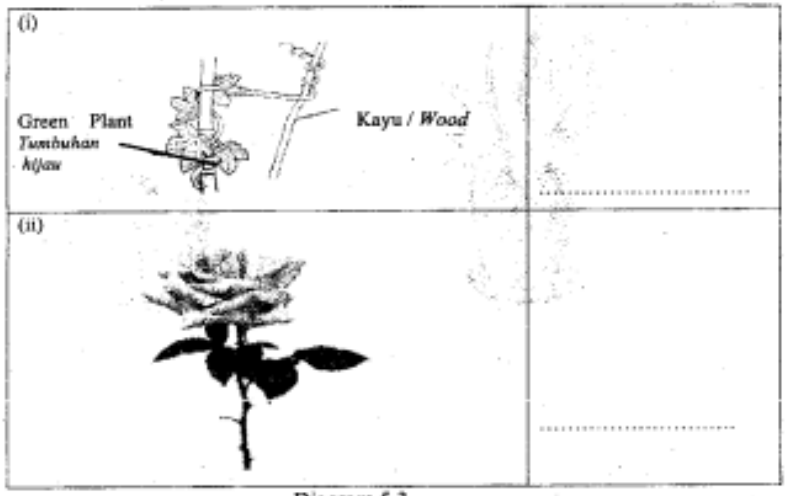


Diagram 5.3

SBP 12

Rajah 7.3 menunjukkan pokok keembung yang segar diletakkan di dalam satu bikar dan didedahkan kepada matahari. Selepas satu jam, batang dan daun pokok keembung tersebut layu. Pokok keembung kembali segah apabila air ditambah ke dalam bikar tersebut.

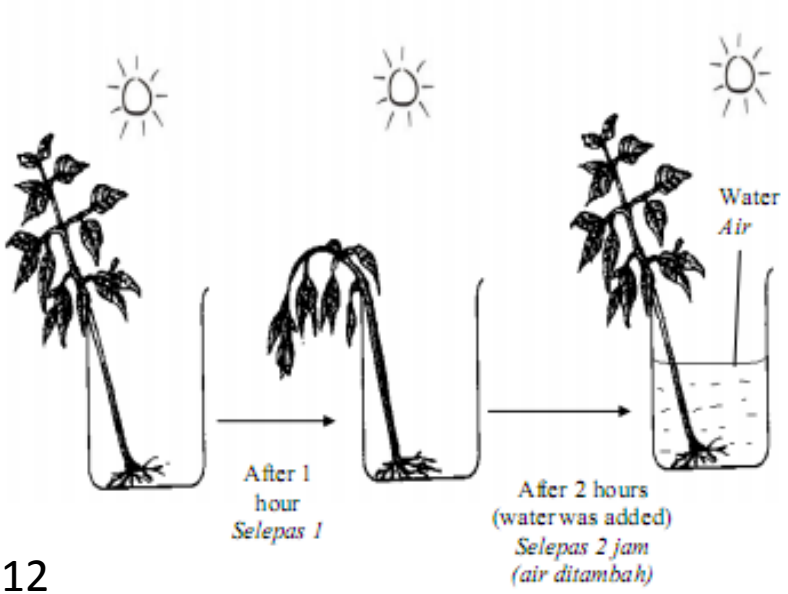


Diagram 7.3
Rajah 7.3

 SULIT

LIT **19** **55/2**

(i) Give one inference of the above balsam plant.
Berikan satu inferens mengenai pokok keembung di atas.

MRSM 12

FIKIR SEJENAK

Diagram 5.2 shows the condition of a balsam plant after a few days.

Rajah 5.2 menunjukkan keadaan pokok keembung selepas beberapa hari.

Diagram 5.2
Rajah 5.2

What will happen to the balsam plant when water is added into the beaker and left for two hours?

Apakah yang akan berlaku kepada pokok keembung apabila air ditambah ke dalam bikar dan dibiarkan selama dua jam?

.....

[1 mark]
[1 *markah*]

Give **one** reason for the answer in 5(b)(i).

Beri **satu** *alasan bagi jawapan dalam* 5(b)(i).

.....

[1 mark]
[1 *markah*]

SBP 12

5 (a) Diagram 5.1 shows the transfer of heat in liquid.
Rajah 5.1 menunjukkan pemindahan haba dalam cecair.

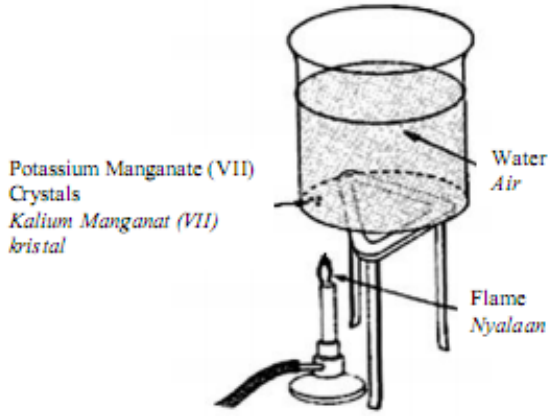


Diagram 5.1
Rajah 5.1

(i) Based on Diagram 5.1, what can be observed after 10 minutes?
Berdasarkan Rajah 5.1, apakah yang dapat diperhatikan selepas 10 minit?

_____

[1 mark]
[*1 markah*]

(ii) Draw an arrow to show the movement of water when heated on Diagram 5.1.
Lukiskan anak panah untuk menunjukkan pergerakan air setelah dipanaskan pada Rajah 5.1.

[1 mark]
[*1 markah*]

(iii) Explain how heat transfer on Diagram 5.1.
Terangkan bagaimana haba dipindahkan dalam Rajah 5.1.

_____

Frictional force and work done

Johor

21. Diagram 15 shows a student, with a mass of 60 kg, carrying a 3 kg box up a stairs. He walks up the stairs in 10 seconds.
Rajah 15 menunjukkan seorang pelajar berjisim 60 kg sedang membawa sebuah kotak berjisim 3 kg menaiki tangga. Pelajar itu menaiki tangga itu dalam masa 10 saat.

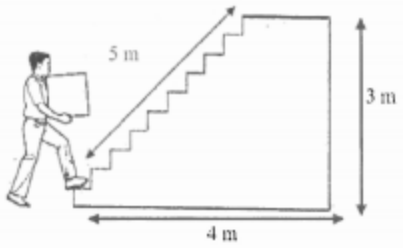


Diagram
Rajah

Calculate the power generated by the student.
Hitung kuasa yang dihasilkan oleh pelajar tersebut.
[1 kg = 10 N]

A 180 W
B 189 W
C 300 W
D 315 W

21. Diagram 10 shows a boy pushes a 30kg wooden block from position P to Q.
Rajah 10 menunjukkan seorang budak lelaki menolak bongkah kayu berjisim 30kg dari kedudukan P ke Q.

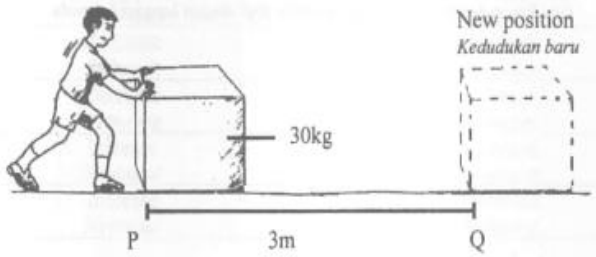
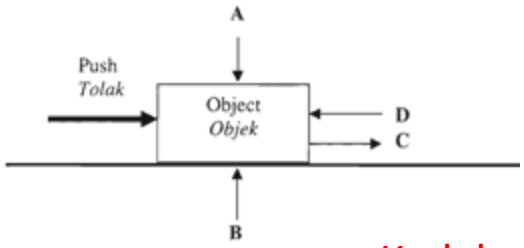


Diagram 10
Rajah 10

What is the work done by the boy?
Berapakah kerja yang dilakukan oleh budak lelaki tersebut?

A 10J
B 90J
C 100J
D 900J

20 Diagram 11 shows an object being pushed to the right.
Rajah 11 menunjukkan sebuah objek ditolak ke sebelah kanan.



Kedah

Diagram 11

Rajah 11

Which direction represents the frictional force?
Arah yang manakah mewakili daya geseran?

20 Diagram 16 shows a student with a mass of 60kg carrying a box with 10kg.
Rajah 16 menunjukkan seorang pelajar berjisim 60kg membawa sebuah kotak berjisim 10kg

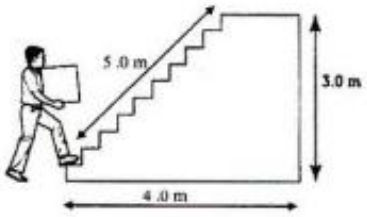


Diagram 16 / *Rajah 16*

Calculate the work done by the student.
Hitungkan kerja yang dilakukan oleh pelajar itu. [1 kg = 10 N]

A	2100J
B	3100J
C	2800J
D	1800J

Work done = force x distance

Kerja = daya x jarak

25 Diagram 20 shows a see-saw that is balanced
Rajah 20 menunjukkan sebuah jongkang-jongkit berada di dalam keadaan seimbang.

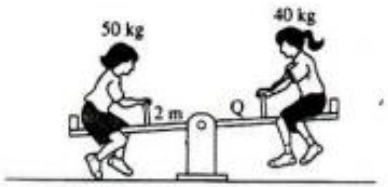
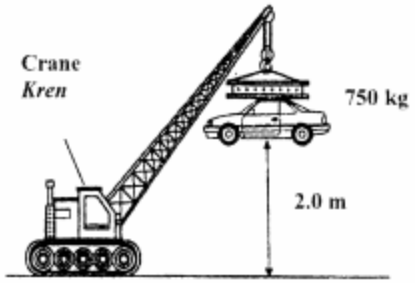


Diagram 20 / *Rajah 20*

What is the distance labelled Q?
Apakah jarak berlabel Q?

A 1.5 m
B 2.5 m
C 3.5 m
D 4.0 m

21 Diagram 17 shows a crane and a car.
Rajah 17 menunjukkan sebuah kren dan kereta.



Calculate the power generated by the crane if it takes 15 seconds to lift the car. (Assume 1 kg = 10 N)
Kira kuasa yang telah dijanakan oleh kren jika masa yang diambil untuk mengangkat kereta ialah 15 saat. (Andaikan 1 kg = 10 N).

A	1 kW
B	50 kW
C	100 kW
D	1000 kW

Stability

Johor

23. Diagram 17 shows the front and side views of two cars.
Rajah 17 menunjukkan pandangan sisi dan pandangan depan dua buah kereta.

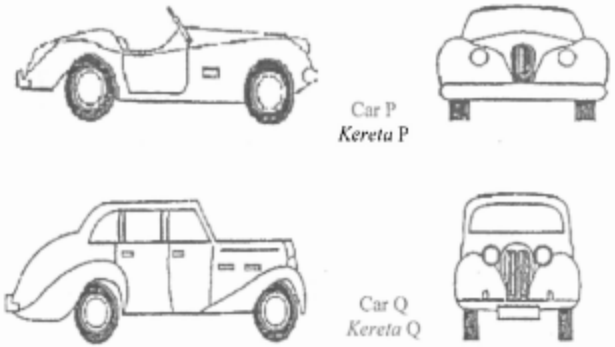


Diagram 17
Rajah 17

Which of the following statement is **true** about the stability of the cars ?
Antara pernyataan berikut, yang manakah **benar** *tentang kestabilan kereta-kereta tersebut ?*

A Car P is less stable than car Q because car P is shorter
Kereta P kurang stabil berbanding kereta Q kerana kereta P lebih rendah
B Car P is more stable than car Q because car P can move faster
Kereta P lebih stabil berbanding kereta Q kerana kereta P boleh bergerak lebih laju
C Car Q is more stable than car P because car Q has a smaller base area
Kereta Q lebih stabil berbanding kereta P kerana kereta Q mempunyai luas tapak yang lebih kecil
D Car Q is less stable than car P because car Q has a higher centre of gravity
Kereta Q kurang stabil berbanding kereta P kerana kereta Q mempunyai pusat graviti yang lebih tinggi

Kedah

Diagram 14 shows a giraffe.
Rajah 14 menunjukkan seekor zirafah.

The giraffe spreads its leg while drinking water to
Zirafah tersebut mengangkangkan kakinya semasa minum air untuk

A increase its base area
menambahkan luas permukaan tapaknya

B increase its body weight
meningkatkan berat badannya

C increase water intake
meningkatkan pengambilan air

D increase its centre of gravity
menambahkan pusat gravitinya

Diagram 12 shows a wooden block being pulled on the surface of a table.

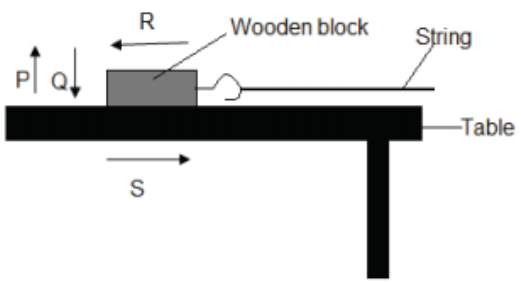


Diagram 12

Based on the diagram, which of the arrows labeled P,Q,R and S represent the direction in which a frictional force is exerted?

A P
B Q
C R
D S

19 Diagram 12 shows four boys J, K, L and M.
Rajah 12 menunjukkan empat orang budak lelaki J, K, L dan M.

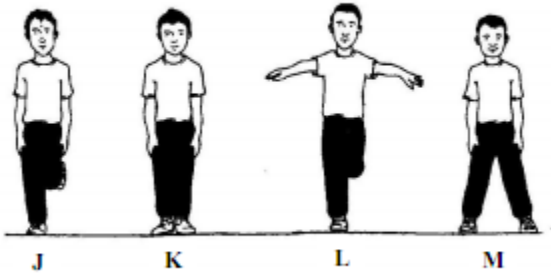


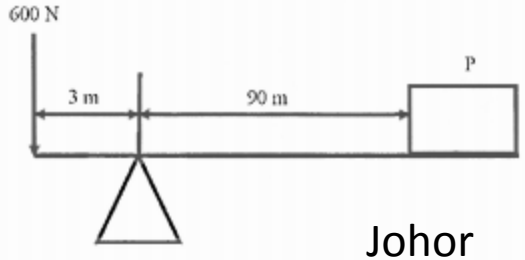
Diagram 12

All the boys have the same height and mass.
Kesemua budak lelaki itu mempunyai ketinggian dan jisim yang sama.
Arrange in ascending order the stability of the boys.
Susun kestabilan budak-budak lelaki itu dalan urutan menaik.

A J, K, L, M
B M, L, K, J
C J, L, K, M
D M, K, L, J

Simple machine

24. Diagram 18 shows a lever in equilibrium.
Rajah 18 menunjukkan sejenis tuas dalam keadaan seimbang.



Johor

Diagram 18
Rajah 18

What is the value of P ?
Apakah nilai P ?

A 20 N
B 30 N
C 45 N
D 67 N

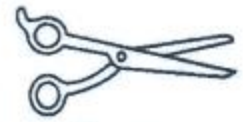
24 Diagram 13 shows a type of lever
Rajah 13 menunjukkan sejenis tuas.

Diagram 13
Rajah 13

Which device is classified in the same class as the lever shown above?
Alat manakah yang dikelaskan dalam kelas yang sama dengan tuas yang ditunjukkan di atas?

A

B

C

D


24. Diagram 12 shows a man trying to move a big rock by using an iron rod.
Rajah 12 menunjukkan seorang lelaki cuba untuk menggerakkan batu besar dengan menggunakan sebatang rod besi.

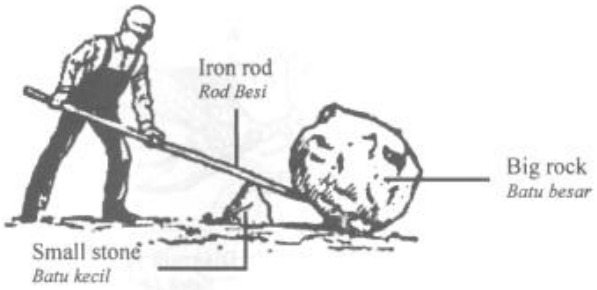


Diagram 12
Rajah 12

What should be done to reduce the force to push the big rock?
Apakah yang perlu dilakukan untuk mengurangkan daya bagi menolak batu besar tersebut?

A Use the shorter iron rod
Menggunakan rod besi yang lebih pendek

B Hold the iron rod nearer to the big rock
Pegang rod besi lebih hampir kepada batu besar

C Move the small stone nearer to the big rock
Alihkan batu kecil lebih hampir kepada batu besar

D Replace the small stone with a same size of a wooden block
Gantikan batu kecil dengan bongkah kayu yang sama saiz

26 Diagram 15 shows a claw hammer used to pull a nail.
Rajah 15 menunjukkan tukul kuku yang digunakan untuk mencabut paku.

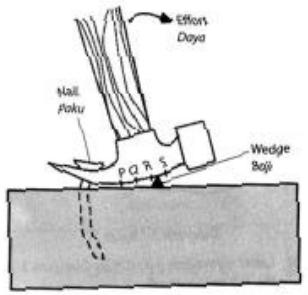


Diagram 15
Rajah 15

At which point should the wedge be placed so that a minimum force is needed?
Pada titik manakah baji itu harus diletak supaya daya yang diperlukan adalah minimum?

A P
B Q
C R
D S

FIKIR SEJENAK

MRSM 12

6 (a) Diagram 6.1 shows apparatus set-up to study transfer of heat.
Rajah 6.1 menunjukkan susunan radas untuk mengkaji pemindahan haba.

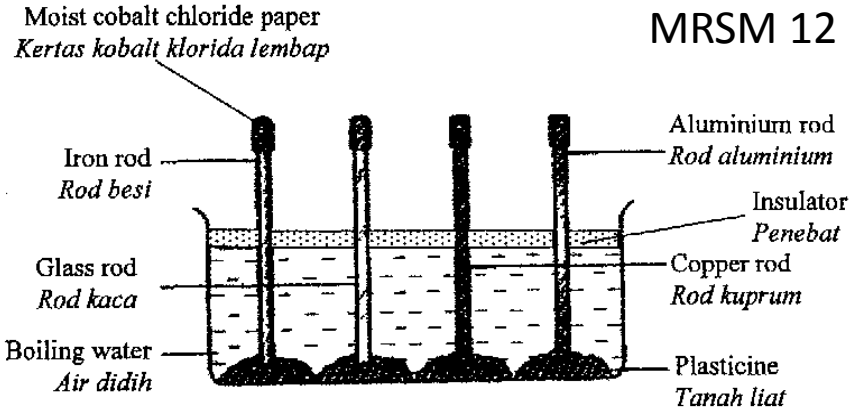


Diagram 6.1
Rajah 6.1

After ten minutes, the moist cobalt chloride paper change its colour.
Selepas sepuluh minit, kertas kobalt klorida lembap bertukar warna.

(i) State the colour change.
Nyatakan perubahan warna tersebut.

.....

[1 mark]
[1 *markah*]

(ii) Explain how the colour change?
Terangkan mengapa perubahan warna berlaku?

.....

.....

[2 mark]
[2 *markah*]

(iii) Which moist cobalt chloride paper change colour first?
Kertas kobalt klorida lembap manakah yang bertukar warna dahulu?

.....

[1 mark]
[1 *markah*]

PERAK 12

Satu eksperimen telah dijalankan untuk menentukan kesan suhu terhadap kadar penyejatan. 1 cm^3 air dititiskan ke atas dua keping kertas kobalt klorida kontang. A dan B diletakkan jauh antara satu sama lain dan A diletakkan berdekatan lampu meja menyala. Keputusan eksperimen ditunjukkan dalam Rajah 7.2.

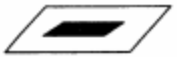
Set	Beginning of experiment *Awal eksperimen*	End of experiment *Akhir eksperimen*
 A		
 B		

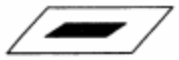
Diagram 7.2
Rajah 7.2

i) Complete Table 7.1.
Lengkapkan Jadual 7.1.

Set	Time taken for cobalt chloride paper to change colour (minute) *Masa untuk kertas kobalt klorida bertukar warna (minit)*
A	
B	

Table 7.1 / *Jadual 7.1*

(2 marks)

Set	Beginning of experiment *Awal eksperimen*	End of experiment *Akhir eksperimen*
A 		
B 		

i) Complete Table 7.1.
Lengkapkan Jadual 7.1.

Set	Time taken for cobalt chloride paper to change colour (minute) *Masa untuk kertas kobalt klorida bertukar warna (minit)*
A	
B	

Table 7.1 / *Jadual 7.1*

(2 m

(ii) Based on Table 7.1, what can be said about the time taken for the cobalt chloride paper to change colour.
Berdasarkan Jadual 7.1, apakah yang boleh dikatakan tentang masa yang diambil untuk kertas kobalt klorida bertukar warna.

.....

(1 mark)

(iii) What is the relationship between surrounding temperature and the rate of evaporation?
Apakah hubungan antara suhu persekitaran dengan kadar penyejatan?

.....

.....

(1 mark)

(c) State the constant variable involve in the experiment in Diagram 7.2
Nyatakan pembolehubah dimalarkan dalam eksperiment Rajah 7.2

.....

FIKIR SEJENAK

PAHANG 12

(c) Diagram 6.3 shows how to push a box using two different situations.
Rajah 6.3 menunjukkan bagaimana menolak kotak menggunakan dua keadaan yang berbeza.

Diagram 6.3
Rajah 6.3

(i) Based on Diagram 6.3 ,which situation is harder to push the box?
Berdasarkan Rajah 6.3, keadaan manakah lebih sukar untuk menolak kotak?

.....

[1 mark / *1 mark*]

(ii) Give a reason.
Nyatakan sebabnya.

.....

.....

Effect of smoking

Respiration

25. Table 3 shows the substances in cigaratte smoke and their harmful effects on the lungs.
Jadual 3 menunjukkan bahan-bahan dalam asap rokok serta kesan berbahaya ke atas peparu.

Substances in cigaratte smoke *Bahan di dalam asap rokok*	Harmful effects on the lungs *Kesan berbahaya terhadap peparu*
X	Blackens the lungs *Menghitamkan peparu*
Y	Corrodes lung tissues *Mengakis tisu peparu*
Z	Reduce oxygen in blood *Mengurangkan oksigen dalam darah*

Table 3
Jadual 3

Which of the following substances are represented by X, Y and Z?
Antara yang berikut, yang manakah mewakili bahan X, Y dan Z?

	X	Y	Z
A	Carcinogen *Karsinogen*	Acidic gas *Gas berasid*	Carbon dioxide *Karbon dioksida*
B	Tobacco tar *Tar tembakau*	Carcinogen *Karsinogen*	Carbon monoxide *Karbon monoksida*
C	Tobacco tar *Tar tembakau*	Acidic gas *Gas berasid*	Carbon monoxide *Karbon monoksida*
D	Carcinogen *Karsinogen*	Carbon dioxide *Karbon dioksida*	Carcinogen *Karsinogen*

29 Diagram 11 shows the path of blood flow for oxygenated blood.
Rajah 11 menunjukkan laluan darah beroksigen.

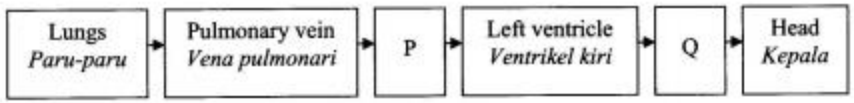
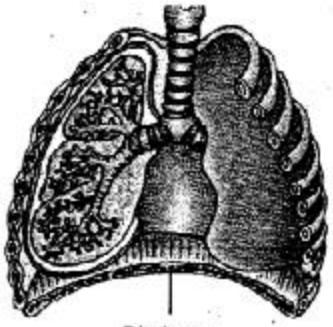


Diagram 11
Rajah 11

Which of the following represents P and Q?
Antara berikut, yang manakah mewakili P dan Q?

	P	Q
A	Right atrium *Atrium kanan*	Aorta *Aorta*
B	Aorta *Aorta*	Left atrium *Atrium kiri*
C	Left atrium *Atrium kiri*	Aorta *Aorta*
D	Aorta *Aorta*	Right atrium *Atrium kanan*

27 Diagram 18 shows part of the human respiratory system.
Rajah 18 menunjukkan bahagian sistem respirasi manusia.



Diaphragm
Diafragma

What will happen when the diaphragm contracts and flattens?
Apakah yang akan berlaku apabila diafragma mengecut dan mendatar?

A Air is forced into the lungs
Udara ditolak masuk ke dalam peparu

B Air pressure inside the thoracic cavity increases
Tekanan udara dalam rongga toraks meningkat

C The rib cage moves downwards and inwards
Sangkar rusuk bergerak ke bawah dan ke dalam

D The volume in the thoracic cavity decreases
Isi padu dalam rongga toraks menurun

Transport

28. Diagram 21 shows a cross section of a plant's stem.
Rajah 21 menunjukkan keratan rentas batang tumbuhan.

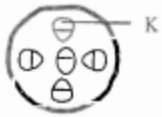


Diagram 21
Rajah 21

What is the function of K ?
Apakah fungsi K ?

A Transports glucose
Mengangkut glukosa
B Transports water only
Mengangkut air sahaja.
C Transports water and mineral
Mengangkut air dan garam mineral
D Transports glucose and mineral
Mengangkut glukosa dan garam mineral

Johor

27. Diagram 14 shows a longitudinal section of blood vessel Y.
Rajah 14 menunjukkan keratan memanjang salur darah Y.

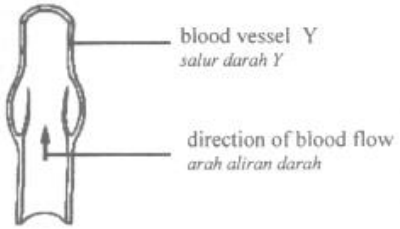


Diagram 14
Rajah 14

Which of the following is probably blood vessel Y?
Antara berikut yang manakah mungkin salur darah Y?

A Vena cava
Vena kava
B Aorta
Aorta
C Capillary
Kapilari
D Renal artery
Arteri renal

29 Diagram 22 shows a section through the human heart.
Rajah 22 menunjukkan keratan melalui jantung manusia.

Diagram 22 / *Rajah 22*

Which is represented by P and Q?
Manakah yang diwakili oleh P dan Q?

	P	Q
A	Deoxygenated blood *Darah terdeoksigen*	Deoxygenated blood *Darah terdeoksigen*
B	Oxygenated blood *Darah beroksigen*	Deoxygenated blood *Darah terdeoksigen*
C	Deoxygenated blood *Darah terdeoksigen*	Oxygenated blood *Darah beroksigen*
D	Oxygenated blood *Darah beroksigen*	Oxygenated blood *Darah beroksigen*

28 Diagram 19 shows a cross-section of a stem.
Rajah 19 menunjukkan keratan rentas bagi batang.

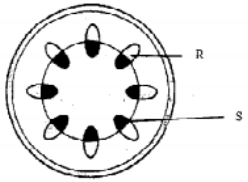


Diagram 19
Rajah 19

What is the function of structure R and S?
Apakah fungsi bagi struktur R dan S?

	R	S
A	Transports air *Mengangkut udara*	Transports mineral salts *Mengangkut garam mineral*
B	Transports food substances *Mengangkut bahan makanan*	Transports water *Mengangkut air*
C	Transports water *Mengangkut air*	Transports food substances *Mengangkut bahan makanan*
D	Transports mineral salts *Mengangkut garam mineral*	Transports water *Mengangkut air*

30 Diagram 12 shows a ring of bark is cut and removed from a plant.
Rajah 12 menunjukkan satu gelang kulit kayu ditanggalkan dari pokok.

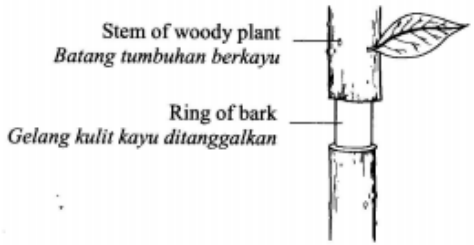


Diagram 12
Rajah 12

Why does the plant die after several weeks?
Mengapakah pokok itu mati selepas beberapa minggu?

A The leaves are not able to receive water from the roots.
Daun tidak menerima air dari akar pokok.

B Too much water has evaporated from the ringed region.
Terlalu banyak air tersejat dari bahagian yang digelang.

C Food from the leaves cannot reach the roots.
Makanan daripada daun tidak sampai ke akar.

D The ringed region will rot due to infection.
Bahagian yang digelang akan mereput akibat jangkitan.

25 Diagram 14 shows the exchange of gases taking place between an alveolus and a blood capillary.
Rajah 14 menunjukkan pertukaran gas yang berlaku di antara alveolus dan kapilari darah.

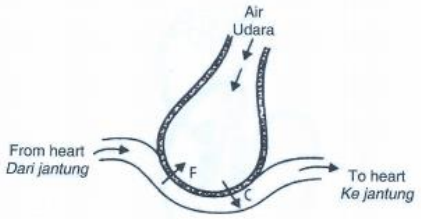


Diagram 14
Rajah 14

The exchange of gases takes place by
Pertukaran gas berlaku melalui

A absorption
serapan
B diffusion
resapan
C peristalsis
peristalsis
D digestion
pencernaan

Perlis

Excretion

Kedah

30 Which of the following is the correct pathway of urea in the human urinary system?

Antara berikut, manakah laluan yang betul bagi urea dalam sistem urinari manusia?

A Kidney → Urinary bladder → Urethra → Ureter
Ginjal → Pundi Kencing → Uretra → Ureter

B Ureter → Kidney → Urethra→ Urinary bladder
Ureter → Ginjal → Uretra → Pundi kencing

C Kidney → Ureter → Urinary bladder → Urethra
Ginjal → Ureter → Pundi kencing → Uretra

D Kidney → Urethra → Urinary bladder → Ureter
Ginjal → Uretra → Pundi kencing → Ureter

The information below shows the flow of urine removed from the human body.
Maklumat di bawah menunjukkan aliran air kencing dibuang dari badan.

Kidney / Ginjal ➡ X ➡ urinary bladder / *pundi kencing* ➡ Y

What are X and Y?
Apakah X dan Y?

	X	Y
A	Urethra *Uretra*	Blood vessel *Salur darah*
B	Urethra *Uretra*	Ureter *Ureter*
C	Ureter *Ureter*	Urethra *Uretra*
D	Blood vessel *Salur darah*	Ureter *Ureter*

Diagram 24 shows some processes and development occurs in the female reproductive system.
Rajah 24 menunjukkan beberapa proses dan perkembangan yang berlaku di dalam sistem pembiakan perempuan.

34 Diagram 20 shows the chemical changes that occur to iron powder through heating.

Rajah 20 menunjukkan perubahan kimia yang berlaku kepada serbuk besi melalui pemanasan.

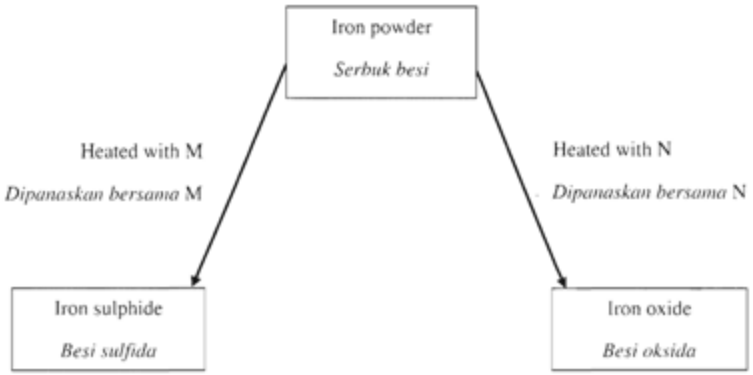


Diagram 20

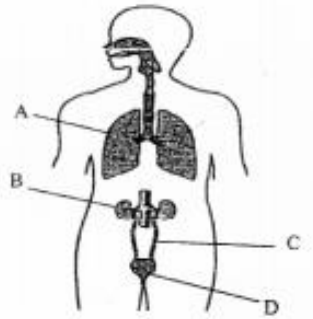
Rajah 20

Which of the following represents M and N?

Antara berikut, yang manakah mewakili M dan N?

	M	N
A	Sulphide *Sulfida*	Carbonate *Karbonat*
B	Sulphur *Sulfur*	Oxygen *Oksigen*
C	Potassium manganate(VII) *Kalium manganat*(VII)	Sulphur *Sulfur*
D	Potassium manganate(VII) *Kalium manganat*(VII)	Oxygen *Oksigen*

30 The diagram shows the organs in a human body.
Rajah menunjukkan organ-organ dalam badan manusia.



Reproduction

31. Diagram 23 shows vegetative reproduction shown by plants P, Q, and R.
Rajah 23 menunjukkan pembiakan vegetatif yang ditunjukkan oleh tumbuhan P, Q, dan R

Diagram 23
Rajah 23

Johor

What are the types of vegetative reproduction for P, Q and R ?
Apakah jenis pembiakan vegetatif bagi P, Q, dan R ?

	P	Q	R
A	Rhizome *Rizom*	Bulb *Bebawang*	Runner *Batang rayap*
B	Runner *Batang rayap*	Tuber *Tuber*	Rhizome *Rizom*
C	Rhizome *Rizom*	Sucker *Anak pokok*	Runner *Batang rayap*
D	Tuber *Tuber*	Rhizome *Rizom*	Sucker *Anak pokok*

kelate

31. Diagram 16 shows the foetus developed in the mother's uterus
Rajah 16 menunjukkan fetus yang berkembang di dalam uterus ibunya.

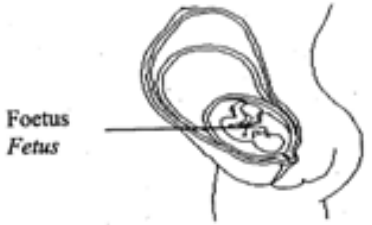


Diagram 16
Rajah 16

Which class of food should be taken more by the mother to ensure a healthy development for the foetus?
Kelas makanan manakah yang perlu diambil lebih banyak oleh ibu untuk memastikan perkembangan fetus yang sihat?

A. Protein and fats
Protein dan lemak

B. Carbohydrates and fats
Karbohidrat dan lemak

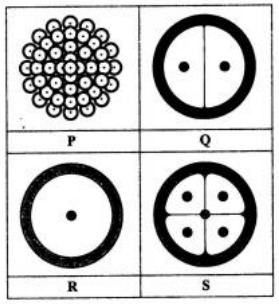
C. Protein and minerals
Protein dan mineral

D. Carbohydrates and vitamins
Karbohidrat dan vitamin

31. A pregnant mother should take a balanced diet. Which pair is matched correctly?
Ibu hamil perlu mengambil gizi yang seimbang. Pasangan manakah disesuaikan dengan betul?

	Classes of food *Kelas makanan*	Functions *Fungsi*
A	Fats *Lemak*	To ensure the health of the foetus *Untuk memastikan kesihatan fetus*
B	Proteins *Protein*	To build new cells *Untuk membentuk sel-sel baru*
C	Vitamins *Vitamin*	To supply energy *Untuk membekalkan tenaga*
D	Carbohydrates *Karbohidrat*	To form a strong bones and teeth *Untuk membentuk tulang dan gigi yang kuat*

33 Diagram 15 shows the four stages of cell division in a zygote.
Rajah 15 menunjukkan empat peringkat pembahagian sel ke atas zigo



Which of the following shows the correct sequence?
Manakah diantara berikut menunjukkan susunan yang betul?

A. R → Q → S → P

B. Q → S → R → P

C. P → S → Q → R

D S → P → R → Q

Menstrual cycle

Johor

30. Diagram 22 shows four stages involved in pregnancy
Rajah 22 menunjukkan empat peringkat ketika hamil.

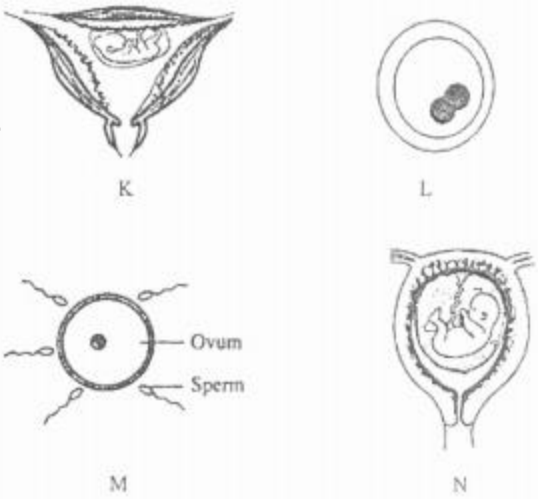


Diagram 22
Rajah 22

Which of the following is the correct sequence of the stages ?
Manakah antara berikut adalah urutan peringkat yang betul ?

A M → L → N → K
B L → M → K → N
C M → L → K → N
D L → K → M → N

33 Diagram 25 shows a female reproductive system.
Rajah 25 menunjukkan sistem pembiakan perempuan.

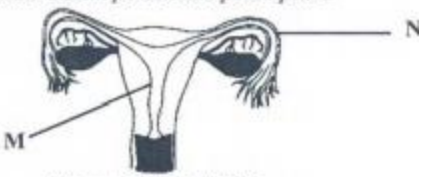


Diagram 25 / *Rajah 25*

Name the processes take place at **M** and **N** ?
Namakan proses yang berlaku di **M** *dan* **N** ?

	M	N
A	Implantation *Penempelan*	Ovulation *Pengovulan*
B	Implantation *Penempelan*	Fertlisation *Persenyawaan*
C	Fertlisation *Persenyawaan*	Ovulation *Pengovulan*
D	Ovulation *Pengovulan*	Implantation *Penempelan*

Diagram 24 / *Rajah 24*

What development occurs from stage S to stage U?
Apakah perkembangan yang berlaku di peringkat S hingga peringkat U?

A Ovulation
Ovulasi

B Cell division
Pembahagian sel

C Cell germination
Percambahan sel

D Repeated fertilization
Persenyawaan berulang

28 A woman begins menstruation on the 8th of March.
What are the dates for ovulation and the next menstruation?
Seorang perempuan mula datang haid pada 8hb Mac.
Apakah tarikh bagi ovulasi dan haid berikutnya?

Perlis

	Ovulation *Ovulasi*	Next mestruation *Haid berikutnya*
A	14 April *14 April*	28 March *28 Mac*
B	5 April *5 April*	21 March *21 Mac*
C	21 March *21 Mac*	5 April *5 April*
D	28 March *28 Mac*	12 April *12 April*

30 The following information describes a birth control method practised by a couple.
Maklumat berikut menerangkan kaedah merancang kelahiran yang diamalkan oleh satu pasangan suami isteri.

Sperm ducts are cut and tied
Duktus sperma dipotong dan diikat

Should the couple decide to have another child, suggest a method that will enable the wife to conceive.
Sekiranya pasangan tersebut bercadang untuk mendapatkan seorang lagi anak, cadangkan satu kaedah yang membolehkan isterinya hamil

A Resort IUCD
Mengamalkan IUCD

B Using a diaphragm
Menggunakan diafragma

C Take contraceptive pills
Mengamalkan pil perancang

D Resort in vitro fertilisation (IVF)
Mengamalkan persenyawaan in vitro (IVF)

30 If the ovary of a woman with normal menstrual cycle produces an ovum on 2 January 2012, the next ovum will be produced on
Jika ovari seorang perempuan yang kitar haidnya normal menghasilkan sebiji ovum pada 2 Januari 2012, ovum yang berikutnya mungkin dihasilkan pada

A 14 Jan 2012

B 21 Jan 2012

C 30 Jan 2012

D 28 Feb 2012

Growth

Johor

kelate

32. Diagram 24 shows the human growth curve.
Rajah 24 menunjukkan lengkuk pertumbuhan manusia.

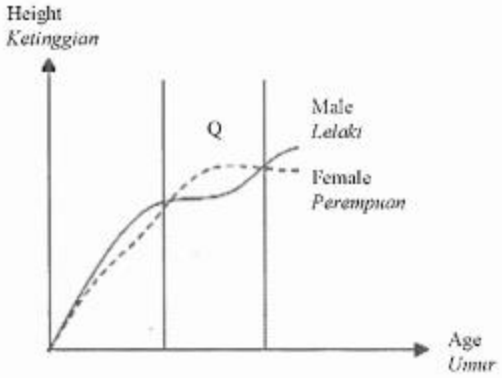


Diagram 24
Rajah 24

What can you conclude from the information obtained from the growth curve at Q ?
Apakah kesimpulan daripada maklumat yang didapati daripada lengkuk pertumbuhan di Q ?

A Male is taller than female
Lelaki lebih tinggi berbanding perempuan

B Male grows faster than female
Lelaki membesar lebih cepat berbanding perempuan

C Male grows slower than female
Lelaki membesar lebih lambat berbanding perempuan

D Male and female are at the same weight
Lelaki dan perempuan adalah sama berat

33. Diagram 18 is a growth curve of a boy.
Rajah 18 menunjukkan lengkung pertumbuan seorang lelaki.

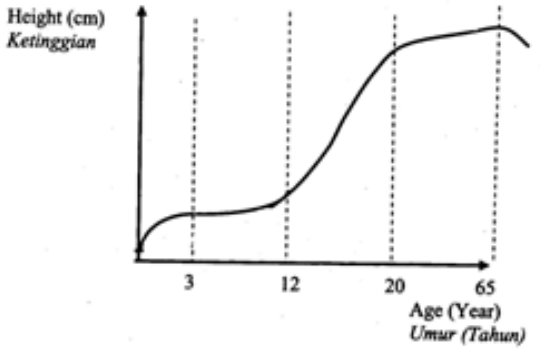


Diagram 18
Rajah 1

Which statement about the age and height of the boy is correct?
Pernyataan manakah mengenai umur dan ketinggian budak lelaki itu betul?

A. At age between 3 to 12 the growth is rapid.
Pada umur 3 hingga 12 pertumbuhan adalah pesat.

B. During infancy stage, the growth rate is slow.
Semasa peringkat bayi, kadar pertumbuhan adalah perlahan

C. Positive growth is still experienced when he reached old age
Pertumbuhan positif masih dialami apabila dia mencapai usia tua.

D. Minimal growth rate is experienced when the boy reach age 20.
Kadar pertumbuhan minimum dialami apabila budak lelaki itu mencapai umur 20.

Which of the following statements is **not true** about stage X?
*Manakah di antara berikut **tidak benar** tentang peringkat X?*

A There is steady growth.
Pertumbuhan yang sekata.

B Negative growth begins.
Pertumbuhan negative bermula.

C Development is uniform.
Perkembangan yang seragam.

D Positive growth to maturity.
Pertumbuhan positif ke arah kematangan.

34 Diagram 16 shows the growth curve of a human.
Rajah 16 menunjukkan lengkungan pertumbuhan manusia.

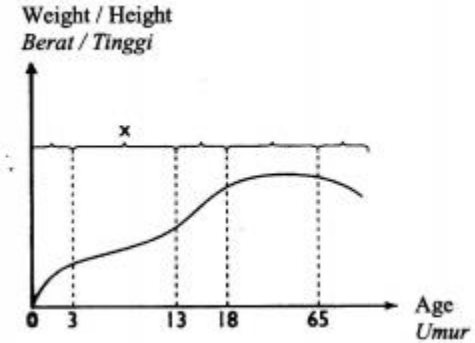


Diagram 16
Rajah 16

shows a human growth curve.
nunjukkan lengkung pertumbuhan manusia.

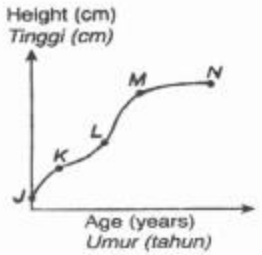


Diagram 16 / *Rajah 16*

Which part of the curve represents the adolescence stage ?
Bahagian lengkung yang manakah mewakili peringkat remaja ?
A. JK
B. KL
C. LM
D. MN

Germination

32 Anemia is a disease as a result of less intake of food such as
Anemia ialah sejenis penyakit akibat daripada kurang pengambilan makanan seperti

A bread and potatoes
roti dan ubi kentang

B meat and liver
daging dan hati

C vegetables and fruits
sayur-sayuran dan buah-buahan

D milk and eggs
susu dan telur

Pollination

31 Diagram 25 shows a structure P produced by a part of a flower.
Rajah 25 menunjukkan struktur P yang dihasilkan suatu bahagian pada bunga.

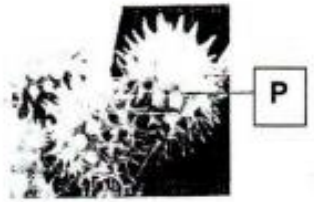
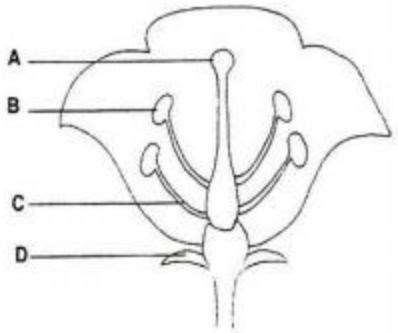


Diagram 25 / *Rajah 25*

Which part of a fower, A, B, C or D produces P?
Bahagian manakah pada bunga, A, B, C atau D menghasilkan P?



32 Diagram 20 shows two mature flowers on two different trees.
Rajah 20 menunjukkan dua kuntum bunga matang pada pokok yang berlainan.

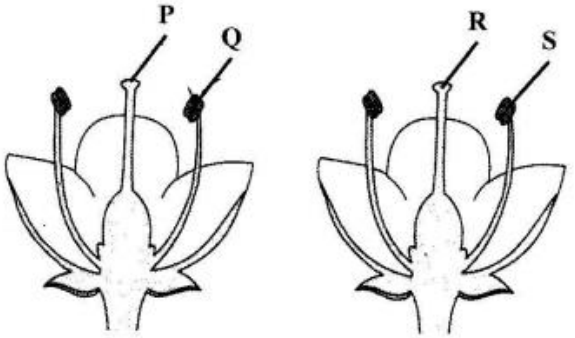


Diagram 20
Rajah 20

Which of the following shows the transfer of pollen grains during cross-pollination?
Antara berikut yang manakah menunjukkan pemindahan butir debunga semasa proses pendebungaan kacuk?

A P → R

B R → Q

C Q → S

D S → P

Land and it resources

33. Diagram 19 shows an experiment.
Rajah 19 menunjukkan satu eksperimen.

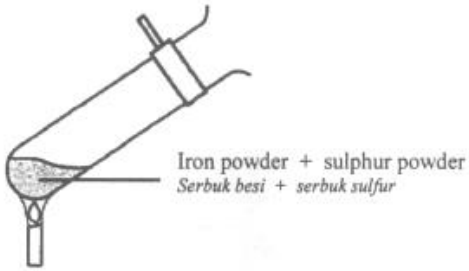


Diagram 19
Rajah 19

What is the product formed?
Apakah hasil yang terbentuk?

A Iron oxide
Besi oksida

B Iron sulphide
Besi sulfida

C Sulphur oxide
Sulfur oksida

D Sulphur dioxide
Sulfur dioksida

33 The following information describes a calcium compound.
Maklumat berikut menjelaskan suatu sebatian kalsium.

- As a drying agent to prepare ammonia gas
  Sebagai agen pengering untuk penyediaan gas ammonia
- To prepare slaked lime
  Untuk menyediakan kapur mati

Which calcium compound fits the description above?
Yang manakah merupakan sebatian kalsium yang dijelaskan di atas?

A Calcium carbonate
Kalsium karbonat

B Calcium sulphide
Kalsium sulfida

C Calcium hydroxide
Kalsium hidroksida

D Calcium oxide
Kalsium oksida

Diagram 20 shows apparatus set-up to study the formation of various products from the heating of calcium carbonate.
Rajah 20 menunjukkan susunan radas untuk mengkaji pembentukan pelbagai produk daripada pemanasan kalsium karbonat.

Diagram 20
Rajah 20

What is represented by K and L to show the products of the above reaction?
Apakah yang diwakili oleh K dan L bagi menunjukkan produk tindakbalas di atas?

	K	L
A	Calcium hydroxide *Kalsium hidroksida*	Calcium hydroxide solution *Larutan kalsium hidroksida*
B	Calcium carbonate *Kalsium karbonat*	Calcium oxide *Kalsium oksida*
C	Calcium hydroxide *Kalsium hidroksida*	Calcium oxide *Kalsium oksida*
D	Calcium carbonate *Kalsium karbonat*	Calcium hydroxide solution *Larutan kalsium hidroksida*

35 Diagram 17 shows the steps involved in the formation of lime water.
Rajah 17 menunjukkan langkah-langkah dalam pembentukan air kapur.

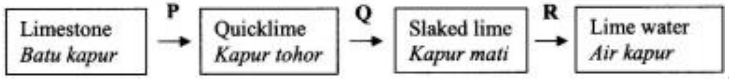


Diagram 17
Rajah 17

Which of the following steps are **correct**?
*Langkah-langkah yang manakah **betul**?*

	P	Q	R
A	Heating *Pemanasan*	Adding a few drops of water *Tambahkan beberapa titis air*	Adding more water *Tambahkan lebih banyak air*
B	Adding more water *Tambahkan lebih banyak air*	Adding a few drops of water *Tambahkan beberapa titis air*	Heating *Pemanasan*
C	Heating *Pemanasan*	Adding more water *Tambahkan lebih banyak air*	Adding a few drops of water *Tambahkan beberapa titis air*
D	Adding a few drops of water *Tambahkan beberapa titis air*	Heating *Pemanasan*	Adding more water *Tambahkan lebih banyak air*

33 Diagram 26 shows an apparatus set-up.
Rajah 26 menunjukkan satu susunan radas.

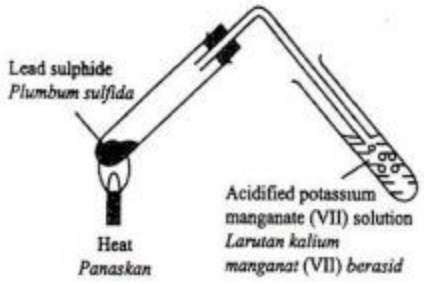


Diagram 26 / *Rajah 26*

What is the colour of acidified potassium manganate (VII) solution at the end of the experiment?
Apakah warna larutan kalium manganat (VII) berasid pada akhir eksperimen?

A Colourless
Tidak berwarna

B White
Putih

C Blue
Biru

D Purple
Ungu

33. Diagram 17 shows an experiment.
Rajah 17 menunjukkan satu eksperimen.

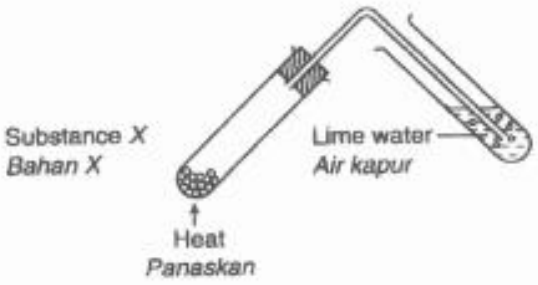


Diagram 17 / *Rajah 17*

It is observed that the lime water turns cloudy. Which of the following may be substance X?
Diperhatikan bahawa air kapur menjadi keruh. Antara berikut, yang manakah mungkin bahan X ?

A. Calcium oxide / *Kalsium oksida*
B. Calcium carbonate / *Kalsium karbonat*
C. Calcium silicate / *Kalsium silikat*
D. Calcium hydroxide / *Kalsium hidroksida*

35. The following equation shows the effect of acid on calcium carbonate.
Persamaan berikut menunjukkan kesan asid ke atas kalsium karbonat.

Calcium Carbonate	+	Sulphuric Acid	⟶	X	+	Carbon Dioxide	+	Water
Kalsium Karbonat	+	*Asid Sulfurik*	⟶	*X*	+	*Karbon Dioksida*	+	*Air*

What is X?
Apakah X?

A Calcium sulphate / *Kalsium sulfat*
B Calcium sulphide / *Kalsium sulfida*
C Calcium oxide / *Kalsium oksida*
D Calcium hydroxide / *Kalsium hidroksida*

36. Diagrams 20 shows K, L and M using the products of petroleum fractions.
Rajah 20 menunjukkan K, L dan M yang menggunakan hasil pecahan petroleum.

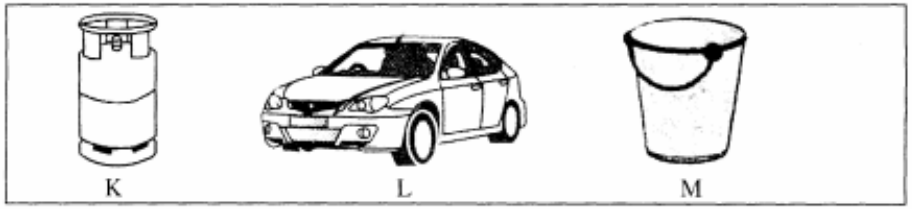


Diagram 20/ *Rajah 20*

Which of the following shows the correct petroleum product?
Yang mana antara berikut menunjukkan hasil petroleum yang betul?

	K	L	M
A	Kerosene *Kerosin*	Petrol *Petrol*	Naphtha *Nafta*
B	Kerosene *Kerosin*	Naphtha *Nafta*	Petrol *Petrol*
C	Petroleum gas *Gas petroleum*	Petrol *Petrol*	Naphtha *Nafta*
D	Petroleum gas *Gas petroleum*	Kerosene *Kerosin*	Naphtha *Nafta*

FIKIR SEJENAK

4. Diagram 4 shows an experiment to determine the products of the combustion of charcoal.
Rajah 4 menunjukkan eksperimen untuk menentukan hasil pembakaran arang.

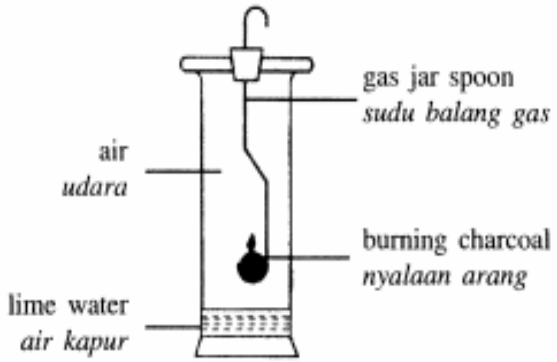


Diagram 4
Rajah 4

(a)(i) State the changes that occur to:
Nyatakan perubahan yang berlaku terhadap:

Lime water : .....
Air kapur

Temperature in the gas jar : .....
Suhu dalam balang gas

(2 marks)

(ii) Based on the experiment write a **word equation** for the reaction
*Berdasarkan eksperimen tuliskan **persamaan perkataan** bagi tindak balas ini.*

charcoal *arang* + oxygen *oksigen* → [ ] + heat and light energy *tenaga haba dan cahaya*

(1 mark)

(b) If the charcoal is replaced with kerosene:
Jika arang diganti dengan kerosin

(i) State **one** other product produced: .....
*Nyatakan **satu** lagi bahan yang dihasilkan*

(ii) Mark (√) the indicator that can be used to test the product in (b)(i)
Tandakan (√) penunjuk yang boleh digunakan untuk menguji hasil di (b)(i)

	Anhydrous cobalt chloride paper *Kertas kobalt klorida kontang*
	Bicarbonate indicator *Penunjuk bikarbonat*

(2 marks)

(c) State **one** usage of kerosene in transportation.
*Nyatakan **satu** kegunaan kerosin dalam pengangkutan*

.....

(1 mark)

Generation of electricity

Johor

36. Diagram 27 shows a series circuit.
Rajah 27 menunjukkan satu litar bersiri.

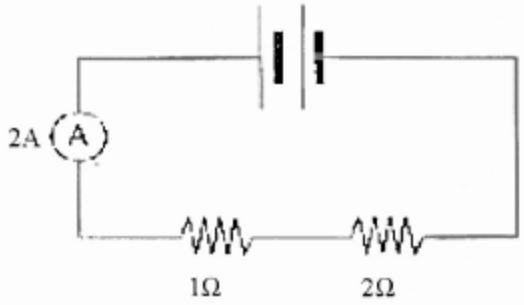


Diagram 27
Rajah 27

What is the voltage value in this circuit ?
Apakah nilai voltan dalam litar ini ?

A 0.67 V
B 1.50 V
C 3.00 V
D 6.00 V

Kedah

35 Diagram 21 shows an electric circuit.
Rajah 21 menunjukkan satu litar elektrik.

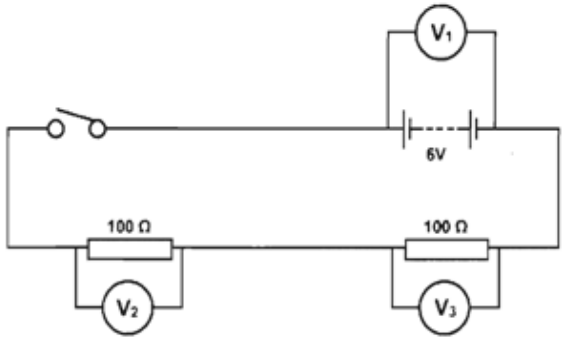


Diagram 21
Rajah 21

hat are the readings of voltmeter V_1, V_2 and V_3 when the switch is on?
pakah bacaan voltmeter V_1, V_2 dan V_3 apabila suis dihidupkan?

	V_1	V_2	V_3
	6 V	12 V	12 V
	3 V	3 V	12 V
	6 V	3 V	3 V
D	6 V	6 V	6 V

Perlis

37 The information below shows the voltage rating and power.
Maklumat di bawah menunjukkan kadar voltan dan kuasa.

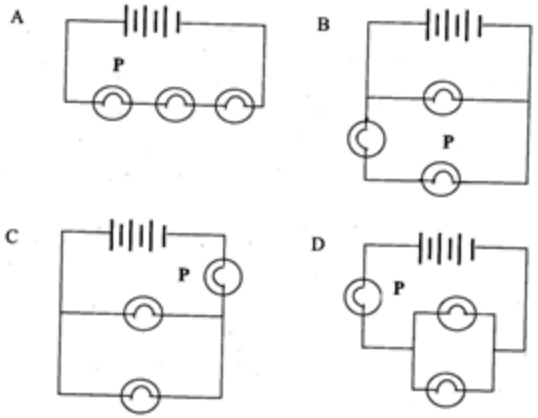
Voltage rating = 240 V
Kadar voltan = 240 V

Power = 1000 W
Kuasa = 1000 W

Choose the suitable fuse to be used on this appliance?
Pilih fius yang sesuai untuk digunakan pada peralatan ini?

A 1 A
B 3 A
C 5 A
D 13 A

36. In which electric circuit if bulb P goes off, the other bulbs will still light up?
Dalam litar elektrik manakah jika mentol P terbakar, mentol-mentol lain te menyala?



kelate

36 Diagram 20 shows a set up of a circuit using three similar resistors.
Rajah 20 menunjukkan satu susunan litar yang menggunakan tiga perintang yang serupa.

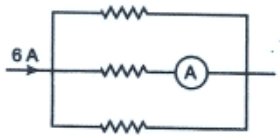


Diagram 20
Rajah 20

What is the reading of ammeter?
Apakah bacaan ammeter?

A 1 A
B 2 A
C 4 A
D 6 A

35 Diagram 22 shows a series circuit.
Rajah 22 menunjukkan satu litar bersiri.

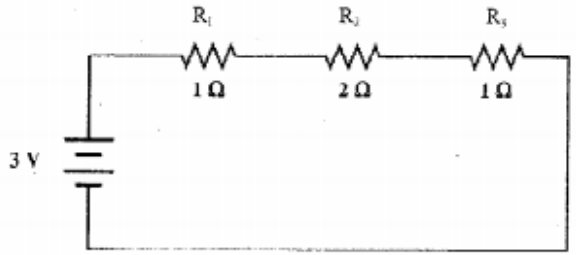


Diagram 22
Rajah 22

Calculate the value of current, I.
Hitung nilai arus, I.

A 12.0A
B 3.0A
C 1.33A
D 0.75A

37 Diagram 24 shows an electric iron which is used for 1 hour every day for 30 days.
Rajah 24 menunjukkan seterika elektrik yang telah digunakan 1 jam setiap hari selama 30 hari.

Diagram 24
Rajah 24

Calculate the total cost of the electrical energy used if the cost for one unit is RM0.20.
Hitung jumlah kos penggunaan tenaga elektrik jika kos satu unit ialah RM0.20.

A RM16.00
B RM6.00
C RM4.80
D RM1.60

What does the label '**13 A**' on the fuse mean?
Apakah yang dimaksudkan dengan label '13 A' pada fius?

A The fuse needs a current of **13 A** to function.
*Fius memerlukan arus sebanyak **13 A** untuk berfungsi*
B The fuse generates a maximum current of **13 A**
*Fius menghasilkan arus maksimum sebanyak **13 A***
C The fuse allows a minimum current of **13 A** to flow though
*Fius membenarkan arus minimum sebanyak **13 A** melaluin*
D The fuse allows a maximum current of **13 A** to flow throug
*Fius membenarkan arus maksimum sebanyak **13 A** melalui*

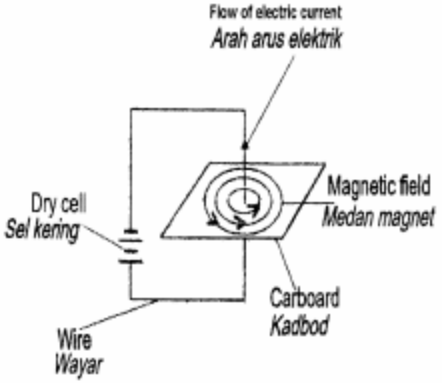


Diagram 28 / *Rajah 28*

What should a student do to change the direction of the magnetic field pattern?
Apakah yang perlu dilakukan oleh seorang pelajar untuk mengubah arah corak medan magnet?

A Use one dry cell
Menggunakan satu sel kering

B Use a shorter wire
Menggunakan wayar yang lebih pendek

C Increase the number of dry cells
Menambahkan bilangan sel kering

D Change the terminal arrangement of the dry cells
Menukarkan susunan terminal sel kering

37 Diagram 29 shows the system for distribution of electrical power which involves four transformers, K, L, M and N.
Rajah 29 menunjukkan system pengagihan tenaga elektrik yang melibatkan empat transformer, K, L, M dan N.

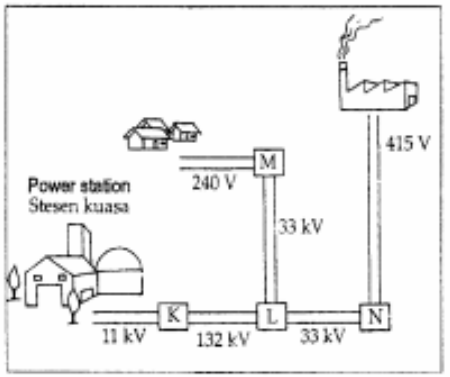


Diagram 29 / *Rajah 29*

Which of the transformers K, L, M and N are the step-down transformers?
Antara transformer K, L, M dan N yang manakah transformer injak turun?

A K, L and N only
K, L dan N sahaja

B K, M and N only
K, M dan N sahaja

C K and L only
K dan L sahaja

D L, M and N only
L, M dan N sahaja

37. Diagram 21 shows an electrical appliances with its power and voltage ratings.
Rajah 21 menunjukkan satu alat elektrik dengan nilaian kuasa dan voltannya.

1000 W
240 V

Diagram 21 / *Rajah 21*

Which of the following fuses is the most suitable to be used for the appliances?
Antara fius berikut, yang manakah paling sesuai digunakan untuk alat tersebut ?

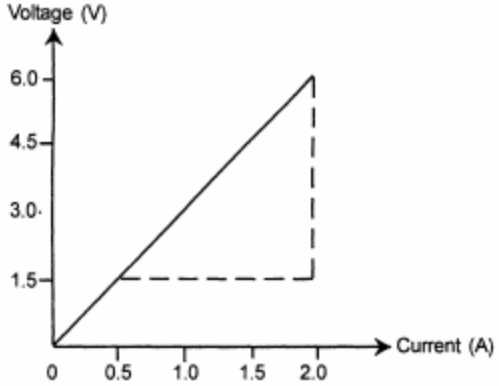
A 

C 

B 

D 

37. The graph shows the relationship between voltage and current of a resistor.
Graf menunjukkan hubungan antara voltan dan arus dalam satu perintang.



$$\text{Resistance } (\Omega) \text{ / } \textit{Rintangan} = \frac{\text{Voltage (V) / } \textit{Voltan}}{\text{Current (A) / } \textit{Arus}}$$

The resistance in resistor is
Rintangan dalam perintang ialah

A 2 Ω
B 3 Ω
C 5 Ω
D 6 Ω

Magnet

35. Diagram 26 shows a negatively charged electroscope.
Rajah 26 menunjukkan sebuah elektroskop yang bercas negatif.

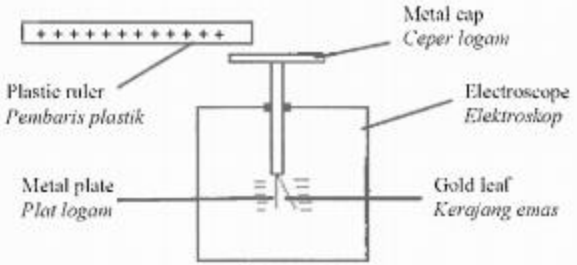


Diagram 26
Rajah 26

A positively charged plastic ruler is put on the metal cap of the electroscope.
What will happen to the gold leaf in the electroscope ?

Sebatang pembaris plastik bercas positif diletakkan di atas ceper logam elektroskop itu. Apakah yang akan berlaku kepada kerajang emas dalam elektroskop tersebut ?

A It gets closer to the metal plate and then diverges
Merapat ke plat logam dan kemudian mencapah

B It gets closer to the metal plate
Merapat ke plat logam

C Nothing happens
Tiada apa yang berlaku

D Diverges wider
Mencapah lebih luas

Johor

Three compasses are placed near a bar magnet as shown in diagram 22
Tiga kompas diletakkan berdekatan satu magnet bar seperti yang ditunjukkan pada rajah 22

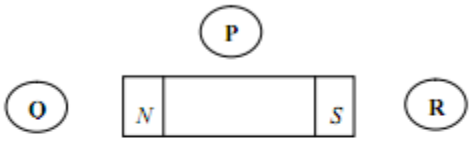


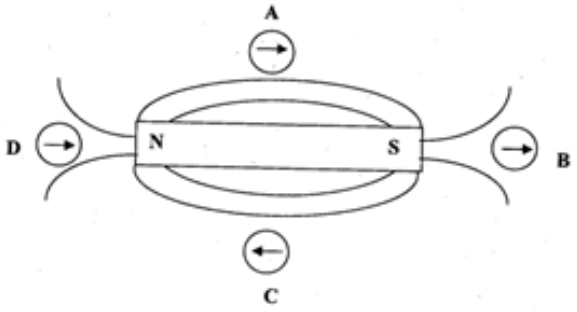
Diagram 22
Rajah 22

Which of the following shows the correct direction of the compasses **P**, **Q** and **R**?
*Antara yang berikut, yang manakah menunjukkan arah yang betul bagi kompas **P**, **Q** dan **R**?*

	P	Q	R
A	←	←	→
B	→	→	→
C	←	←	←
D	→	←	←

37. Which compass lebelled **A, B, C** or **D** shows the correct direction of magnetic field lines?
*Kompas berlabel **A, B, C** dan **D** manakah yang betul menunjukkan arah garis daya medan magnet?*

kelate



37 Diagram 19 shows the magnetic field formed around a straight wire carrying an electric current.
Rajah 19 menunjukkan medan magnet yang terbentuk di keliling seutas dawai lurus yang mengalirkan arus elektrik.

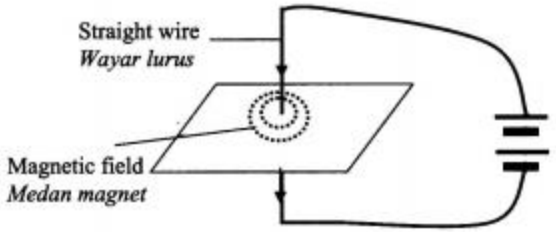


Diagram 19
Rajah 19

Which diagram shows the correct direction of the magnetic field lines?
Rajah manakah menunjukkan arah garis medan magnet yang betul?

A 

C 

B 

D 

37. Diagram 28 shows a straight wire carrying current. Iron filings are sprinkled on the cardboard to show the pattern of the magnetic field. Two compasses, P and Q are placed at the positions shown.
Rajah 28 menunjukkan wayar lurus yang mengalirkan arus elektrik. Serbuk besi ditabur di atas kadbod untuk menunjukkan corak medan magnet. Dua kompas, P dan Q diletakkan pada kedudukan yang ditunjukkan.

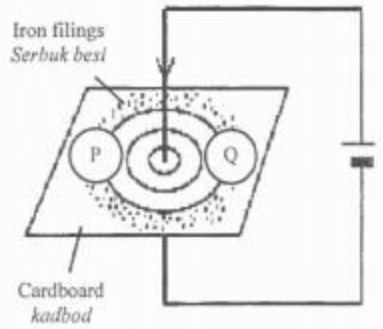


Diagram 28
Rajah 28

Which of the direction of the needle for compasses P and Q are correct ?
Arah jarum kompas P dan Q yang manakah adalah betul ?

A  P  Q

B  P  Q

C  P  Q

D  P  Q

Johor

Kedah

37 Diagram 23 shows an air conditioner which is labelled 240V, 2.5 kW.
Rajah 23 menunjukkan sebuah pendingin udara yang berlabel 240V, 2.5 kW.

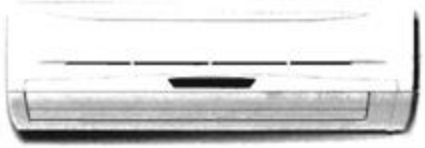


Diagram 23
Rajah 23

What is the rating of a fuse that is suitable for the air conditioner?
Apakah nilai fius yang sesuai bagi pendingin udara itu?

A 5 A
B 10 A
C 12 A
D 20 A

35. Diagram 20 shows the pattern of magnetic field obtained from two magnet bars. X and Y are magnetic poles.
Rajah 20 menunjukkan corak medan magnet yang diperolehi daripada dua batang magnet. X dan Y merupakan kutub magnet.

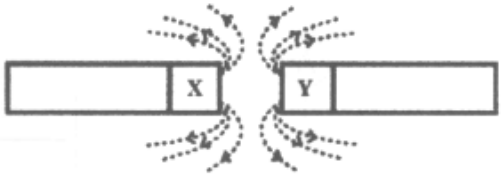
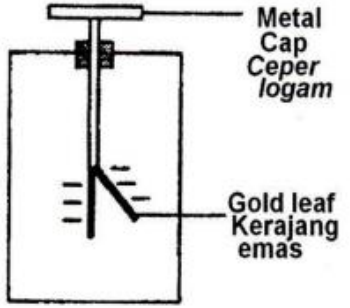


Diagram 20
Rajah 20

What are represented by poles *X* and *Y*?
Apakah yang diwakili oleh kutub X dan kutub Y?

	X	Y
A	North *Utara*	North *Utara*
B	South *Selatan*	North *Utara*
C	North *Utara*	South *Selatan*
D	South *Selatan*	South *Selatan*

36 Diagram 29 shows a negatively-charged of electroscope.
Rajah 29 menunjukkan elektroskop bercas negatif.



What happens to the gold leaf when a negatively-charged rod is brought near the metal cap?
Apakah yang berlaku kepada kerajang emas apabila rod bercas negatif dibawa mendekati ceper logam?

A There is no change
Tiada perubahan

B The gold leaf diverges further
Kerajang emas mencapah lebih jauh

C The divergence of the gold leaf decreases
Kepesongan kerajang emas berkurang

D The divergence of the gold leaf increases and then decreases
Kepesongan kerajang emas bertambah dan kemudian berkurang

Selangor K1 2012

1 Which apparatus is used to transfer iron fillings into a container?
Radas yang manakah digunakan untuk memindahkan serbuk besi ke dalam bekas?

A

B

C

D

2 Diagram 1 shows an experiment to investigate the time taken to make a complete oscillation.
Rajah 1 menunjukkan satu eksperimen untuk menyiasat masa diambil untuk membuat ayunan yang lengkap.

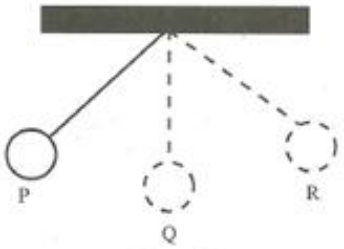


Diagram 1
Rajah 1

How can the oscillation of the pendulum be made faster?
Bagaimanakah ayunan bandul boleh dipercepatkan?

A Increase the mass of string
Tambahkan jisim tali

B Increase the mass of pendulum bob
Tambahkan jisim ladung

C Reduce the size of the pendulum bob
Kurangkan saiz ladung

D Reduce the length of string
Kurangkan panjang tali

3 Diagram 2 shows the organization of cell in the human body.
Rajah 2 menunjukkan organisasi sel dalam tubuh manusia.

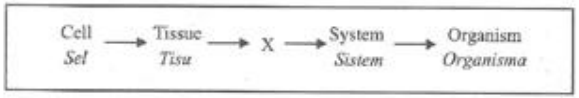


Diagram 2
Rajah 2

Which of the following examples correctly represent X?
Antara contoh-contoh yang berikut, yang manakah mewakili X dengan betul?

A Lungs and skin
Peparu dan kulit

B Nerve and sperm
Saraf dan sperma

C Stomach and muscle
Perut dan otot

D Ear and ovum
Telinga dan ovum

Selangor K1 2012

4 Diagram 3 shows an object placed in four different liquids.
Rajah 3 menunjukkan satu objek yang diletakkan di dalam empat cecair yang berbeza.

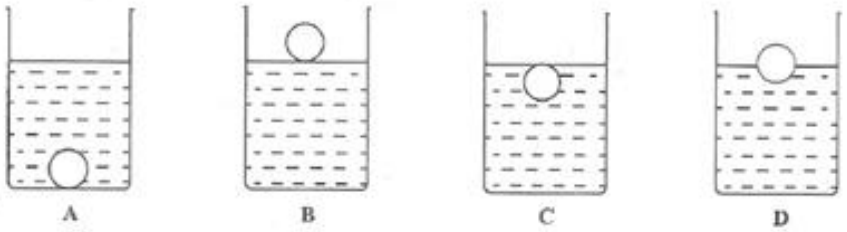


Diagram 3
Rajah 3

Which liquid, A, B, C or D, has the highest density?
Antara cecair, A, B, C dan D, yang manakah berketumpatan paling tinggi?

5 Diagram 4 shows an apparatus set-up to weigh a beaker filled with sugar using a lever balance.
Rajah 4 menunjukkan susunan radas untuk menimbang satu bikar yang berisi gula menggunakan neraca tuas.

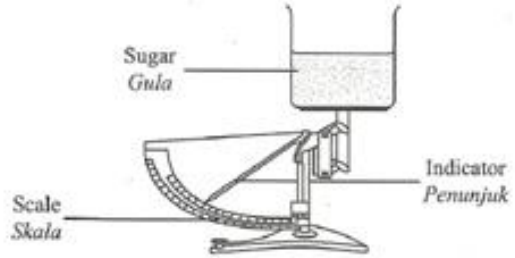


Diagram 4
Rajah 4

From this activity, it can be concluded that sugar
Dari aktiviti ini, ia boleh disimpulkan bahawa gula

A has air spaces
mengandungi ruang udara

B has mass
mempunyai jisim

C has matter
mempunyai jirim

D has weight
mempunyai berat

6 Which substance is correctly matched to its method of separation?
Bahan manakah yang dipadankan betul kepada kaedah pengasingannya?

	Substance *Bahan*	Method of separation *Kaedah pengasingan*
A	Water *Air*	Electrolysis *Elektrolisis*
B	Sugar solution *Larutan gula*	Chlorination *Pengklorinan*
C	Muddy water *Air lumpur*	Boiling *Pendidihan*
D	Sea water *Air laut*	Filtration *Penurasan*

7 Diagram 5 shows an activity to study the level of air pollution in three different areas, P, Q and R for 3 hours.
Rajah 5 menunjukkan suatu aktiviti untuk mengkaji tahap pencemaran udara di tiga kawasan berlainan, P, Q dan R selama 3 jam.

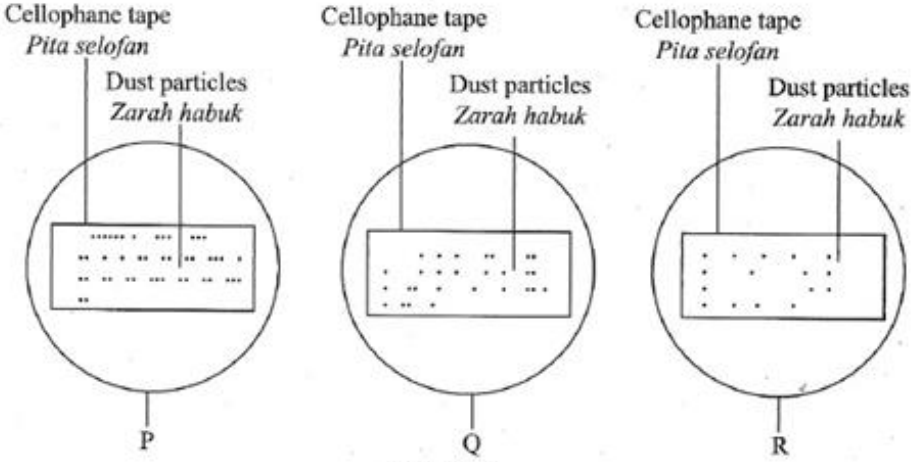
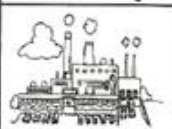
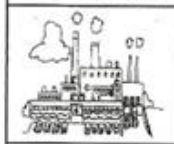
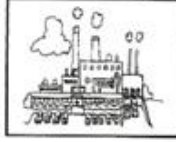


Diagram 5

Which of the following shows the correct areas of the activity?
Antara yang berikut, yang manakah menunjukkan kawasan yang betul bagi aktiviti tersebut

	Area P *Kawasan P*	Area Q *Kawasan Q*	Area R *Kawasan R*
A			
B			
C			
D			

Selangor K1 2012

8 Which of the following shows the correct properties of carbon dioxide?
Antara yang berikut, yang manakah menunjukkan sifat-sifat karbon dioksida yang betul?

	Effect on bicarbonate indicator *Kesan ke atas penunjuk bikarbonat*	Effect on moist litmus paper *Kesan ke atas kertas litmus lembap*
A	Turns blue *Bertukar biru*	Red litmus paper turns blue *Kertas litmus merah bertukar biru*
B	Turns yellow *Bertukar kuning*	Blue litmus paper turns red *Kertas litmus biru bertukar merah*
C	Turns colourless *Bertukar menjadi tanpa warna*	Red litmus paper turns blue *Kertas litmus merah bertukar biru*
D	No change *Tiada perubahan*	Blue litmus paper turns red *Kertas litmus biru bertukar merah*

9 Diagram 6 shows two types of sources of energy, K and L.
Rajah 6 menunjukkan dua jenis sumber tenaga, K dan L.

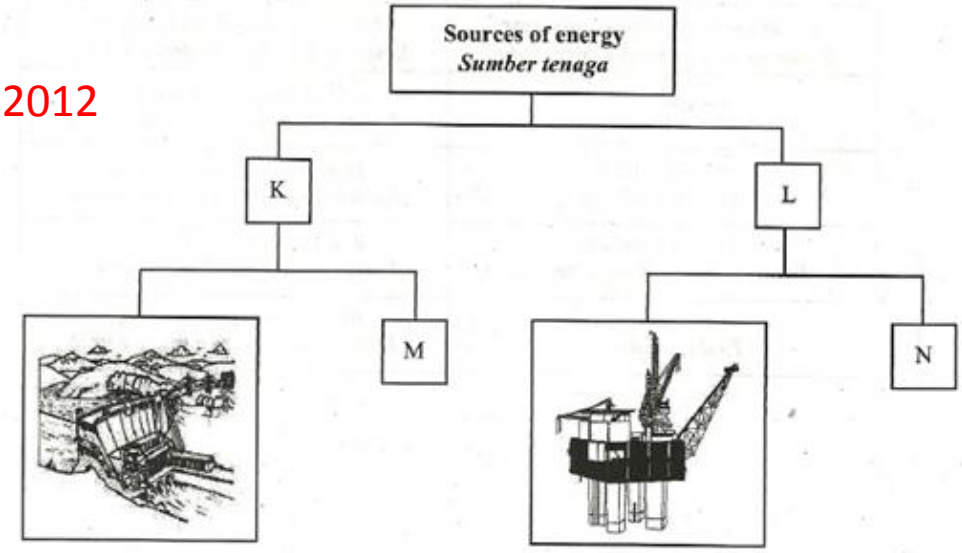


Diagram 6

Which of the following correctly represents K, L, M and N?
Antara yang berikut, yang manakah mewakili K, L, M dan N dengan betul?

	K	L	M	N
A	Non-renewable energy *Tenaga yang tidak boleh diperbaharui*	Renewable energy *Tenaga yang boleh diperbaharui*	Wind *Angin*	Solar energy *Tenaga solar*
B	Non-renewable energy *Tenaga yang tidak boleh diperbaharui*	Renewable energy *Tenaga yang boleh diperbaharui*	Solar energy *Tenaga solar*	Geothermal energy *Tenaga geoterma*
C	Renewable energy *Tenaga yang boleh diperbaharui*	Non-renewable energy *Tenaga yang tidak boleh diperbaharui*	Radioactive substances *Bahan radioaktif*	Biomass *Biojisim*
D	Renewable energy *Tenaga yang boleh diperbaharui*	Non-renewable energy *Tenaga yang tidak boleh diperbaharui*	Geothermal energy *Tenaga geoterma*	Radioactive substances *Bahan radioaktif*

Selangor K1 2012

10 Diagram 7 shows a roller coaster on its rail.
Rajah 7 menunjukkan sebuah 'roller coaster' di atas landasannya.

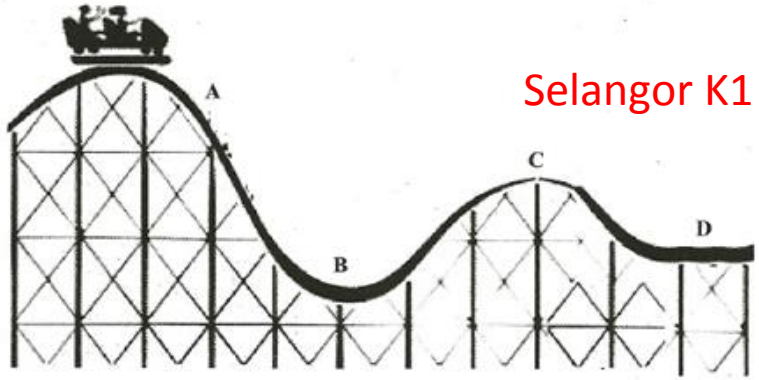


Diagram 7
Rajah 7

At which position, **A**, **B**, **C** or **D**, does the roller coaster have the highest kinetic energy?
Pada kedudukan manakah, **A**, **B**, **C** *dan* **D**, *'roller coaster' tersebut mempunyai tenaga kinetik yang paling tinggi?*

11 Diagram 8 shows two similar-sized girls, P and Q, exposed under the sun. After a few hours, girl Q sweated more than girl P.
Rajah 8 menunjukkan dua orang gadis, P *dan* Q, *yang serupa saiz terdedah di bawah cahaya matahari. Selepas beberapa jam, gadis* Q *berpeluh lebih banyak daripada gadis* P.

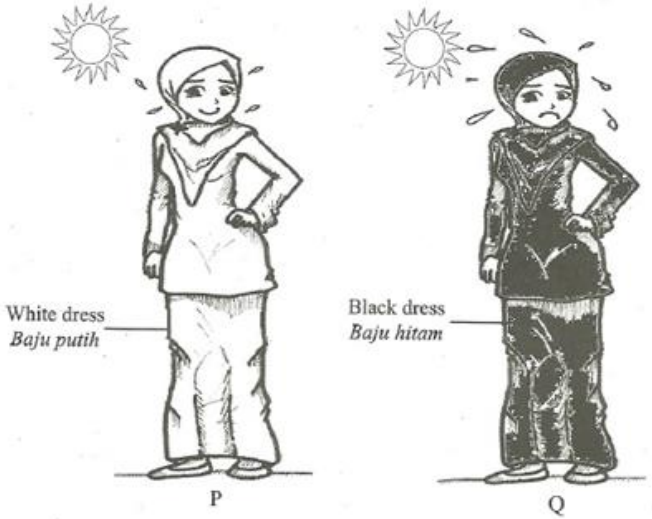


Diagram 8

Which explanation is correct?
Penerangan yang manakah adalah betul?

A Dark and dull surface conducts heat better than white and shiny surface
Permukaan gelap dan pudar adalah pengalir haba yang lebih baik daripada permukaan putih dan berkilat

B Dark and dull surface reflects heat better than white and shiny surface
Permukaan gelap dan pudar adalah pemantul haba yang lebih baik daripada permukaan putih dan berkilat

C Dark and dull surface radiates heat better than white and shiny surface
Permukaan gelap dan pudar adalah pemancar haba yang lebih baik daripada permukaan putih dan berkilat

D Dark and dull surface absorbs heat better than white and shiny surface
Permukaan gelap dan pudar adalah penyerap haba yang lebih baik daripada permukaan putih dan berkilat

12 Diagram 9 shows the cross section of the human eye.
Rajah 9 menunjukkan keratan rentas mata manusia.

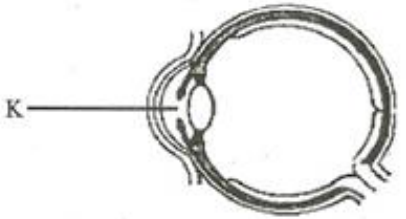


Diagram 9
Rajah 9

What is the function of K?
Apakah fungsi K?

A Refracts light
Membiaskan cahaya

B Carries nerve impulses to the brain
Membawa impuls saraf ke otak

C Controls the amount of light that enters the eye
Mengawal jumlah cahaya yang memasuki mata

D Absorbs light and prevents internal reflection
Menyerap cahaya dan menghalang pantulan dalaman

13 Diagram 10 shows the germinated seeds in two beakers, R and S.
Rajah 10 menunjukkan biji benih yang bercambah dalam dua bikar, R dan S.

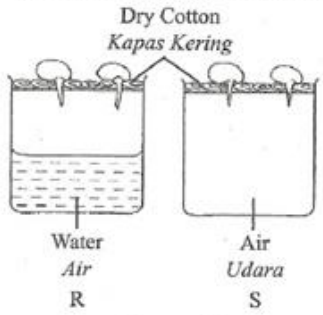


Diagram 10
Rajah 10

Which statements are correct?
Pernyataan manakah adalah betul?

	The Seeds In Beaker R *Biji Benih Dalam Bikar R*	The Seeds In Beaker S *Biji Benih Dalam Bikar S*
A	Response towards gravity *Gerak balas terhadap graviti*	Response towards light *Gerak balas terhadap cahaya*
B	Response towards air *Gerak balas terhadap udara*	Response towards light *Gerak balas terhadap cahaya*
C	Response towards gravity *Gerak balas terhadap graviti*	Response towards air *Gerak balas terhadap udara*
D	Response towards water	Response towards gravity

14 Which organ and enzyme is correctly matched?
Organ dan enzim manakah dipadankan dengan betul?

	Organ *Organ*	Enzyme *Enzim*
A	Mouth *Mulut*	Renin *Renin*
B	Stomach *Perut*	Protease *Protease*
C	Duodenum *Duodenum*	Lipase *Lipase*
D	Pancreas *Pankreas*	Amylase *Amilase*

Selangor K1 2012

15 Table 1 shows two types of food and their calorific values.
Jadual 1 menunjukkan dua jenis makanan dan nilai kalorinya.

Type of food *Jenis makanan*	Calorific value (kJ) *Nilai kalori (kJ)*
A plate of rice *Sepinggan nasi*	1 500
A piece of fried chicken *Seketul ayam goreng*	700

Table 1
Jadual 1

A student eats a plate of rice and two pieces of fried chicken. Calculate the calorific value consumed by the student.
Seorang murid makan sepinggan nasi dan dua ketul ayam goreng. Hitung nilai kalori yang telah diambil oleh murid tersebut.

A 2 200 kJ
B 2 900 kJ
C 3 700 kJ
D 4 400 kJ

16 Diagram 11 shows the classification of vertebrates.
Rajah 11 menunjukkan pengelasan vertebrata.

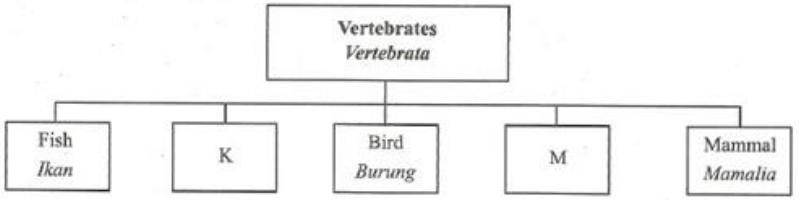


Diagram 11
Rajah 11

Which of the following correctly represents K and M?
Antara yang berikut, yang manakah mewakili K dan M dengan betul?

	K	M
A	Bacteria *Bakteria*	Insects *Serangga*
B	Bacteria *Bakteria*	Amphibians *Amfibia*
C	Reptiles *Reptilia*	Insects *Serangga*
D	Amphibians *Amfibia*	Reptiles *Reptilia*

17 Which interaction and example is correctly matched?
Padanan interaksi dan contoh manakah yang betul?

	Interaction *Interaksi*	Example *Contoh*
A	Mutualism *Mutualisme*	Sea anemone and hermit crab *Buran dan umang-umang*
B	Parasitism *Parasitisme*	Snake and chicken *Ular dan ayam*
C	Commensalism *Komensalisme*	Tapeworms and sheep *Cacing pita dan biri-biri*
D	Prey-predator *Mangsa-pemangsa*	Orchid growing on a tree *Orkid hidup atas pokok*

18 What is the pH value for acidic substance?
Apakah nilai **pH** *untuk bahan berasid?*

A pH 5

B pH 7

C pH 8

D pH 14

Selangor K1 2012

19 Diagram 12 shows a hot tin becomes dented when cold water is poured onto it.
Rajah 12 *menunjukkan sebuah tin yang panas menjadi kemek apabila air sejuk dicurahkan ke atasnya.*

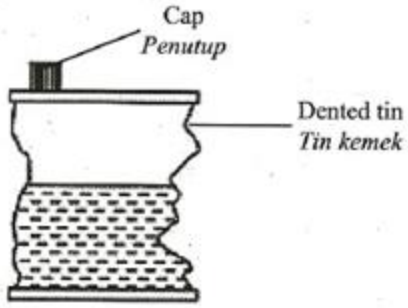


Diagram 12
Rajah 12

The tin is dented because
Tin itu menjadi kemek kerana

A the air pressure outside the tin is greater and presses the tin inwards
tekanan udara di luar tin lebih tinggi dan menekan tin ke dalam

B the air pressure outside the tin has decreased and compressed the tin
tekanan udara di luar tin telah menurun dan memampatkan tin

C the air pressure inside the tin has increased while the volume decreases
tekanan udara dalam tin telah meningkat sementara isi padu menurun

D the air pressure inside the tin has decreased while the volume of air is unchanged
tekanan udara di dalam tin telah menurun sementara isi padu udara tidak berubah

20 Diagram 13 shows a man walking up the stairs with a 20 N load within 4 seconds.
Rajah 13 *menunjukkan seorang lelaki menaiki tangga dengan beban* 20 N *dalam masa* 4 *saat.*

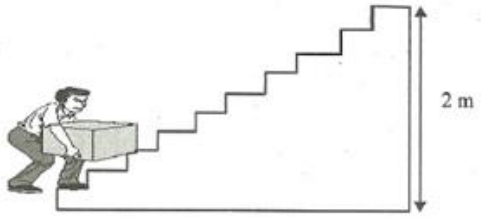


Diagram 13
Rajah 13

Calculate the power generated.
Hitung kuasa yang dijana.

A 4 W

B 10 W

C 12 W

D 40 W

21 The information shows the support system of an animal.
Maklumat berikut menunjukkan sistem sokongan seekor haiwan.

- Skeleton is formed by body fluids
  Rangka terbentuk daripada cecair badan
- Found inside the body
  Ditemui di dalam badan

Which animal has this support system?
Haiwan manakah yang mempunyai sistem sokongan ini?

A Clam
Kepah

B Butterfly
Rama-rama

C Grasshopper
Belalang

D Earthworm
Cacing tanah

Selangor K1 2012

22 Diagram 14 shows two animals.
Rajah 14 menunjukkan dua haiwan.

Diagram 14

What is the similarity of these animals?
Apakah persamaan haiwan-haiwan ini?

A Have endoskeleton
Mempunyai rangka dalaman

B Have exoskeleton
Mempunyai rangka luaran

C Have non-segmented body
Mempunyai badan tidak bersegmen

D Have four pairs of legs
Mempunyai empat pasang kaki

23 Diagram 15 shows a giraffe grazing the plant shoots.
Rajah 15 menunjukkan seekor zirafah meragut pucuk tumbuhan.

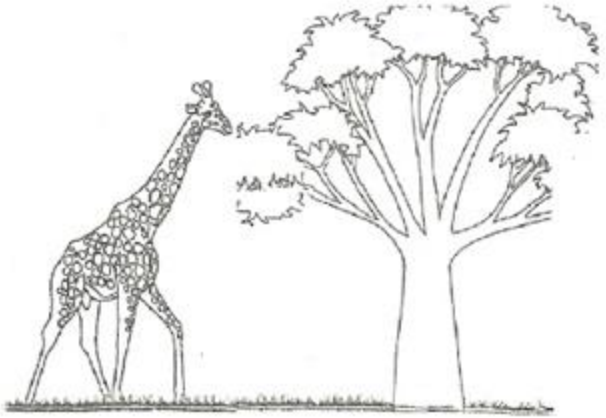


Diagram 15
Rajah 15

The giraffe stands as shown in Diagram 15 when grazing the plant shoots to
Zirafah tersebut berdiri seperti yang ditunjukkan pada Rajah 15 semasa meragut pucuk tumbuhan adalah untuk

A lower its centre of gravity
merendahkan pusat gravitinya

B increase its centre of gravity
meninggikan pusat gravitinya

C lower the size of its base area
merendahkan saiz luas tapaknya

D increase its weight
meningkatkan beratnya

Selangor K1 2012

24 Diagram 16 shows two girls, P and Q, on a see-saw.
Rajah 16 menunjukkan dua budak perempuan, P dan Q, berada di atas jongkang-jongket.

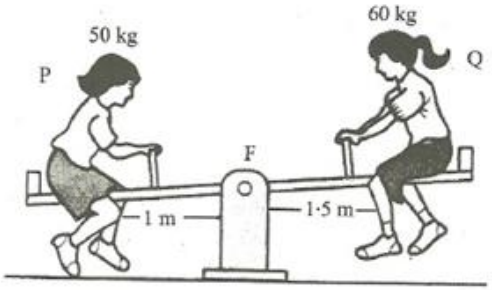


Diagram 16
Rajah 16

Which statement is correct for the see-saw to be at equilibrium?
Pernyataan manakah yang betul untuk jongkang-jongket tersebut berada di dalam keseimbangan?

A P stays, Q moves nearer to F
P *kekal*, Q *bergerak mendekati* F

B P stays, Q moves away from F
P *kekal*, Q *bergerak menjauhi dari* F

C Q stays, P moves nearer to F
Q *kekal*, P *bergerak mendekati* F

D Both girls stay at their position
Kedua-dua budak perempuan kekal pada kedudukan mereka

25 Diagram 17 shows a part of respiratory system.
Rajah 17 menunjukkan sebahagian sistem respirasi.

Diagram 17
Rajah 17

What is the part labelled P?
Apakah bahagian berlabel P?

A Trachea
Trakea

B Bronchiole
Bronkiol

C Bronchus
Bronkus

D Alveolus
Alveolus

26 Diagram 18 shows a part of respiratory system.
Rajah 18 menunjukkan sebahagian sistem respirasi.

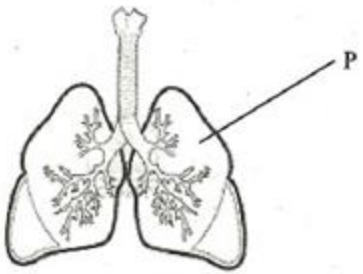


Diagram 18

What happens to part P for a heavy smoker?
Apakah yang berlaku pada bahagian P *untuk perokok tegar?*

A Burst
Meletup

B Blackened
Menjadi hitam

C Enlarged
Membesar

D Swollen
Membengkak

27 Blood group AB is called universal recipient because
Kumpulan darah AB *dipanggil sebagai penerima universal kerana*

A they can receive blood from blood group AB only
mereka boleh menerima darah daripada kumpulan darah AB *sahaja*

B they can receive blood from blood group O only
mereka boleh menerima darah daripada kumpulan darah O *sahaja*

C they can receive blood from blood group A and B only
mereka boleh menerima darah daripada kumpulan darah A *dan* B *sahaja*

D they can receive blood from blood group A, B, AB and O
mereka boleh menerima darah daripada kumpulan darah A, B, AB *dan* O

28 Which is the correct sequences in excreting urine?
Urutan yang manakah betul bagi perkumuhan air kencing?

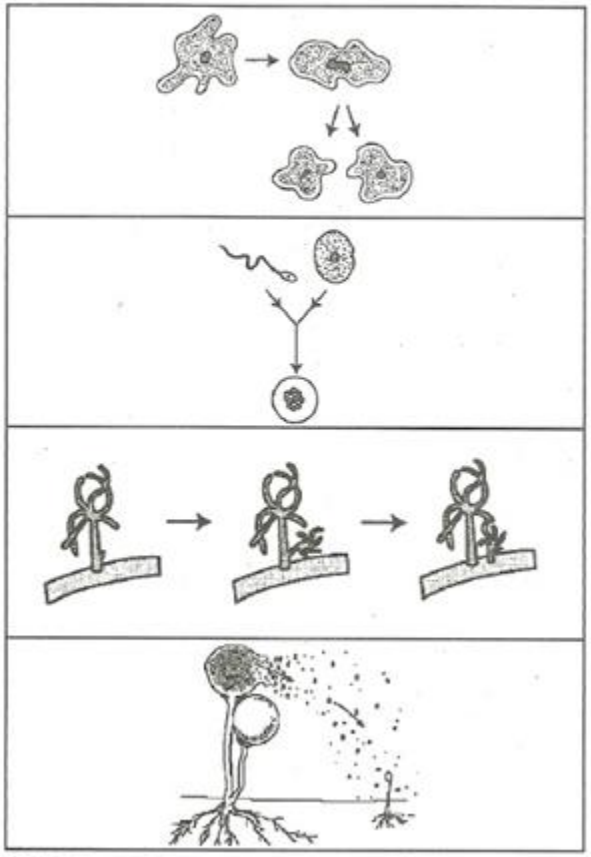
A Kidney *Ginjal* → Urethra *Uretra* → Bladder *Pundi kencing* → Ureter *Ureter*

B Ureter *Ureter* → Bladder *Pundi kencing* → Urethra *Uretra* → Kidney *Ginjal*

C Bladder *Pundi kencing* → Ureter *Ureter* → Urethra *Uretra* → Kidney *Ginjal*

D Kidney *Ginjal* → Ureter *Ureter* → Bladder *Pundi kencing* → Urethra *Uretra*

29 Which organisms reproduce through budding?
Organisma yang manakah membiak melalui pertunasan?



30 Diagram 19 shows one method of birth control.
Rajah 19 menunjukkan satu cara untuk mencegah kehamilan.

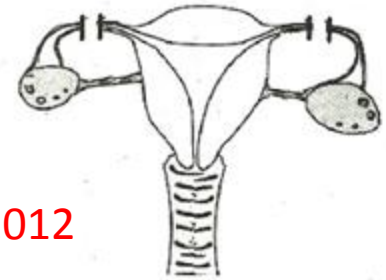


Diagram 19
Rajah 19

Selangor K1 2012

Which method is correct if the woman insists on having another child?
Cara manakah yang betul jika wanita tersebut masih ingin mendapatkan anak lain?

A In vitro fertilization (IVF)
Permanian beradas

B Contraceptive pills
Pil pencegah kehamilan

C Condom
Kondom

D Diaphragm
Diafragma

31 The stage of the growth rate of adolescence is the fastest because
Kadar pertumbuhan pada peringkat remaja paling pantas kerana

A they reach puberty
mereka mencapai akil baligh

B they reach maturity
mereka mencapai kematangan

C they gain weight
berat mereka bertambah

D they increase in size
saiz mereka bertambah

32 Diagram 20 shows the effect of heat on calcium carbonate.
Rajah 20 menunjukkan kesan haba ke atas kalsium karbonat.

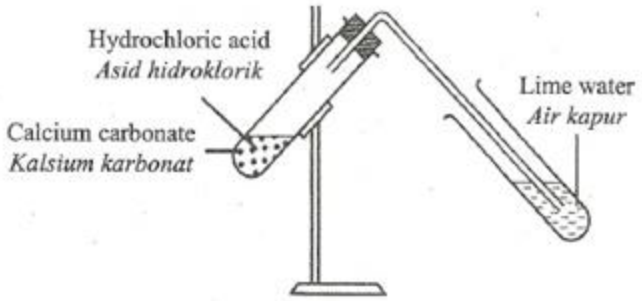


Diagram 20
Rajah 20

What happen to the lime water at the end of the experiment?
Apakah yang berlaku pada air kapur pada akhir eksperimen?

A It remains colourless
Ia kekal jernih

B It turns cloudy
Ia menjadi keruh

C It turns yellow
Ia bertukar menjadi kuning

D It turns red
Ia bertukar menjadi merah

34 Calculate the resistance in an electric circuit of 6 V and 3 A. [V = IR]
Hitung rintangan dalam litar elektrik yang mempunyai 6 V *dan* 3 A. [V =

A 0·5 ohm

B 2·0 ohm

C 9·0 ohm

D 18·0 ohm

33 Diagram 21 shows a symbol in an electrical component.
Rajah 21 *menunjukkan simbol pada satu komponen elektrik.*

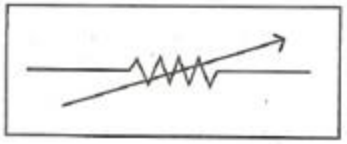


Diagram 21
Rajah 21

What is the symbol?
Apakah simbol itu?

A Dry cell
Sel kering

B Rheostat
Reostat

C Ammeter
Ammeter

Selangor K1 2012

35 An air conditioner rated 2·4 kW and 240 V is switched on every day for 2 hours.
Calculate the total electrical energy used for 30 days.
Sebuah penyaman udara yang berkadar 2·4 kW *dan* 240 V *telah dipasang selama* 2 *jam setiap hari. Hitung jumlah tenaga elektrik yang digunakan untuk* 30 *hari.*

A 120 kWh

B 144 kWh

C 200 kWh

D 480 kWh

Selangor K1 2012

36 Diagram 22 shows a 3-pin plug.
Rajah 22 menunjukkan satu plag 3-pin.

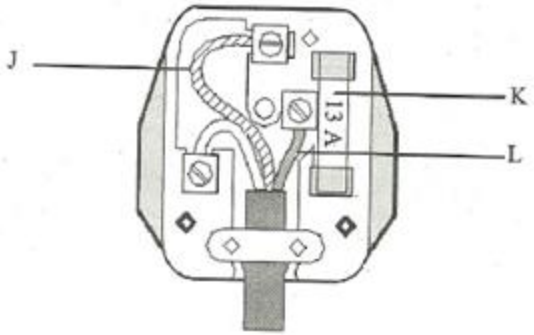


Diagram 22

What are the functions of J, K and L?
Apakah fungsi J, K dan L?

	J	K	L
A	Cut off the circuit if any short circuit occurs *Memotong litar jika berlaku litar pintas*	Flows current from the mains to the electrical appliances *Mengalirkan arus dari suis utama ke alatan elektrik*	Flows current leakage from the electrical appliances to the earth *Mengalirkan kebocoran arus dari alatan elektrik ke bumi*
B	Cut off the circuit if any short circuit occurs *Memotong litar jika berlaku litar pintas*	Flow current from electrical appliances to the mains *Mengalirkan arus dari alatan elektrik ke suis utama*	Flows current leakage from the electrical appliances to the earth *Mengalirkan kebocoran arus dari alatan elektrik ke bumi*
C	Flows current leakage from the electrical appliances to the earth *Mengalirkan kebocoran arus dari alatan elektrik ke bumi*	Cut off the circuit if any short circuit occurs *Memotong litar jika berlaku litar pintas*	Flows current from electrical appliances to the mains *Mengalirkan arus dari alatan elektrik ke suis utama*
D	Flows current from electrical appliances to the mains *Mengalirkan arus dari alatan elektrik ke suis utama*	Flows current leakage from the electrical appliances to the earth *Mengalirkan kebocoran arus dari alatan elektrik ke bumi*	Cut off the circuit if any short circuit occurs *Memotong litar jika berlaku litar pintas*

37 Diagram 23 illustrates the death of a large star.
Rajah 23 menggambarkan kematian sebiji bintang besar.

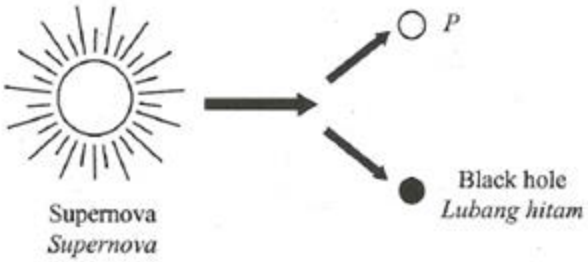


Diagram 23
Rajah 23

What is P?
Apakah P?

A Dying star
Bintang yang hampir mati

B White dwarf
Kerdil putih

C Neutron star
Bintang neutron

D Red giant star
Bintang raksasa merah

38 Which layer of the sun can be seen clearly from the Earth?
Lapisan manakah pada matahari yang boleh dilihat jelas dari Bumi?

A Core
Teras

B Corona
Korona

C Chromosphere
Kromosfera

D Photosphere
Fotosfera

Selangor K1 2012

39 What are the contributions of Galileo Galilei?
Apakah sumbangan Galileo Galilei?

I	Invent the Hubble space telescope *Mencipta teleskop angkasa Hubble*
II	View the moon's surface through telescope *Memerhati permukaan bulan melalui teleskop*
III	Observe planet Venus through telescope *Memerhati planet Zuhrah melalui teleskop*
IV	Invent the first telescope in 1608 *Mencipta teleskop pertama pada* 1608

A I and II
I *dan* II

B I and IV
I *dan* IV

C II and III
II *dan* III

D III and IV
III *dan* IV

40 The following information shows the characteristics of Q.
Maklumat berikut menunjukkan ciri-ciri Q.

- Moves around the earth in an orbit
  Beredar mengelilingi bumi dalam orbitnya
- Sending signals for weather forecasting
  Menghantar isyarat untuk tujuan ramalan cuaca

What is Q?
Apakah Q?

A Rocket
Roket

B Satellite
Satelit

C Space shuttle
Kapal angkasa ulang-alik

D Space telescope
Teleskop angkasa