1 Diagram1 shows the impulse pathway of an action.

Rajah 1 *menunjukkan laluan impuls bagi suatu tindakan.*

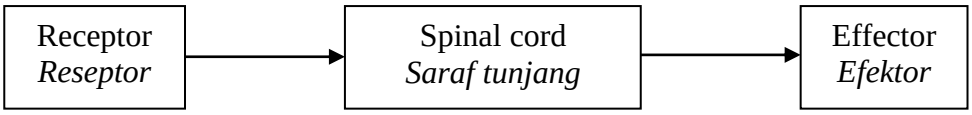

Diagram 1
Rajah 1

What is the action?

Apakah tindakan itu?

A Knee jerk

Sentakan lutut

B Riding a bike

Menunggang basikal

C Reading a book

Membaca buku

D Playing the guitar

Bermain gitar

2 Diagram 2 shows a boy running away when being chased by a dog.

Rajah 2 *menunjukkan seorang budak lelaki berlari apabila dikejar oleh seekor anjing.*

Diagram 2
Rajah 2

Which of the following endocrine gland is related to his action?

Antara kelenjar endokrin berikut, yang manakah berkaitan dengan tindakan beliau?

A Ovary
Ovari

B Adrenal
Adrenal

C Thyroid
Tiroid

D Pancrease
Pankreas

3 The following information shows the effects of drug.

Maklumat berikut menunjukkan kesan suatu dadah.

- Decrease stress
  Mengurangkan tekanan
- Calm and less anxious
  Tenang dan kurang gelisah
- Slow down the reaction towards stimuli
  Memperlahankan gerakbalas terhadap rangsangan

What is the drug ?

Apakah dadah tersebut?

A Ectacy
Ekstasi

B Cocaine
Kokain

C Morphine
Morfin

D Amphetamine
Amfetamina

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4 Diagram 3 shows a process which occurs in meiosis.

Rajah 3 *menunjukkan proses yang berlaku dalam meiosis.*

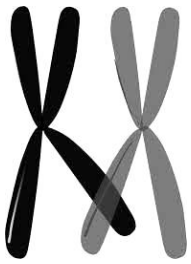


Diagram 3
*Rajah*3

What is the process?

Apakah proses itu?

A Variation
Variasi

B Mitosis
Mitosis

C Replication
Penduaan

D Crossing over
Pindah silang

5 Diagram 4 shows sex determination in human.

Rajah 4 *menunjukkan penentuan seks pada manusia.*

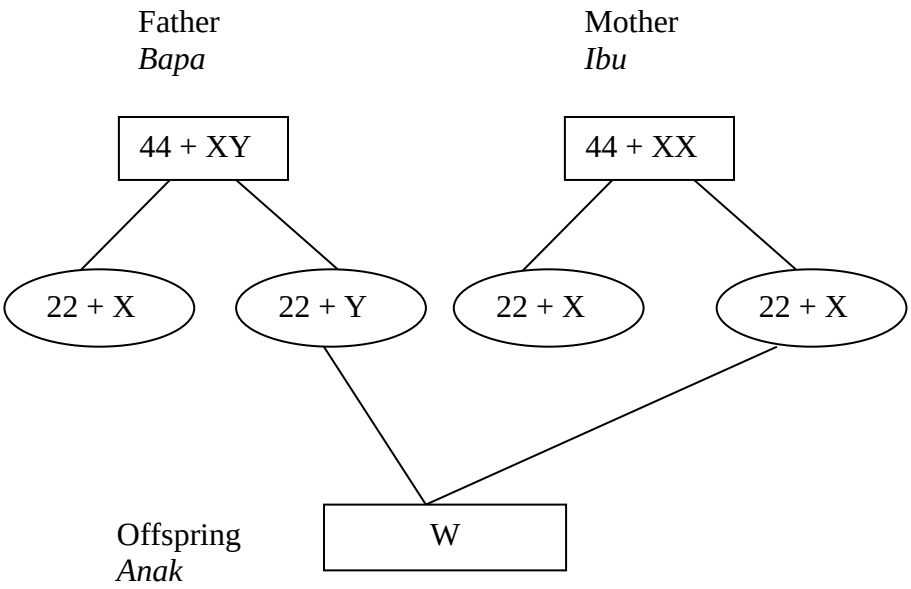


Diagram 4
Rajah 4

What is the genotype and phenotype for W?

Apakah genotip dan fenotip bagi W?

	Genotype ***Genotip***	**Phenotype** ***Fenotip***
A	44 + XX	Female *Perempuan*
B	44 + XY	Female *Perempuan*
C	44 + XX	Male *Lelaki*
D	44 + XY	Male *Lelaki*

6 Diagram 5 shows an example of type of variation

Rajah 5 *menunjukkan satu contoh jenis variasi.*

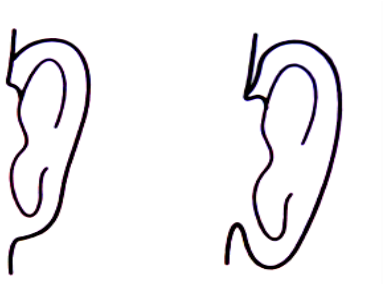


Diagram 5
Rajah 5

Which of the following traits has the same type of variation?

Antara sifat berikut, yang manakah mempunyai jenis variasi yang sama?

A Height
Ketinggian

B Skin colour
Warna kulit

C Body weight
Berat badan

D Blood group
Kumpulan darah

[Lihat halaman sebelah

7 What is the harmful effect of cloning an organism?

Apakah kesan buruk pengklonan organisma?

A Conserve and preserve the extinction species

Memulihara dan memelihara kepupusan spesies

B Produce an organ that needed in organ transplant

Menghasilkan organ untuk pemindahan organ

C Lack of variation that produce unique individuals

Kekurangan variasi yang menghasilkan individu yang unik

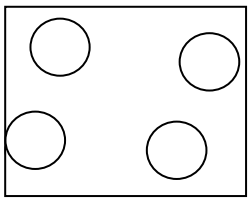
D Produce substances that needed in the field of medicine

Menghasilkan bahan yang diperlukan dalam bidang perubatan

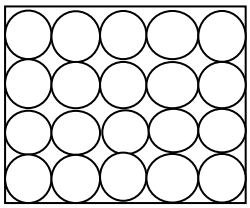
8 Which of the following shows the arrangement of the particles in an ice?

Antara yang berikut, yang manakah menunjukkan susunan zarah-zarah dalam ais?

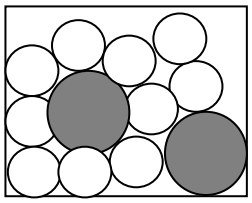
A



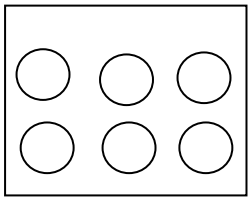
B



C



D



9 Diagram 6 shows an element in Periodic Table.

Rajah 6 *menunjukkan satu unsur dalam Jadual Berkala.*

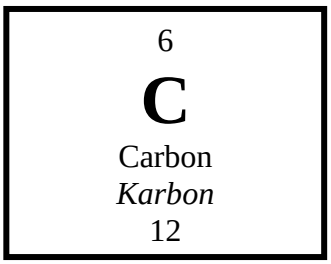


Diagram 6
Rajah 6

What is the number of protons,electrons and neutrons in an atom of the element?

Berapakah bilangan proton, elektron dan neutron dalam satu atom unsur itu?

	Number of proton ***Bilangan proton***	**Number of electron** ***Bilangan elektron***	**Number of neutron** ***Bilangan neutron***
A	12	6	6
B	12	6	12
C	6	12	6
D	6	6	6

10 Which substance is made up of atoms?

Bahan manakah terbina daripada atom?

A Water
Air

B Sodium chloride
Natrium klorida

C Aluminium
Aluminium

D Carbon dioxide
Karbon dioksida

11 Diagram 7 shows a purification method of substance.

Rajah 7 menunjukkan suatu proses penulenan bahan.

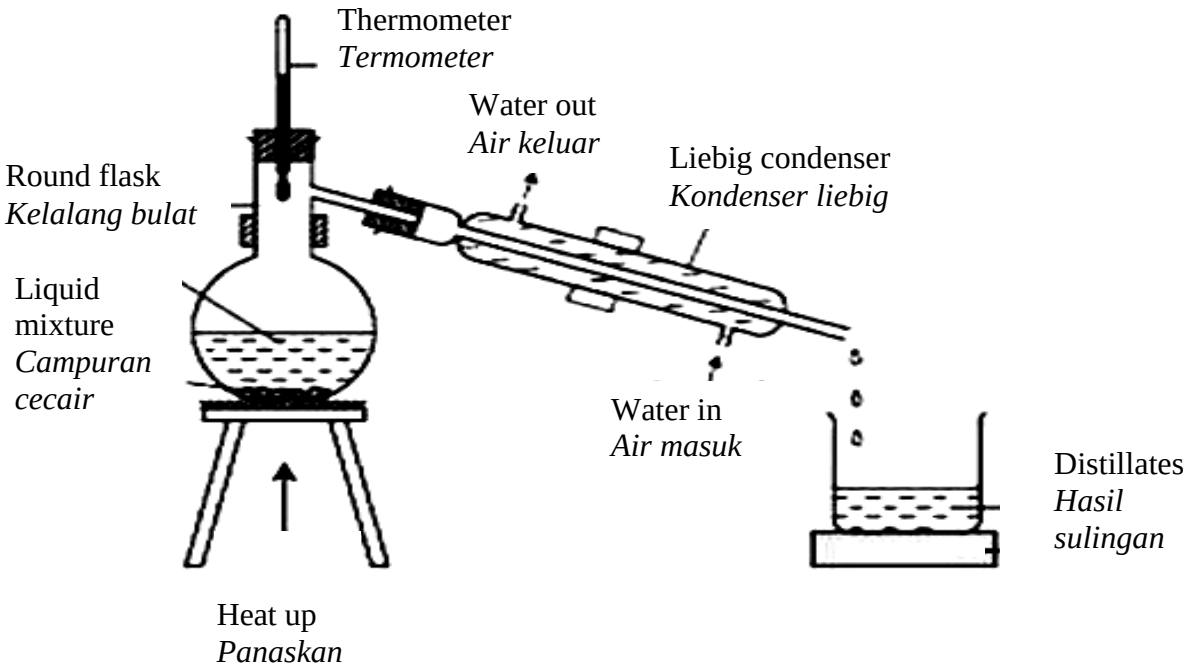


Diagram 7
Rajah 7

[Lihat halaman sebelah

Which of the following substance is using this method ?

Antara yang berikut, bahan yang manakah menggunakan kaedah ini?

A Ethanol
Etanol

B Common salt
Garam biasa

C Tin ore
Bijih timah

D Copper sulphate
Kuprum sulfat

12 Diagram 8 shows a cold pack use to relief fever.

Rajah 8 *menunjukkan pek sejuk yang digunakan untuk mengurangkan demam*.

Diagram 8
Rajah 8

Which reaction involved inside the pack?

Tindak balas yang manakah terlibat dalam pek tersebut?

A Exothermic
Eksotermik

B Endothermic
Endotermik

C Neutralisation
Peneutralan

D Oxidation
Pengoksidaan

[Lihat halaman sebelah

13 Which metal is extracted from its ores through electrolysis?

Logam manakah yang diekstrak daripada bijihnya melalui elektrolisis?

A	Iron *Besi*	**B**	Copper *Kuprum*
C	Sodium *Natrium*	**D**	Lead *Plumbum*

14 Ahmad is suffering from a hearing problem.

Ahmad mengalami masalah pendengaran.

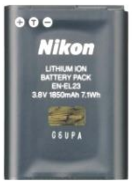
Hearing aid
Alat pendengaran ———

Diagram 9
Rajah 9

Which battery is used in Diagram 9?

Bateri yang manakah digunakan dalam Rajah 9*?*

A



B

C

D

15 Diagram 10 shows a green plant under the sunlight.

Rajah 10 *menunjukkan tumbuhan hijau di bawah cahaya matahari.*

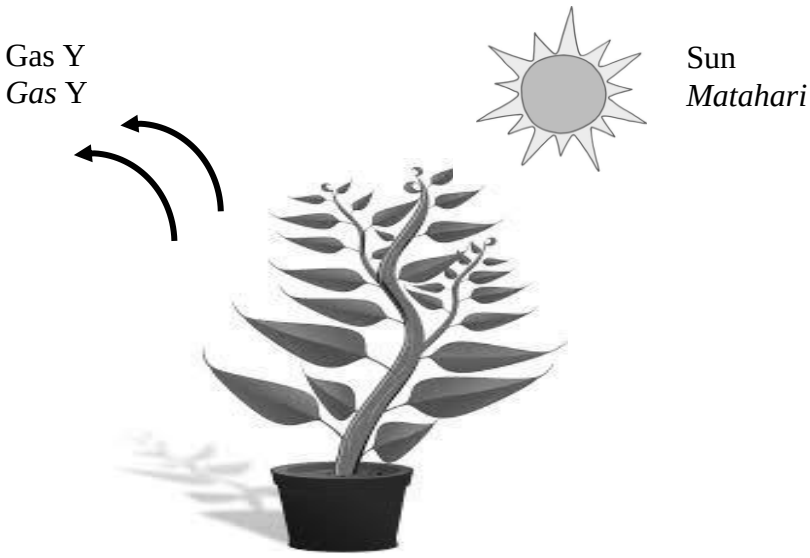


Diagram 10
Rajah 10

What is gas Y ?

Apakah gas Y*?*

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

16 Diagram 11 shows a symbol on a container to store hazardous substances.

Rajah 11 *menunjukkan simbol yang terdapat pada sebuah bekas yang menyimpan bahan yang berbahaya.*

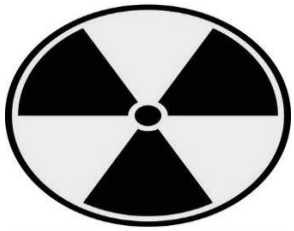


Diagram 11
Rajah 11

Which container is suitable to store the substance?

Bekas manakah yang sesuai untuk menyimpan bahan tersebut?

A Lead container
Bekas plumbum

B Glass container
Bekas kaca

C Plastic container
Bekas plastik

D Copper container
Bekas kuprum

17 Diagram 12 shows uranium-235 bombarded by neutron.

Rajah 12 *menunjukkan uranium*-235 *dibedil oleh zarah neutron.*

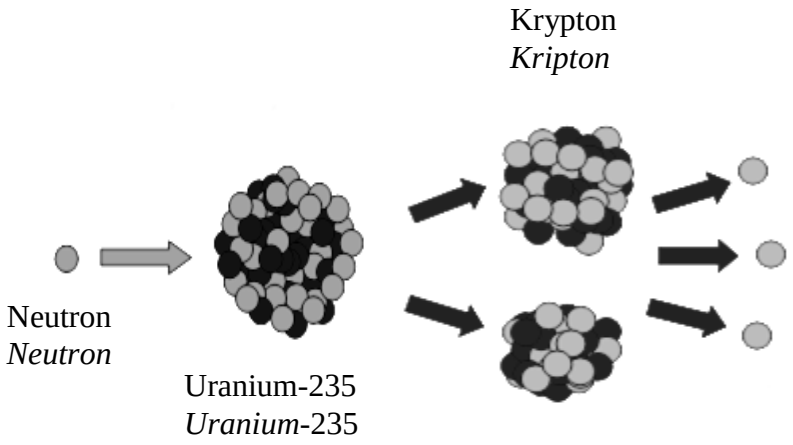


Diagram 12
Rajah 12

What is the process?

Apakah proses tersebut?

A Chain reaction
Tindak balas berantai

B Nuclear fusion
Pelakuran nukleus

C Nuclear fission
Pembelahan nukleus

D Radioactive decay
Pereputan radioaktif

[Lihat halaman sebelah

18 Diagram 13 shows the position of a candle in front of convex lens.

Rajah 13 *menunjukkan kedudukan lilin di hadapan kanta cembung.*

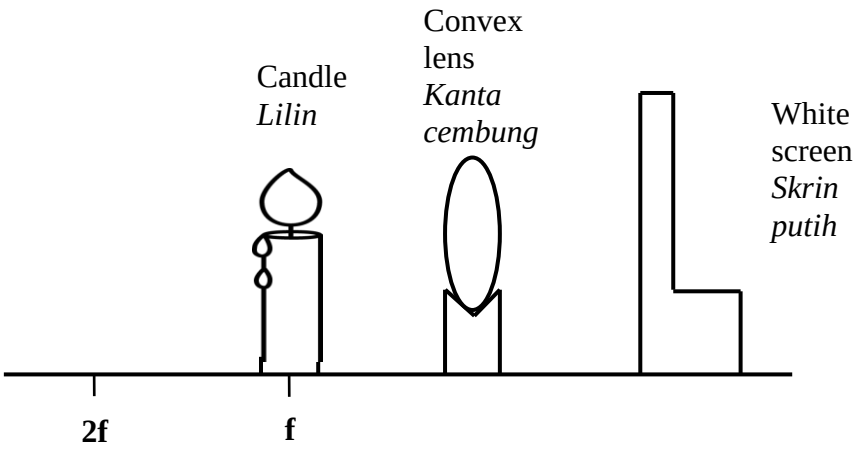


Diagram 13
Rajah 13

What are the characteristics of image formed on the white screen when the candle is moved to the position 2f?

Apakah ciri-ciri imej yang terbentuk pada skrin putih apabila lilin digerakkan ke kedudukan 2f*?*

A Smaller and real
Lebih kecil dan nyata

B Same size and real
Sama saiz dan nyata

C Smaller and virtual
Lebih kecil dan maya

D Same size and virtual
Sama saiz dan maya

19 Diagram 14 shows a structure of the human eye.

Which part of **A**,**B**,**C** and **D** has the same function with a focusing ring on the camera?

Rajah 14 *menunjukkan struktur mata manusia.*

Antara bahagian **A**,**B**,**C** *dan* **D** *yang manakah mempunyai fungsi yang sama dengan pelaras fokus pada kamera?*

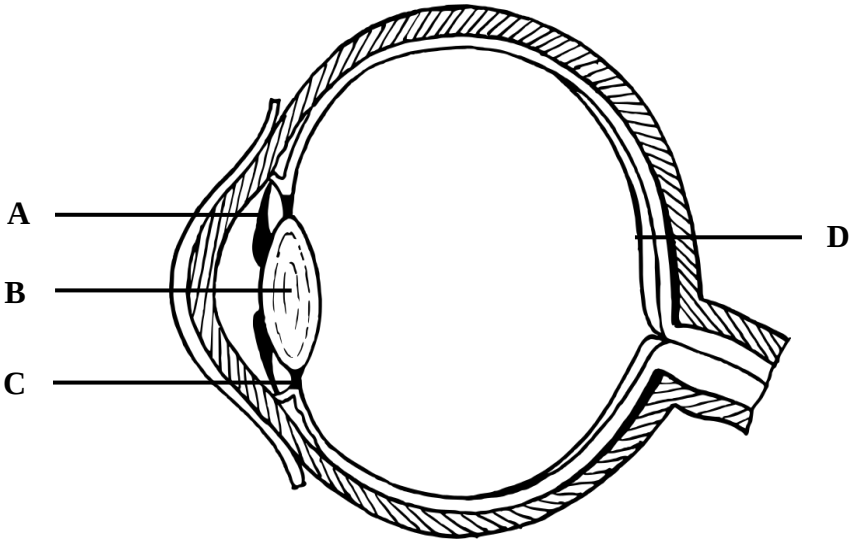


Diagram 14
Rajah 14

20 Diagram 15 shows the substraction of coloured light through two coloured filters.

Rajah 15 *menunjukkan penolakan cahaya berwarna melalui dua penapis warna.*

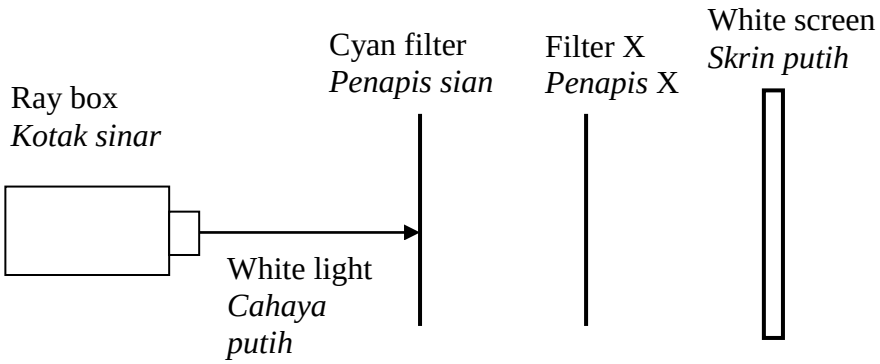


Diagram 15
Rajah 15

What is the colour of filter X if there is no coloured light seen on the screen?

Apakah warna penapis cahaya X *jika tiada cahaya berwarna kelihatan di skrin?*

A Red
Merah

B Blue
Biru

C Green
Hijau

D Yellow
Kuning

21 Diana wants to paint her class with orange colour.

Diana ingin mengecat kelasnya dengan warna jingga.

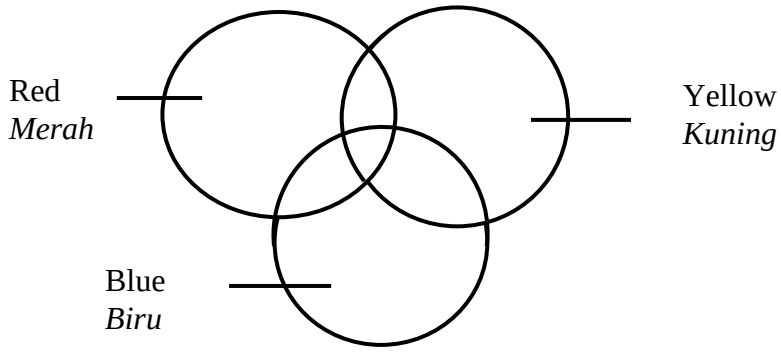


Diagram 16
Rajah 16

Based on Diagram 16, what are the colours of paint she has to mix to get that colour?

Berdasarkan Rajah 16, *apakah warna cat yang perlu dicampurkan untuk mendapatkan warna tersebut?*

A Red + Blue
Merah + *Biru*

B Blue + Green
Biru + *Hijau*

C Yellow + Red
Kuning + *Merah*

D Blue + Yellow
Biru + *Kuning*

22 Which of the following processes improve the appearance of a metal?

Antara yang berikut proses yang manakah menambahkan kecantikan sesuatu logam?

A Polymerisation
Pempolimeran

B Extraction
Pengekstrakan

C Purification
Penulenan

D Alloying
Pengaloian

23 Which of the following pairs of elements used in making bronze medal?

Antara pasangan unsur berikut yang manakah digunakan untuk membuat piala gangsa?

A Aluminium + Copper
Aluminium + Kuprum

B Iron + Carbon
Besi + Karbon

C Copper + Zinc
Kuprum + Zink

D Copper + Tin
Kuprum + Timah

24 Choose the most suitable match between the source of environmental pollution and effects on human health.

Pilih padanan yang paling sesuai tentang punca pencemaran alam sekitar dan kesan keatas kesihatan manusia.

	Source of pollution ***Punca pencemaran***	**Effects on human health** ***Kesan keatas kesihatan manusia***
A	Fossil fuel *Bahan api fosil*	Diabetes mellitus *Penyakit kencing manis*
B	Agricultural waste *Sisa industri pertanian*	Heart disease *Penyakit jantung*
C	Industrial toxic waste *Sisa toksik dari industri*	Diarrhoea *Cirit birit*
D	Excess chemical fertilizer *Baja kimia berlebihan*	Breathing difficulties *Sesak nafas*

25 Diagram 17 shows two examples of microorganisms.

Rajah 17 *menunjukkan dua contoh mikroorganisma.*

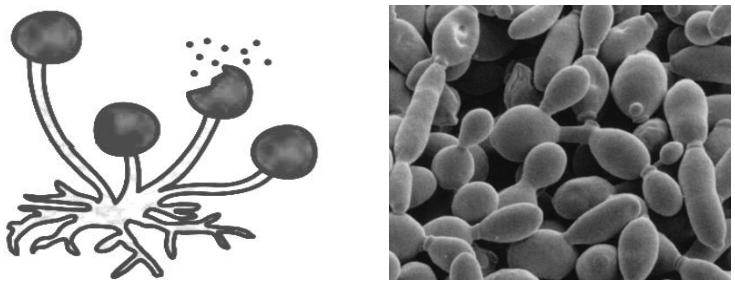


Diagram 17
Rajah 17

What is the group of these organisms?

Apakah kumpulan mikroorganisma ini?

A	Fungi *Kulat*	**B**	Algae *Alga*
C	Virus *Virus*	**D**	Bacteria *Bakteria*

26 Diagram 18 shows a vector which spread disease.

*Rajah*18 *menunjukkan vektor yang menyebarkan penyakit.*

Diagram 18
Rajah 18

Which of the following disease that can be spread by this vector?

Antara penyakit berikut, yang manakah boleh disebar oleh vektor ini?

A	Cholera *Taun*	**B**	Ringworm *Panau*
C	Tuberculosis *Batuk kering*	**D**	Dengue fever *Demam denggi*

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27 Table 1 shows the result of an experiment to study the effect of pH value on the growth of bacteria.

Jadual 1 *menunjukkan keputusan suatu eksperimen untuk mengkaji kesan nilai* pH *keatas pertumbuhan bakteria.*

pH value ***Nilai* pH**	**Size of bacteria colony after two days** ***Saiz koloni bakteria selepas dua hari***
2	2
5	4
7	6
9	2

Table 1
*Jadual*1

What is the most suitable pH for the bacterial growth ?

Apakah pH *yang paling sesuai bagi pertumbuhan bakteria ?*

A pH 2 **B** pH 5

C pH 7 **D** pH 9

28 Diagram 19 shows the level of antibody in the body of a patient after the first injection of antiserum.

Rajah 19 *menunjukkan aras antibodi seorang pesakit selepas suntikan antiserum yang pertama.*

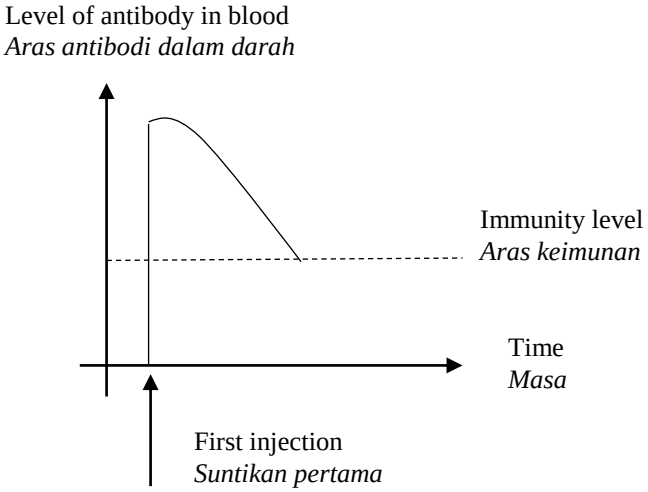

Diagram 19
Rajah 19

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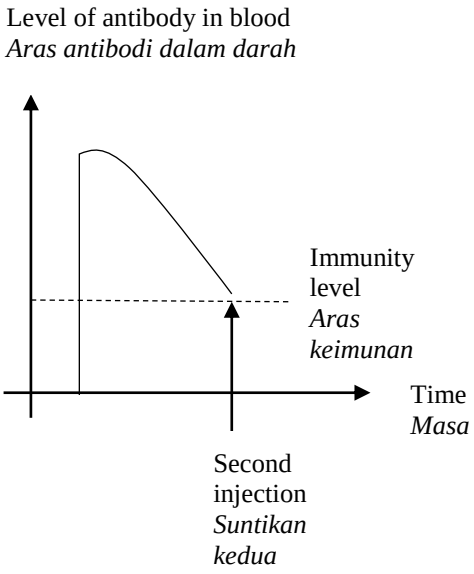
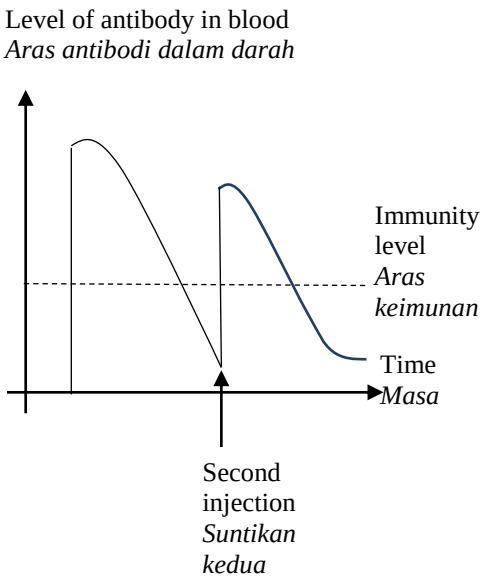
Which graph shows the level of antibody in the blood after the second injection of antiserum ?

Graf yang manakah menunjukkan aras antibodi dalam darah selepas suntikan antiserum yang kedua?

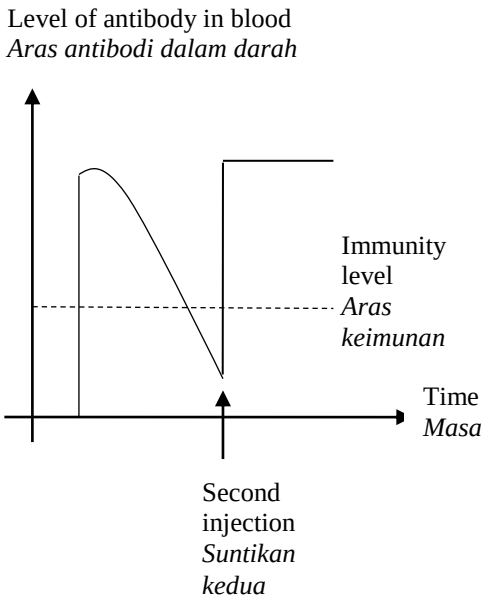
A



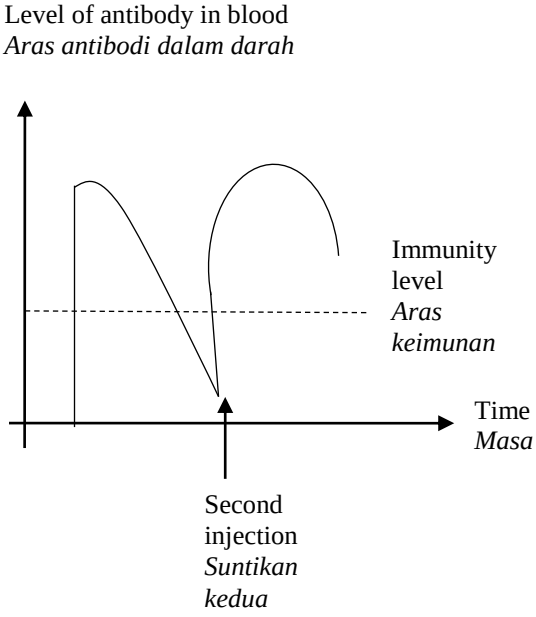
B



C



D



29 What is the natural phenomenon that plays an important role in the nitrogen cycle?

Apakah fenomena semulajadi yang memainkan peranan penting dalam kitar nitrogen?

A Flood
Banjir

B Flash flood
Banjir kilat

C Typhoon
Ribut taufan

D Rain and lightning
Hujan dan kilat

30 Diagram 20 shows a woman who is too afraid of getting fat always restrain herself from eating.

Rajah 20 *menunjukkan seorang wanita yang takut menjadi gemuk sering menahan diri daripada makan.*

Diagram 20
Rajah 20

What is the disease?

Apakah penyakit tersebut?

A Obesity
Kegendutan

B Diabetes mellitus
Penyakit kencing manis

C Arteriosclerosis
Arteriosklerosis

D Aneroxia nervosa
Anoreksia nervosa

[Lihat halaman sebelah

31 Table 2 shows the calorific values of different foods.

Jadual 2 *menunjukkan nilai kalori bagi beberapa makanan.*

Food ***Makanan***	**Calorific value (kJ per 100g)** ***Nilai kalori (*kJ *per* 100*g)***
Mutton *Daging kambing*	643
Chicken *Ayam*	590
Prawn *Udang*	380
Anchovies *Ikan bilis*	937

Table 2
Jadual 2

Which food contributes the highest calorific value?

Makanan yang manakah menyumbang nilai kalori yang paling tinggi?

A 150 g anchovies
150 g *ikan bilis*

B 200 g prawns
200 g *udang*

C 200 g chicken
200 g *ayam*

D 150 g mutton
150 g *daging kambing*

32 Diagram 21 shows a residential area.
A group of students took a sample of water in station P, Q and R to investigate the water polluted level.

Rajah 21 *menunjukkan satu kawasan penempatan.*
Sekumpulan pelajar telah mengambil sampel air dari stesen P, Q *dan* R *untuk mengkaji tahap pencemaran air.*

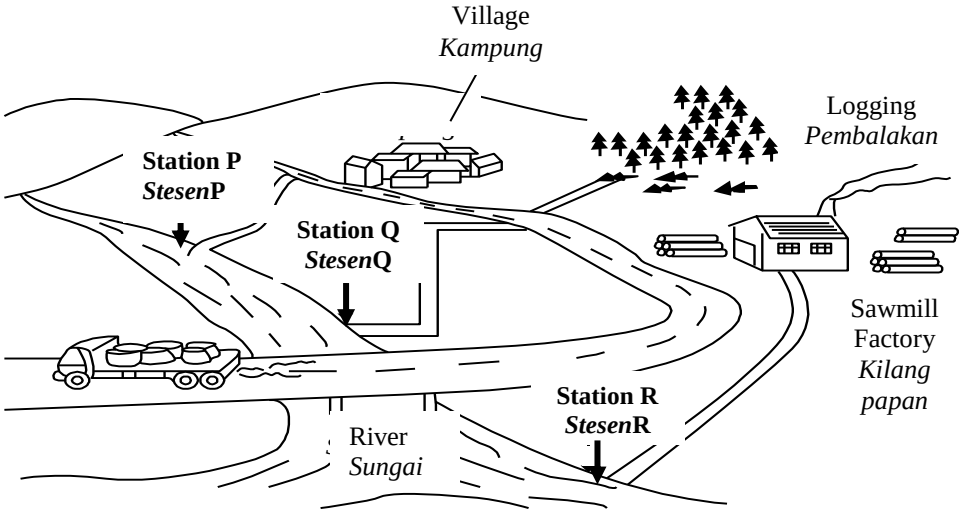


Diagram 21
Rajah 21

Arrange the correct sequence for the water polluted level from the most polluted to the least polluted?

Susunkan urutan yang betul tahap pencemaran air dari paling tercemar ke kurang tercemar?

	Station ***Stesen***
A	P, Q and R P, Q *dan* R
B	R, Q and P R, Q *dan* P
C	Q, R and P Q, R *dan* P
D	P, R and Q P, R *dan* Q

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33 Diagram 22 shows carbon cycle.

Rajah 22 *menunjukkan kitar karbon.*

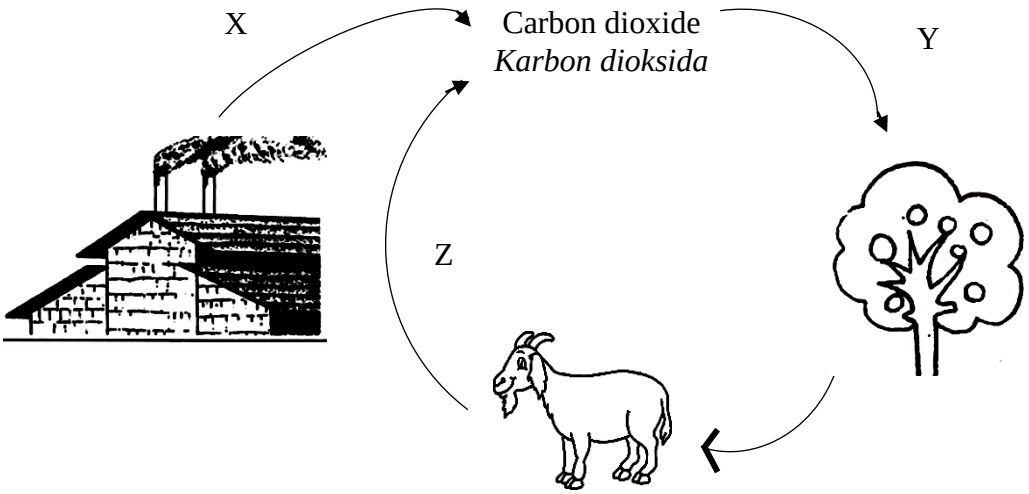


Diagram 22
Rajah 22

Which of the following process will return the carbon dioxide gas to the atmosphere?

Antara yang berikut, proses-proses yang manakah mengembalikan gas karbon dioksida ke atmosfera?

	Process ***Proses***
A	X and Y X *dan* Y
B	X and Z X *dan* Z
C	Z and Y Z *dan* Y
D	Y only Y *sahaja*

34 Diagram 23 shows a food web.

Rajah 23 *menunjukkan suatu jaringan makanan.*

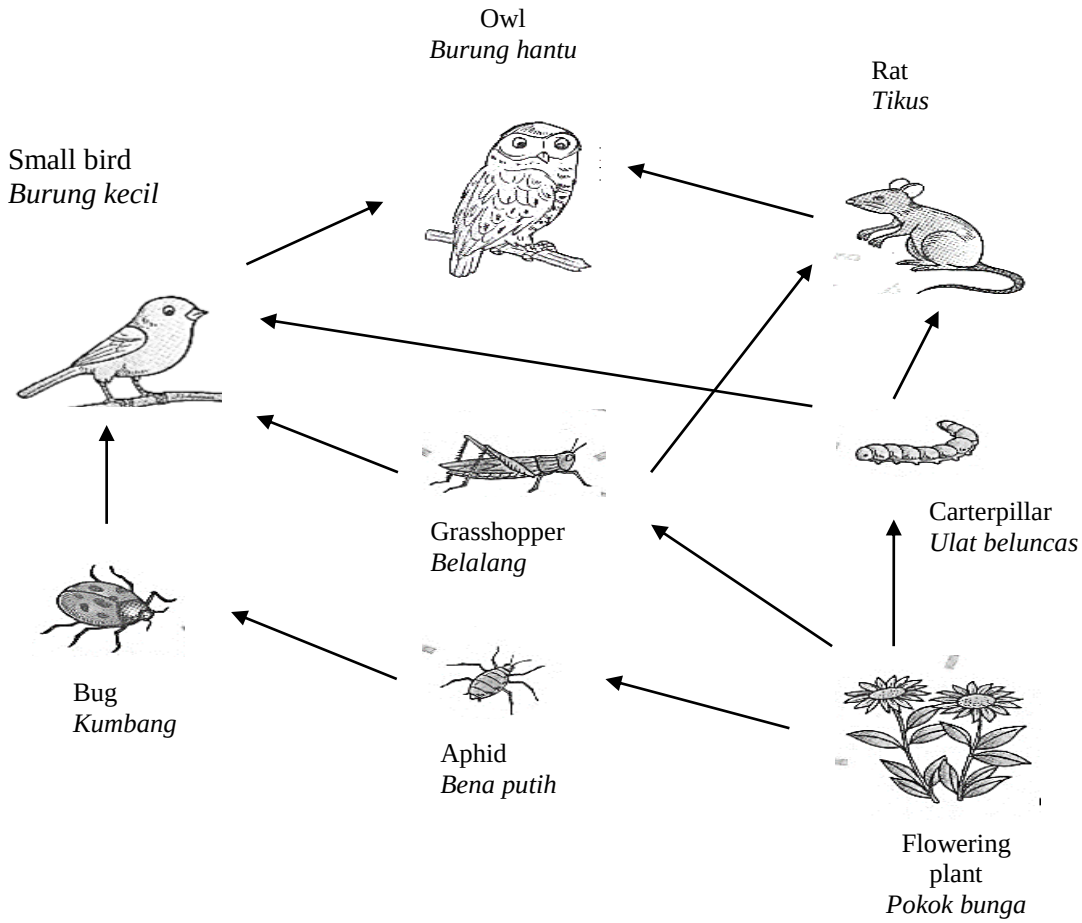


Diagram 23
Rajah 23

What is the total food chain in this food web?

Berapakah jumlah rantai makanan dalam jaringan makanan ini?

A 3

B 4

C 5

D 6

35 The excessive intake of saturated fats can harm our health because

Pengambilan lemak tepu berlebihan boleh menjejaskan kesihatan kerana

A high cholesterol in blood

kolesterol tinggi dalam darah

B does not dissolve in water

tidak larut dalam air

C are solids at room temperature

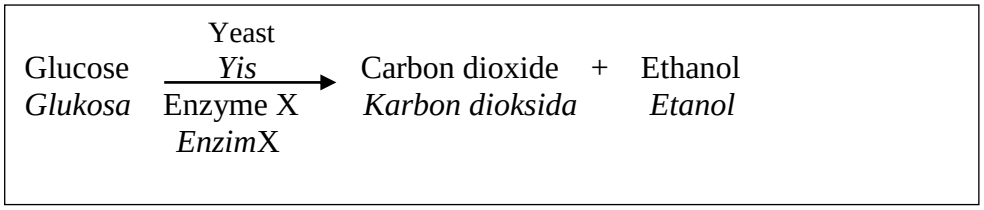
pepejal pada suhu bilik

D act as solvents for certain vitamins

bertindak sebagai pelarut vitamin tertentu

36 The following words equation shows a fermentation process.

Persamaan perkataan berikut menunjukkan proses penapaian.



What is enzyme X?

Apakah enzim X*?*

A Celullase

Selulosa

B Amylase

Amilase

C Sucrase

Sukrosa

D Zymase

Zimase

37 Which of the following substances is contained in palm oil?

Antara yang berikut bahan yang manakah terkandung di dalam minyak sawit?

I Vitamin A

Vitamin A

II Vitamin C

Vitamin C

III Beta carotena

Beta karotena

A I and II

I *dan* II

B I and III

I *dan* III

C II and III

II *dan* III

D I, II and III

I, II *dan* III

38 Diagram 24 shows the structure of a soap molecule.
Rajah 24 *menunjukkan struktur molekul sabun.*

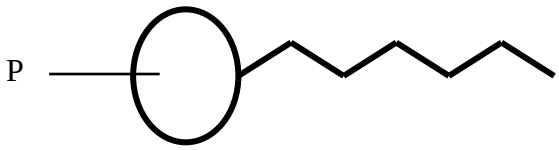


Diagram 24
Rajah 24

The structure labelled P will dissolve in
Struktur berlabel P *akan larut dalam*

A fat
lemak

B water
air

C grease
gris

D palm oil
minyak sawit

39 Which diagram shows the application of higher pressure in daily life?

Rajah yang manakah menunjukkan aplikasi penambahan tekanan dalam kehidupan seharian ?

A

B

C

D

40 Diagram 25 shows an experiment to investigate the upthrust on a piece of plasticine.

Rajah 25 *menunjukkan suatu eksperimen untuk mengkaji tujah ke atas bagi seketul plastisin*.

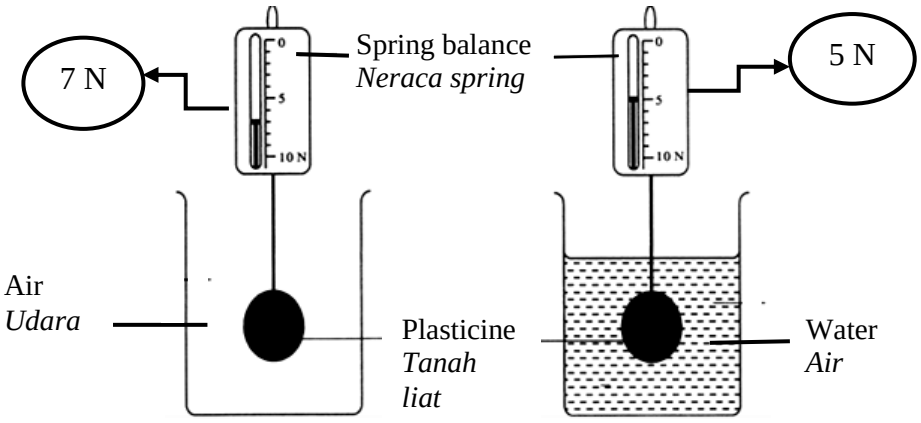


Diagram 25
Rajah 25

What is the upthrust on the plasticine?

Apakah tujah ke atas bagi plastisin itu?

A 1 N **B** 2 N

C 5 N **D** 8 N

[Lihat halaman sebelah

41 Diagram 26 shows an experiment to show Bernoulli's Principle.

Rajah 26 *menunjukkan satu eksperimen mengenai Prinsip Bernoulli.*

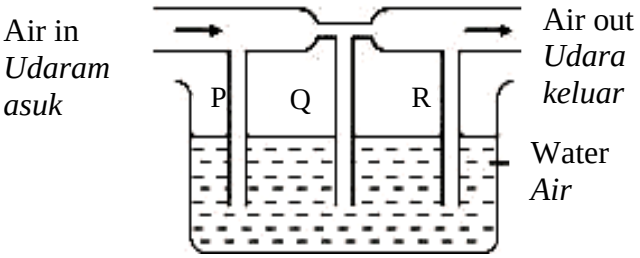


Diagram 26
Rajah 26

What can be observed through the bernoulli tube when the air flow into the tube?

Apakah yang boleh diperhatikan melalui tiub Bernoulli apabila udara mengalir melaluinya?

A Water level at tube Q is the lowest

Paras air pada tiub Q *paling rendah*

B Water level at tube R is the highest

Paras air pada tiub R *paling tinggi*

C Water level at tubes Q and R are the same

Paras air pada tiub Q *dan tiub* R *adalah sama*

D Water level at tube Q is higher than tube P

Paras air pada tiub Q *lebih tinggi daripada tiub* P

42 Diagram 27 shows a hydraulic jack.

Rajah 27 *menunjukkan suatu jek hidraulik.*

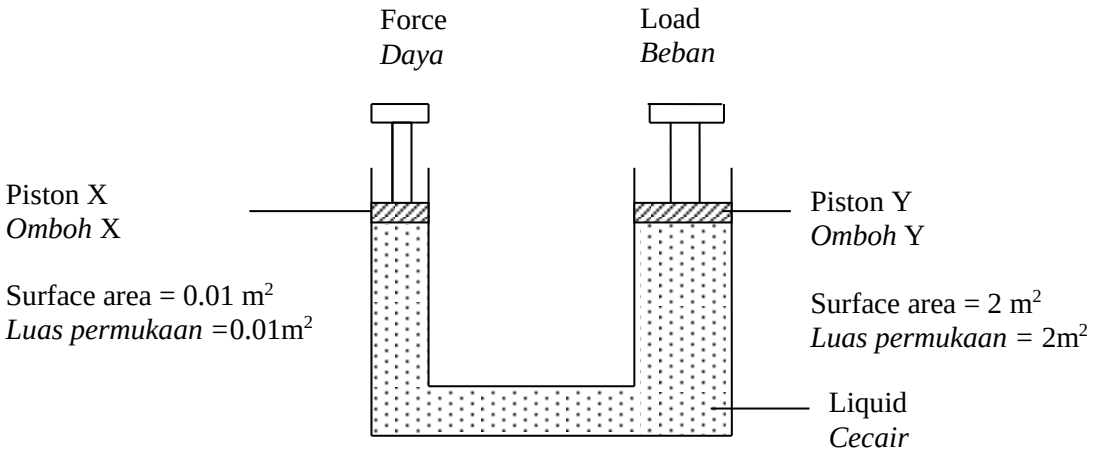


Diagram 27
Rajah 27

Calculate the force of piston X to balance the load of 5000 N?

$$\text{Pressure} = \frac{\text{Force}}{\text{Surface area}}$$

Kira daya dikenakan keatas omboh X *untuk mengimbangi beban* 5000 N*?*

$$\textit{Tekanan} = \frac{\textit{Daya}}{\textit{Luas permukaan}}$$

A 25 N **B** 100 N

C 250 N **D** 1000 N

43 Diagram 28 shows an example of food.

Rajah 28 *menunjukkan satu contoh makanan*.

Diagram 28
Rajah 28

[Lihat halaman sebelah

What is the suitable method to keep the food last longer?

Apakah kaedah yang sesuai untuk menyimpan makanan lebih lama?

A Cooling
Pendinginan

B Pasteurisation
Pempasteuran

C Freezing
Penyejukbekuan

D Vacuum packaging
Pembungkusan vakum

44 The following information shows a method carried out by farmers in Malaysia.

Maklumat berikut menunjukkan satu kaedah yang dijalankan oleh petani di Malaysia.

> Encik Hassan rearing fresh water fish in his paddy fields.
>
> *Encik Hassan menternak ikan air tawar di kawasan tanaman padinya.*

What is the method?

Apakah kaedah tersebut?

A Selective breeding
Baka terpilih

B Biological control
Kawalan biologi

C Integrated system
Sistem bersepadu

D Genetic engineering
Kejuruteraan genetik

45 Diagram 29 shows a food label.

Rajah 29 *menunjukkan suatu label makanan*

Apple Juice

Jus Epal

Manufactured by :
Dibuat oleh :
Nutri Juice Sdn. Bhd.
No 216, Jalan Kelang Lama,
Petaling Jaya

Ingredients: Apple, sugar, permitted colouring, artificial flavour, water
Ramuan : Epal, gula, pewarna yang dibenarkan, perisa tiruan, air

500ml

Diagram 29
Rajah 29

Which information should be on the label according to the Food Act 1983 and Food Regulation Act of 1985?

Maklumat manakah yang sepatutnya terdapat pada label tersebut mengikut Akta Makanan 1983 dan Peraturan Makanan 1985*?*

A Price
Harga

B Expiry date
Tarikh luput

C "Halal" label
Tanda halal

D Calorific value
Nilai kalori

46 Diagram 30 shows examples of items.

Rajah 30 *menunjukkan contoh barangan.*

W 

X 

Y 

Z 

Diagram 30
Rajah 30

Which of items are made from synthetic rubber?

Antara barangan tersebut, yang manakah diperbuat daripada getah sintetik?

A W and Y
W *dan* Y

B X and Z
X *dan* Z

C W and Z
W *dan* Z

D X and Y
X *dan* Y

47 Diagram 31 shows kitchen utensils.

Rajah 31 *menunjukkan perkakasan dapur.*

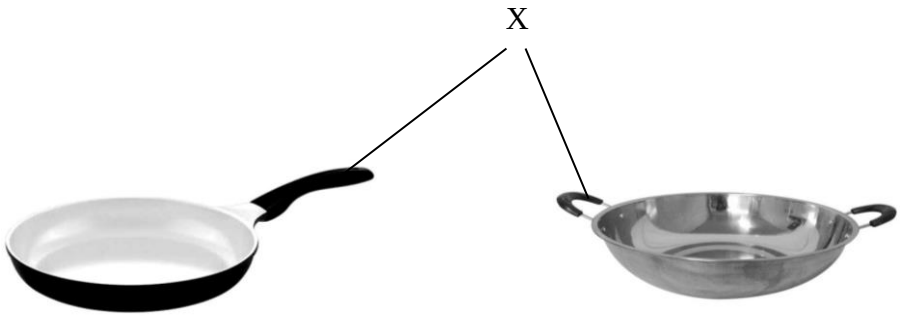


Diagram 31
Rajah 31

What is the type of plastic X?

Apakah jenis plastik X*?*

A	Bakelite *Bakelit*	**B**	Polythene *Politena*
C	Perspeks *Perspeks*	**D**	Polyvinyl chloride (PVC) *Polivinilklorida (PVC)*

48 Diagram 32 shows drinking bottles which are made from plastic.

Rajah 32 *menunjukkan botol-botol minuman yang diperbuat daripada plastik.*

Diagram 32
Rajah 32

What is the best way to dispose the bottles?

Apakah cara terbaik untuk melupuskan botol-botol itu?

A	Recycle *Kitar semula*	**B**	Burn the bottles *Membakar botol*
C	Treat with acid *Rawat dengan asid*	**D**	Bury the bottles *Menanam botol*

[Lihat halaman sebelah

49 A wave with a frequency of 50 Hz moves at a velocity of 300 m s^{-1}.
What is the wavelength?

[Velocity = Frequency X Wavelength]

Satu gelombang yang berfrekuensi 50 Hz *mempunyai halaju* 300 m s^{-1}.
Berapakah panjang gelombang itu?

[*Halaju = Frekuensi* X *Panjang gelombang*]

A 6 m **B** 60 m

C 150 m **D** 1500 m

50 Diagram 33 shows a satellite communication system.

Rajah 33 *menunjukkan sistem komunikasi satelit.*

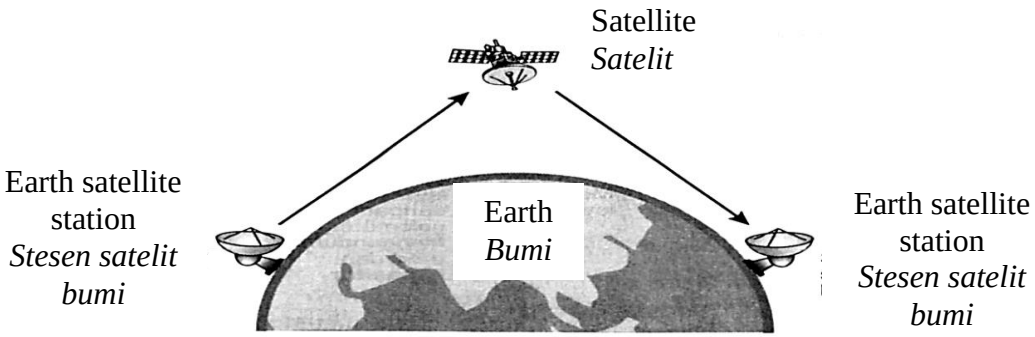


Diagram 33
Rajah 33

What type of wave is used in this communication?

Apakah jenis gelombang yang digunakan dalam komunikasi ini?

A Short wave
Gelombang pendek

B Microwave
Gelombang mikro

C Long wave
Gelombang panjang

D Medium wave
Gelombang sederhana