

1511/1
SAINS
KERTAS 1
JULAI 2026
1 JAM 15 MINIT

NO KAD PENGENALAN

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Nama Murid :

Tingkatan :



MAJLIS PENGETUA SEKOLAH MALAYSIA (MPSM)
(CAWANGAN KELANTAN)

MODUL KOLEKSI ITEM
PEPERIKSAAN PERCUBAAN SPM 2026
TINGKATAN 5

SAINS
KERTAS 1
SATU JAM LIMA BELAS MINIT

ARAHAN:

1. Kertas soalan ini mengandungi **40 soalan**
2. Jawab **semua** soalan.
3. Bagi setiap soalan, pilih **satu** jawapan sahaja. **Hitamkan** jawapan and pada kertas jawapan objektif yang disediakan.
4. Kertas peperiksaan ini adalah dalam dwibahasa

Kertas soalan ini mengandungi 26 halaman bercetak termasuk muka hadapan.

1. Antara berikut, yang manakah ciri-ciri bahan yang boleh dibuang ke dalam singki?
Which of the following is the characteristic of materials that can be disposed of into a sink?

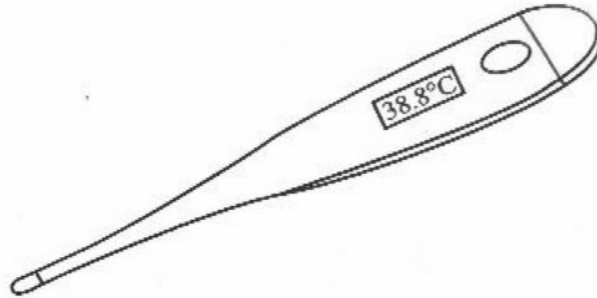
- A Asid lemah
Weak acid
- B Bahan meruap
Volatile substance
- C Mempunyai nilai pH 10
Having a pH value of 10
- D Bahan buangan radioaktif
Radioactive waste

2. Apakah kepentingan melakukan teknik tekanan dada semasa memberikan bantuan kecemasan Resusitasi Kardiopulmonari (CPR)?
What is the importance of performing chest compressions technique while providing Cardiopulmonary Resuscitation (CPR) emergency help?

- A Menghantar oksigen terus ke otak
Sends oxygen directly to the brain
- B Menghasilkan peredaran darah secara buatan
Produces artificial blood circulation
- C Menerima udara beroksigen ke dalam peparunya
Receiving oxygenated air into the lungs
- D Menyingkirkan karbon dioksida daripada badan mangsa
Removes carbon dioxide from the victim's body

3. Rajah 1 menunjukkan bacaan suhu badan Wafiq.

Diagram 1 shows Wafiq's body temperature reading.



Rajah 1 / Diagram 1

Antara berikut, apakah faktor yang menyebabkan bacaan suhu tersebut?

Which of the following is the factor that cause the temperature reading?

- A Jangkitan patogen
Pathogen infection
- B Makan berlebihan
Overeating
- C Kurang selera makan
Loss of appetite
- D Cukup tidur 8 jam sehari
Get enough sleep for 8 hours a day

4. Liyana mempunyai ketinggian 1.54 m dan berjisim 65 kg.

Apakah kategori Indeks Jisim Badan (BMI) Liyana?

Liyana has a height of 1.54 m and mass of 65 kg.

What is the category of Liyana's Body Mass Index?

$$BMI = \frac{\text{Jisim badan (kg)}}{(\text{ketinggian})^2 (\text{m}^2)}$$

$$BMI = \frac{\text{Body mass (kg)}}{(\text{Height})^2 (\text{m}^2)}$$

	BMI	Kategori Category
A	< 18.5	Kurang jisim badan <i>Underweight</i>
B	18.5 – 24.90	Jisim badan unggul <i>Desirable weight</i>
C	25.0 – 29.9	Berlebihan jisim badan <i>Overweight</i>
D	≥ 30.0	Obes <i>Obese</i>

5. Antara berikut, yang manakah merupakan pengangkutan hijau?

Which of the following is green transportation?

- A Kenderaan perkhidmatan
Service vehicle
- B Pengangkutan awam
Public transport
- C Basikal
Bicycle
- D Teksi
Taxi

- 6 Kaji pernyataan berikut,
Examine the following statements,

Pak Ali mendapati tanah kebunnya tidak subur. Pokok yang ditanam kerap diserang oleh serangga perosak. Dia ingin mengatasi masalah tersebut tanpa mencemarkan tanah kebunnya.

Pak Ali found that the soil in his garden was not fertile. The trees planted often attacked by pests. He wanted to overcome the problem without polluting his garden soil.

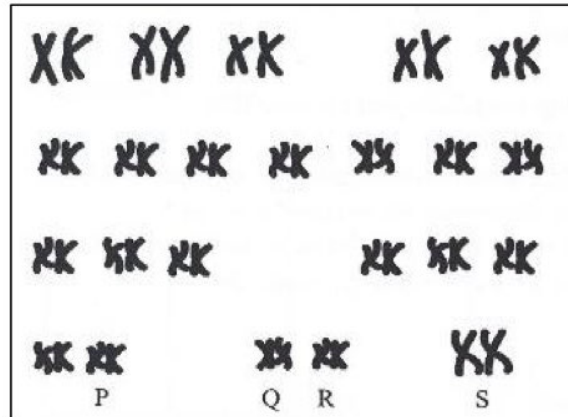
Apakah yang perlu dilakukan oleh Pak Ali?

What should Pak Ali do?

- A Menggunakan baja kimia dan semburan racun
Use chemical fertilizers and pesticides
- B Menggunakan baja kompos dan kawalan biologi
Use compost and biological control
- C Menggunakan baka terpilih dan baja bermutu tinggi
Using selected breeds and high quality fertilizers
- D Menggunakan racun perosak dan peralatan berteknologi moden
Using pesticides and equipment with modern technology

7 Rajah 2 menunjukkan kariotip bagi seorang individu.

Diagram 2 shows a karyotype of an individual.



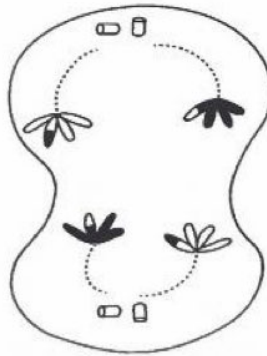
Rajah 2 / Diagram 2

Antara yang berikut, kromosom homolog manakah yang menentukan jantina individu tersebut?

Which of the following homologous chromosomes determines the gender of the individual?

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

- 8 Rajah 3 menunjukkan satu fasa dalam proses pembahagian sel.
Diagram 3 shows a phase in a cell division process.



Rajah 3 / *Diagram 3*

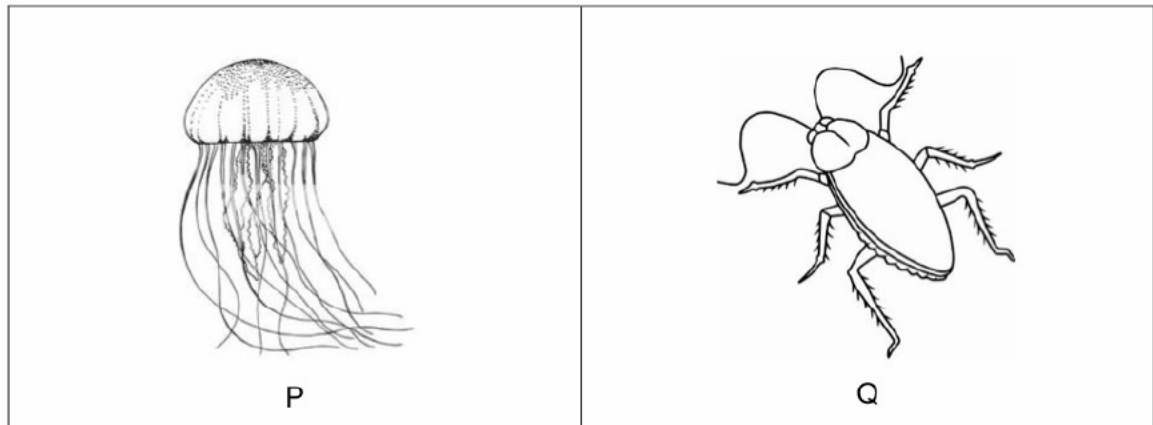
Di manakah proses ini berlaku?

Where does this process occur?

- A Testis
Testes
- B Ginjal
Kidney
- C Peparu
Lung
- D Rambut
Hair

9. Rajah 4 menunjukkan dua jenis haiwan.

Diagram 4 shows two type of animals.



Rajah 4 / Diagram 4

Antara berikut, yang manakah betul mengenai sistem sokongan bagi haiwan P dan Q?

Which of the following is correct about the support system for animal P and Q?

	P	Q
A	Rangka luar <i>Exoskeleton</i>	Rangka hidrostatik <i>Hydrostatic skeleton</i>
B	Rangka dalam <i>Endoskeleton</i>	Rangka luar <i>Exoskeleton</i>
C	Rangka hidrostatik <i>Hydrostatic skeleton</i>	Rangka luar <i>Exoskeleton</i>
D	Rangka luar <i>Exoskeleton</i>	Rangka dalam <i>Endoskeleton</i>

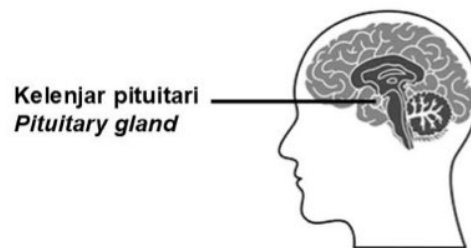
10 Bagaimanakah tumbuhan akuatik seperti teratai dapat terapung di permukaan air?

How can aquatic plants like lilies float on the surface of the water?

- A Bergantung sepenuhnya kepada kekuatan arus air.
Depends entirely on the strength of the water current.
- B Mengandungi lapisan lilin yang tebal pada permukaan daun.
Has a thick waxy layer on the surface of the leaves
- C Terdapat akar yang sangat panjang sehingga ke dasar kolam.
Has very long roots that reach the bottom of the pond
- D Mempunyai tisu aerenkima yang mengandungi banyak ruang udara.
Has aerenchyma tissue that contains many air spaces.

11. Rajah 5 menunjukkan satu kelenjar endokrin.

Diagram 5 shows an endocrine gland.



Rajah 5 / Diagram 5

Antara berikut, yang manakah kesan kekurangan hormon yang dirembeskan oleh kelenjar tersebut?

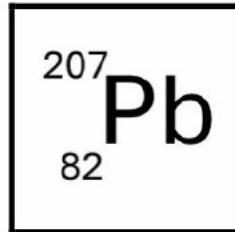
Which of the following is a result of the lack of hormones secreted by the gland?

- A Merasa cemas
Feeling anxious
- B Lambat akil baligh
Delayed puberty
- C Sentiasa berasa dahaga
Always feeling thirsty
- D Aras glukosa darah meningkat
Blood glucose levels increase

12. Seorang murid cedera parah dalam satu kemalangan jalan raya.
Antara berikut, yang manakah boleh digunakan untuk mengurangkan kesakitan?
A student was seriously injured in a road accident.
Which of the following can be used to reduce pain?
- A Morfin
Morphine
 - B Ketamin
Ketamine
 - C Barbiturat
Barbiturates
 - D Amfetamina
Amphetamines
13. Berapakah bilangan atom dalam satu molekul air?
How many atoms are in a water molecule?
- A 3
 - B 4
 - C 5
 - D 6

14. Rajah 6 menunjukkan isotop plumbum.

Diagram 6 shows the isotopes of lead.



Rajah 6 / Diagram 6

Apakah nombor nukleon bagi isotop plumbum?

What is the nucleon number of the isotope of lead?

- A 82
 - B 125
 - C 207
 - D 289
15. Keluli dan gangsa merupakan sejenis aloi.
- Apakah komposisi unsur yang terdapat pada gangsa?
- Steel and bronze are alloys.*
- What is the composition of the elements found in bronze?*
- A Aluminium dan zink
Aluminium and zinc
 - B Kuprum dan zink
Copper and zinc
 - C Besi dan karbon
Iron and carbon
 - D Kuprum dan timah
Copper and tin

16. Bahan Q mempunyai sifat-sifat berikut :

Substance Q has the following properties:

- Tahan terhadap haba
Heat-resistant
- Keras dan lebih kenyal
Hard and more elastic
- Penebat elektrik yang baik
Good electrical insulation

Bahan Q ialah

Substance Q is

- A Perspeks
Perspex
- B Getah asli
Natural rubber
- C Polistirena
Polystyrene
- D Getah tervulkan
Vulcanised rubber

17. Rajah 7 menunjukkan satu kaedah perubatan.

Diagram 7 shows a medical method.



Rajah 7 / Diagram 7

Antara berikut, yang manakah ciri kaedah perubatan tersebut?

Which of the following is the characteristic of the medical method?

- A Rawatan lebih berkesan dan cepat
Treatment is effective and fast
- B Diwarisi dan diamalkan turun-temurun
Inherited and practiced from generation to generation
- C Pembuktian keberkesanan secara klinikal
The effectiveness is clinical tested
- D Tidak melibatkan pembedahan dan jahitan
Does not involve surgery and stitches

18. Antara berikut, yang manakah faktor dalaman yang menghasilkan radikal bebas dalam badan manusia?

Which of the following is an internal factor that produce free radicals in the human body?

- A Asap rokok
 Cigarette smoke
- B Keradangan
 Inflammation
- C Sinaran ultraungu
 Ultraviolet rays
- D Pencemaran udara
 Air pollution

19. Berapakah pecutan Usain Bolt jika berlari dalam keadaan pegun dan mencecah halaju 10.44 ms⁻¹ di garisan penamat 100 meter dalam tempoh 9.58 saat?

What is the acceleration of Usain Bolt if he starts from rest and attains a velocity of 10.44 ms⁻¹ at the 100 metres finish line in 9.58 seconds?

$$\text{Pecutan} = \frac{\text{Halaju akhir} - \text{Halaju awal}}{\text{Masa}}$$

$$\text{Acceleration} = \frac{\text{Final velocity} - \text{Initial velocity}}{\text{Times taken}}$$

- A -1.09 ms⁻²
- B 1.09 ms⁻²
- C -9.09 ms⁻²
- D 9.09 ms⁻²

20. Kepala tukul yang longgar boleh diketatkan dengan menghentakkan bahagian pemegang tukul pada permukaan keras. Hentakan yang laju menyebabkan kepala tukul bergerak ke bawah.

Apakah yang menyebabkan keadaan itu berlaku?

The loose head of a hammer can be tightened by banging its handle against a hard surface.

A swift bang drives the hammer head downwards.

What causes the condition to occur?

- A Daya
Force
- B Inersia
Inertia
- C Pecutan
Acceleration
- D Momentum
Momentum

21. Antara berikut, yang manakah kelebihan stesen jana kuasa tenaga nuklear?

Which of the following is the advantage of nuclear power station?

- A Kos pembinaan yang rendah
Low construction costs
- B Sumber tenaga yang mudah diperolehi
Easily obtained source of energy
- C Membebaskan gas rumah hijau yang sedikit
Release little greenhouse gases
- D Sisa radioaktif yang dihasilkan tidak menjejaskan kesihatan
The radioactive waste produced does not affect health

22. Antara berikut, pilih padanan yang betul kesan somatik dan kesan genetik akibat penyebaran radiasi daripada ujian nuklear.

Which the following matches of somatic and genetic effects of radiation spread from nuclear tests.

	Kesan somatik <i>Somatic effects</i>	Kesan genetik <i>Genetic effects</i>
A	Kanser <i>Cancer</i>	Loya <i>Nausea</i>
B	Keletihan <i>Tiredness</i>	Katarak <i>Cataract</i>
C	Mutasi sel <i>Cell mutation</i>	Leukimia <i>Leukaemia</i>
D	Keguguran rambut <i>Hair loss</i>	Kecacatan pada bayi <i>Deformation in babies</i>

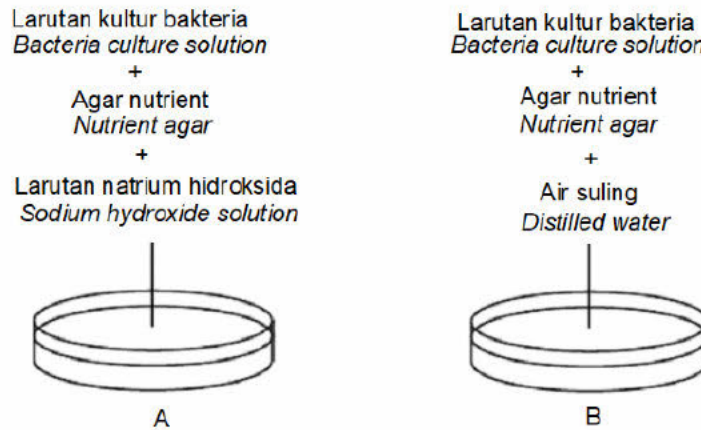
23. Antara berikut, mikroorganisma manakah boleh menjalankan proses fotosintesis?

Which of the following microorganism can carry out the process of photosynthesis?

- A Alga
Algae
- B Virus
Virus
- C Fungi
Fungi
- D Protozoa
Protozoa

24. Rajah 8 menunjukkan dua piring petri yang dikeluarkan selepas disimpan di dalam almari yang gelap selama tiga hari pada suhu bilik.

Diagram 8 shows two petri dishes that were taken out after being stored in a dark cupboard for three days at room temperature.



Rajah 8 / *Diagram 8*

Apakah faktor yang dikaji?

What is the factor investigated?

- A Cahaya
Light
- B Nilai pH
pH value
- C Kelembapan
Humidity
- D Suhu persekitaran
Surrounding temperature

25. Jadual 1 menunjukkan nilai kalori bagi tiga jenis sampel makanan.

Table 1 shows the calorific value of three types of food sample.

Sampel makanan <i>Food samples</i>	Nilai kalori / gram (kJ/g) <i>Calorific value / gram (kJ/g)</i>
Roti putih <i>White bread</i>	10.6
Daging ayam <i>Chicken meat</i>	8.27
Timun <i>Cucumber</i>	0.55

Jadual 1 / Table 1

Nabil mengambil sandwic sebagai sarapan pagi. Tentukan nilai kalori yang diambil oleh Nabil jika sandwicnya mengandungi 50 g roti putih, 80 g daging ayam dan 5 g timun?
Nabil eats a sandwich for breakfast. Determine the calorific value consumed by Nabil if his sandwich contains 50 g of white bread, 80 g of chicken meat and 5 g of cucumber?

- A 1149.4 kJ
- B 1194.4 kJ
- C 1449.4 kJ
- D 1494.4 KJ

26. Monosodium glutamat (MSG) ialah sejenis perisa yang ditambah dalam makanan.

Apakah fungsi perisa?

Monosodium glutamate (MSG) is a flavouring that is added in the food.

What is the function of flavouring?

A Menjadikan makanan lebih menarik

Makes food more attractive

B Memastikan makanan lebih manis

Ensure the food is sweeter

C Meningkatkan rasa makanan

Improves the taste of food

D Menambah warna makanan

Add colours to food

27. Antara berikut, apakah langkah tapak tangan karbon bagi menyingkirkan karbon dioksida daripada udara?

Which of the following is the carbon handprint step to remove carbon dioxide from the air?

A Mengamalkan 5R

Practice 5R

B Mewujudkan singki karbon

Creates a carbon sink

C Penggunaan bateri boleh cas semula

Use of rechargeable batteries

D Menggunakan bahan binaan berasaskan simen

Use of cement-based building materials

28. Jadual 2 menunjukkan keputusan satu eksperimen untuk mengkaji tahap pencemaran dua sampel air di kawasan berbeza.

Table 2 shows the results of an experiment to study the contamination levels of two water samples in different areas.

Jenis sampel air <i>Type of water samples</i>	Masa yang diambil untuk warna larutan metilena biru luntur (minit) <i>Time taken for methylene blue to decolourise (minutes)</i>
P	40
Q	80

Jadual 2 / Table 2

Berdasarkan Jadual 2 , pernyataan manakah yang benar?

Based on the Table 2 , which statement is true?

- A Sampel air Q paling tercemar.
Water sample Q is the most contaminated.
- B Jumlah bakteria dalam sampel air P paling sedikit.
The quantity of bacteria in the P water sample is the least
- C Jumlah oksigen terlarut dalam sampel air P paling rendah.
The amount of dissolved oxygen in the P water sample is the lowest.
- D *Biochemical Oxygen Demand (BOD)* sampel air Q paling tinggi.
Biochemical Oxygen Demand (BOD) of water sample Q is the highest

29. Rajah 9 menunjukkan 2 keping daging dengan jisim yang sama dipotong dengan saiz berbeza. Didapati daging dengan potongan kecil lebih cepat masak.

Diagram 9 shows 2 pieces of meat with the same mass cut into different sizes. It was found that the meat with smaller pieces cooked faster.



Rajah 9 / Diagram 9

Pernyataan yang manakah menerangkan situasi di atas?

Which statement describes the situation above?

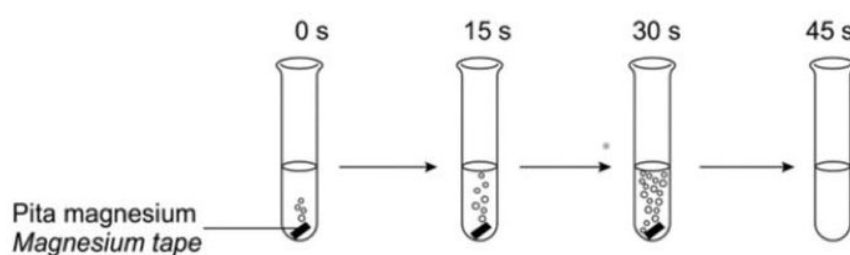
- A Saiz daging yang kecil mempunyai jisim yang lebih kecil.
Smaller meat sizes have smaller mass.
- B Saiz daging yang kecil menerima lebih banyak tenaga haba.
Smaller meat sizes receive more heat energy.
- C Saiz daging yang kecil mempunyai nilai kalori yang lebih besar.
Smaller pieces of meat have higher calorific value.
- D Saiz daging yang kecil mempunyai jumlah luas permukaan yang besar.
Small pieces of meat have a large surface area.

30. Rajah 10 menunjukkan tindak balas antara 0.8 g pita magnesium dengan asid hidroklorik cair berlebihan sehingga lengkap dalam masa 45 s.

Hitung kadar tindak balas bagi tindak balas tersebut.

Diagram 10 shows a reaction between 0.8 g of magnesium tape reacts completely with excess dilute hydrochloric acid in 45 s.

Calculate the rate of reaction for the reaction.



Rajah 10 / Diagram 10

$$\text{Kadar tindak balas} = \frac{\text{Pengurangan jisim bahan tindak balas}}{\text{Masa yang diambil}}$$

$$\text{Rate of reaction} = \frac{\text{Decrease in mass of reactant}}{\text{Time taken}}$$

- A 0.02 gs⁻¹
- B 0.05 gs⁻¹
- C 0.67 gs⁻¹
- D 0.80 gs⁻¹

31. Rajah 11 menunjukkan keratan rentas buah kelapa sawit.

Diagram 11 shows the cross-section of an oil palm fruit.



Rajah 11 / Diagram 11

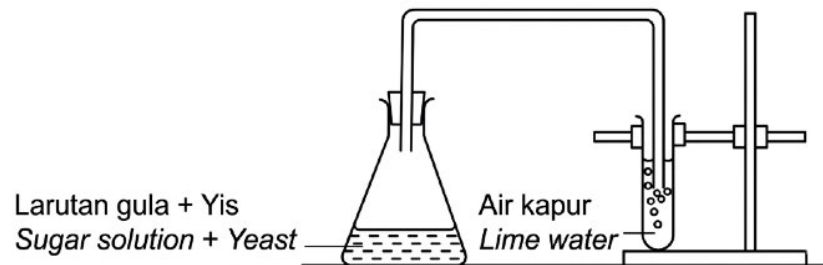
Antara berikut, yang manakah menghasilkan minyak paling banyak?

Which of the following labelled parts produces the most oil?

- A Q
- B R
- C S
- D T

32. Rajah 12 menunjukkan proses penghasilan alkohol di dalam makmal.

Diagram 12 shows the process of producing alcohol in the laboratory.



Rajah 12 / Diagram 12

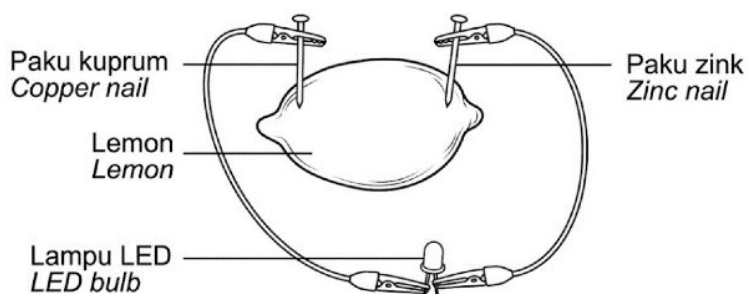
Apakah perubahan yang dapat diperhatikan pada air kapur?

What changes can be observed in lime water?

- A Berubah warna perang
Turns brown
- B Tiada perubahan
No change
- C Berbau manis
Smells sweet
- D Menjadi keruh
Turns cloudy

33. Rajah 13 menunjukkan susunan radas bagi satu aktiviti.

Diagram 13 shows the arrangement of apparatus for an activity.



Rajah 13 / Diagram 13

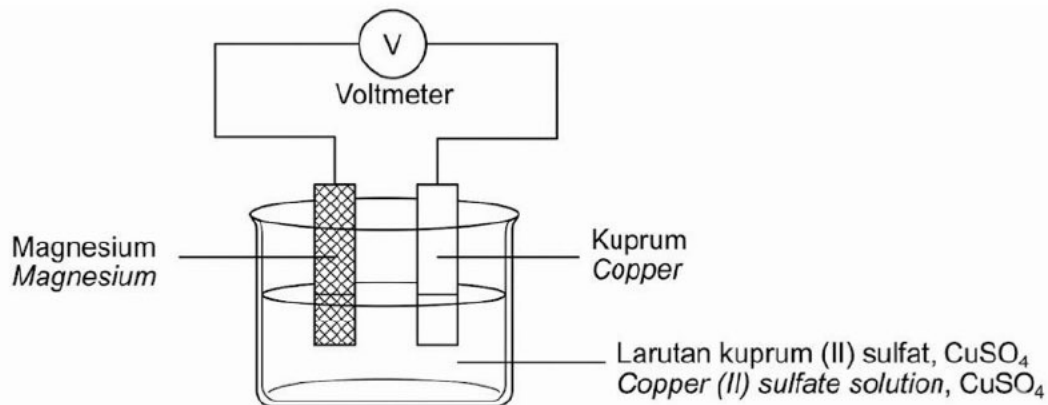
Apakah perubahan tenaga yang berlaku dalam aktiviti tersebut?

What is the energy changes that occur in the activity?

- A Tenaga haba $\longrightarrow$ Tenaga kimia
 Heat energy $\longrightarrow$ Chemical energy
- B Tenaga kimia $\longrightarrow$ Tenaga haba
 Chemical energy $\longrightarrow$ Heat energy
- C Tenaga kimia $\longrightarrow$ Tenaga elektrik
 Chemical energy $\longrightarrow$ Electrical energy
- D Tenaga eletrik $\longrightarrow$ Tenaga kimia
 Electrical energy $\longrightarrow$ Chemical energy

34. Rajah 14 menunjukkan satu sel ringkas.

Diagram 14 shows a simple cell.



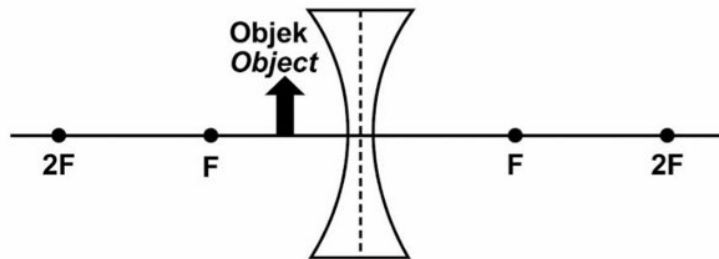
Rajah 14 / Diagram 14

Antara berikut, apakah yang berlaku pada elektrod magnesium yang menyebabkan jarum voltmeter terpesong?

Which of the following happens to the magnesium electrode that causes the voltmeter needle to deflect?

- A Magnesium bertindak sebagai terminal positif
Magnesium acts as the positive terminal
- B Pepejal terbentuk dan terendap pada jalur magnesium
A solid forms and settles on the magnesium strip
- C Elektrod magnesium menderma elektron dan larut dalam elektrolit
Magnesium electrode donates electrons and dissolves in electrolytes
- D Pergerakan elektron dari elektrod kuprum ke elektrod magnesium melalui litar luar sel.
The movement of electrons from the copper electrode to the magnesium electrode through the external circuit of the cell.

35. Rajah 15 menunjukkan kedudukan satu objek bagi pembentukan imej oleh sejenis kanta.
Diagram 15 shows the position of an object for image formation by a type of lens.



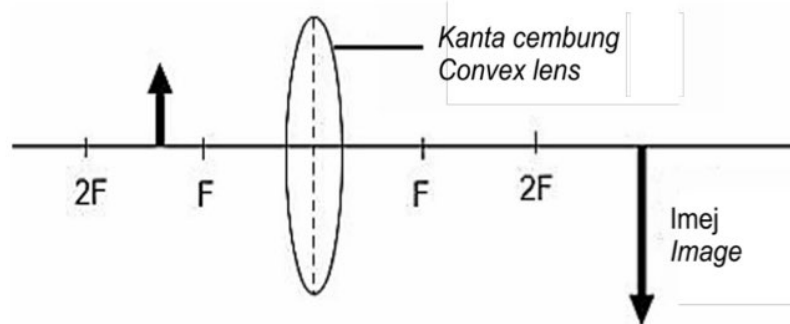
Rajah 15 / *Diagram 15*

Antara yang berikut yang manakah betul bagi ciri imej yang terbentuk?
Which of the following is true for the characteristic of the image formed ?

- A Nyata
Real
- B Dikecilkan
Diminished
- C Songsang
Inverted
- D Sama saiz dengan objek
Same size as object

36. Rajah 16 menunjukkan pembentukan imej oleh kanta cembung.

Diagram 16 shows the formation of an image by a convex lens.



Rajah 16 / Diagram 16

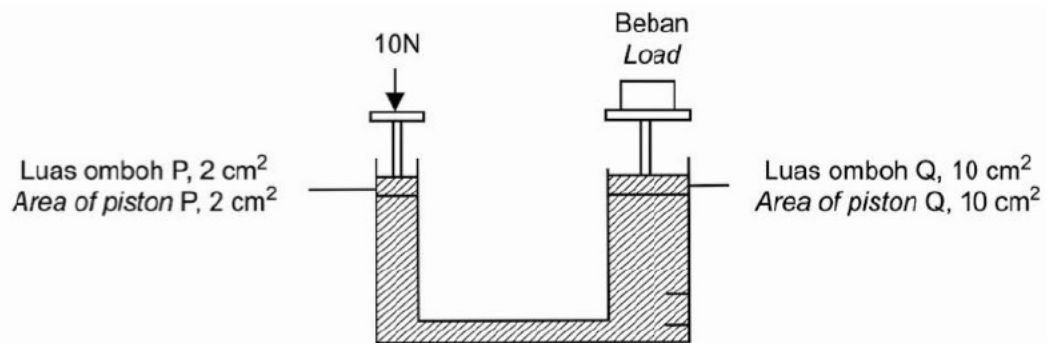
Apakah yang perlu dilakukan jika ingin mendapat imej yang sama saiz dengan objek?

What need to be done to get an image with the same size as the object?

- A Gerakkan objek ke 2F
Move the object to 2F
- B Gantikan dengan kanta cekung
Change to concave lens
- C Gunakan objek yang lebih besar
Use bigger object
- D Tukarkan kepada kanta cembung yang lebih tebal
Change to a thicker convex lens

37. Rajah 17 menunjukkan daya sebanyak 10 N dikenakan pada omboh P bagi mengangkat beban di omboh Q.

Diagram 17 shows 10 N force is being applied on piston P to lift the load on piston Q.



Rajah 17 / Diagram 17

$$\begin{array}{l} \text{Tekanan pada omboh P} = \text{Tekanan pada omboh Q} \\ \frac{\text{Daya input}}{\text{Luas omboh P}} = \frac{\text{Daya output}}{\text{Luas omboh Q}} \end{array}$$

$$\begin{array}{l} \text{Pressure on piston P} = \text{Pressure on piston Q} \\ \frac{\text{Input force}}{\text{Area of piston P}} = \frac{\text{Output force}}{\text{Area of piston Q}} \end{array}$$

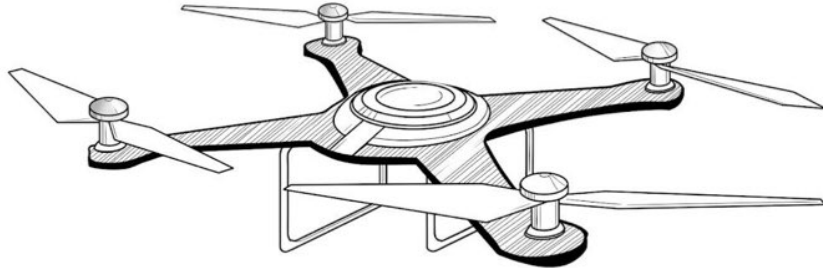
Berapakah nilai beban yang diangkat pada omboh Q?

What is the value of the load lifted on piston Q?

- A 10 N
- B 20 N
- C 40 N
- D 50 N

38. Rajah 18 menunjukkan sebuah kenderaan di udara.

Diagram 18 shows a vehicle in the air.



Rajah 18 / Diagram 18

Apakah daya yang menyebabkan kenderaan tersebut terbang ke atas?

What is the force that causes the vehicle to fly over?

- A Daya tujah
Thrust
- B Daya angkat
Lift
- C Daya seretan
Drag
- D Daya gravity
Gravitational force

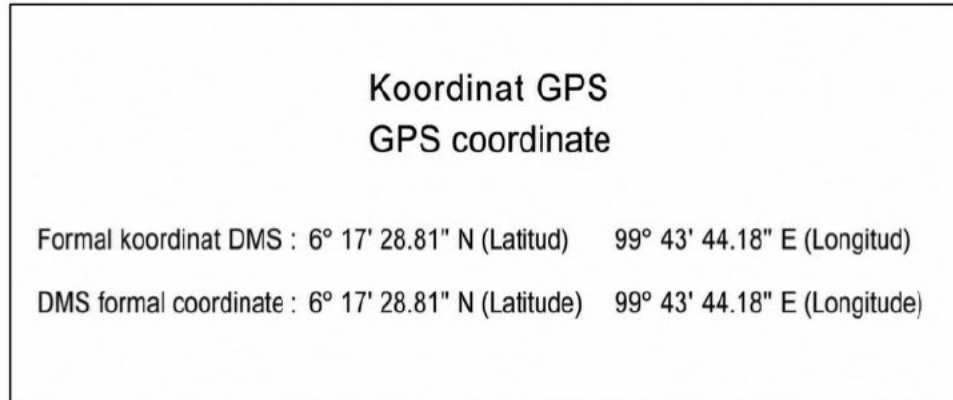
39. Antara berikut, yang manakah merupakan bentuk-bentuk bagi orbit?

Which of the following are the shapes of an orbit?

- A Bujur dan elips
Oval and elliptical
- B Spiral dan bujur
Spiral and oval
- C Bulat dan spiral
Circular and spiral
- D Elips dan bulat
Elliptical and circular

40. Rajah 19 menunjukkan koordinat GPS bagi Pantai Ketapang.

Diagram 19 shows GPS coordinates for Pantai Ketapang.



Rajah 19 / Diagram 19

Apakah koordinat GPS Pantai Ketapang dalam format DD?

What is the GPS coordinate Pantai Ketapang in DD format?

- A 6.291336 , 99.728940
- B 6.700830 , 98.187778
- C 6.306667 , 97.208334
- D 6.411681 , 96.213445