WEIGHTED ASSESSMENT 2

SCIENCE
(BOOKLET A)

Total Time (for Booklets A and B): **50 minutes**

INSTRUCTIONS TO CANDIDATES

- Follow ALL instructions carefully.
- Answer ALL questions.

For each question from 1 to 14, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4).

[50 marks]

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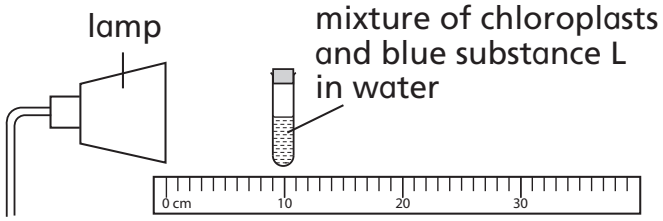
1. Kumar had three test tubes, A, B and C, containing equal amounts of chloroplasts, carbon dioxide at the beginning, and substance L in water. Substance L changes from blue to yellow when the amount of carbon dioxide in the water is low.



Test tube	Distance from the light source (cm)
A	16
B	13
C	20

Which graph correctly shows the time taken for substance L to change colour?

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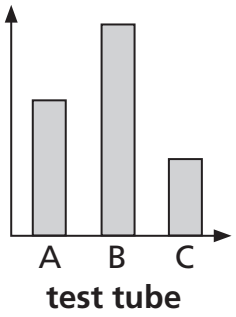

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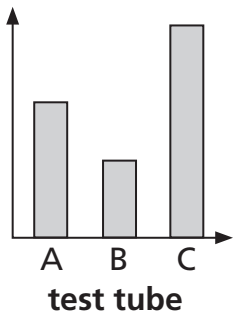

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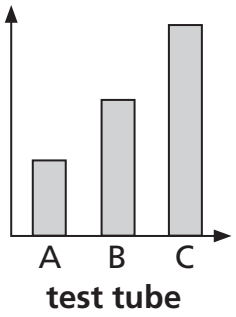

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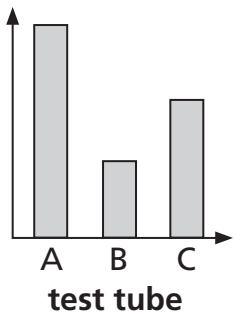
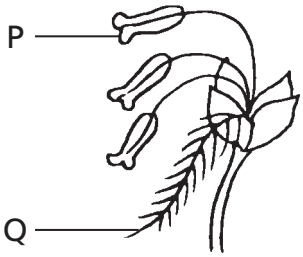


2. A plant produces flowers with no petals as shown.



How does pollination occur for the above plant?
(1) Wind carries pollens from P to Q.
(2) Wind carries pollens from Q to P.
(3) Insect carries pollens from P to Q.
(4) Insect carries pollens from Q to P.

3. Molly placed equal number of seeds into two identical ceramic pots of garden soil in sunlight. The table shows her observations after one week.

	Pot A	**Pot B**
Number of seeds added	5	5
Number of seeds that germinated	0	4

Which could the reason for her observations be?
(1) Add fertilisers only to pot B.
(2) Water only the soil in pot B daily.
(3) Supply oxygen to only pot A.
(4) Cover only pot A with a wooden plank.

4. Joel wanted to find out the conditions needed for plant P to grow most rapidly.

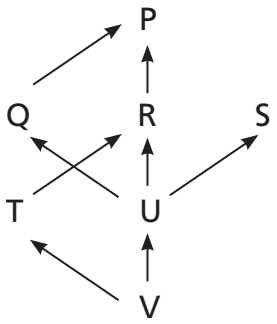
Set-up	Temperature (°C)	Type of soil	Availability of light
A	28	Garden	Yes
B	25	Garden	Yes
C	25	Clayey	Yes
D	28	Garden	No
E	25	Clayey	No

Which is correct?

	Aim	Set-up to compare
(1)	To find out at which temperature plant P grows faster	A and B
(2)	To find out at which temperature plant P grows faster	D and E
(3)	To find out which type of soil is better for the growth of plant P	C and D
(4)	To find out which type of soil is better for the growth of plant P	B and D

5. Which is **not** a cause of global warming?
   (1) Deforestation
   (2) Fuel power stations
   (3) Motor vehicles on the roads
   (4) Hydroelectric power stations

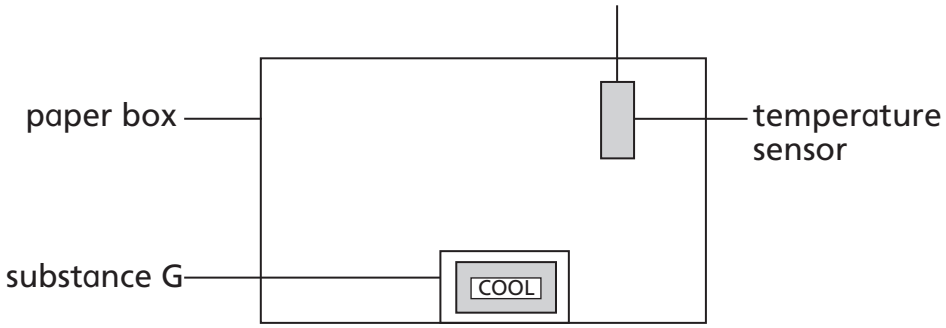
6. Study the food web.



T feeds on the leaves of V while U feeds from the food-carrying tubes of V. Farmers consider both T and U as pests.
The increase in one of the predators will lead to an increase in both pests T and U. Which is the predator?

(1) P (2) Q
(3) R (4) S

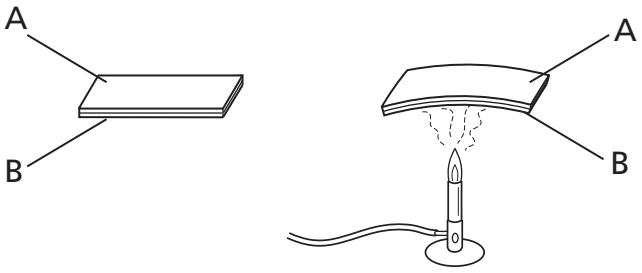
7. William placed a packet of solid substance G as shown to find out how it keeps a cake in a paper box cool during transportation.



His observations after some time:
• The temperature reading has decreased.
• Substance G has become liquid.
Which best explains how substance G works to keep a cake in a paper box cool?

(1) Substance G loses heat to the air and melts.
(2) Substance G loses heat to the air and freezes.
(3) Substance G absorbs heat from the air and melts.
(4) Substance G absorbs heat from the air and freezes.

8. A strip is made of two layers of different metals A and B. The two layers have equal thickness. When the strip is heated, it bends as shown below.



Which statement is true?

(1) The mass of A increases.
(2) The mass of B decreases.
(3) The volume of A increases more than the volume of B.
(4) The length of A increases while the length of B decreases.

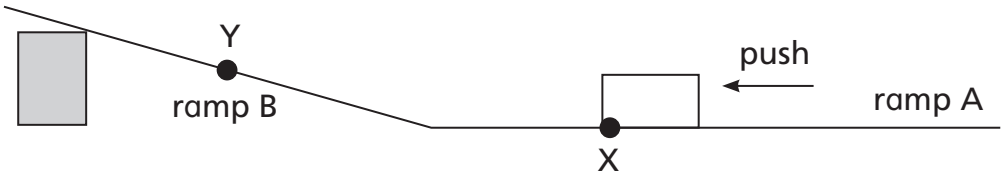
9. An experiment was conducted to study how the surface area affects the rate of evaporation.

Set-up	Temperature of water (°C)	Exposed surface area of container	Amount of water used (cm^3)
P	90	60	200
Q	70	40	150
R	90	40	200
S	40	80	150

Which two set-ups should be compared to ensure a fair test?

(1) P and Q (2) P and R
(3) Q and R (4) Q and S

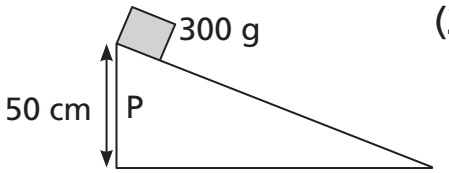
10. Julie pushes a toy block at position X on ramp A. She observes that the toy block moves up ramp B and stops at position Y without moving down.



Which statement is correct?

(1) Gravitational force only acted on the toy block at Y.
(2) There is no friction acting on the toy block as the ramps A and B are smooth.
(3) Kinetic energy is converted to only heat due to friction as the toy block moves up ramp B.
(4) Kinetic energy is not converted to gravitational potential energy as the toy block moves on ramp A.

11. When each wooden block in the following set-ups is released from the top of the slope, the block moves down the slope.
Which block will possess the greatest kinetic energy when it reaches the bottom of the slope?

(1)


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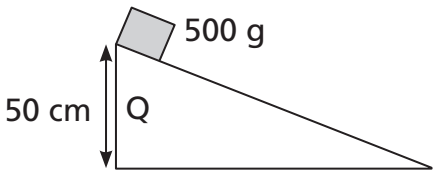

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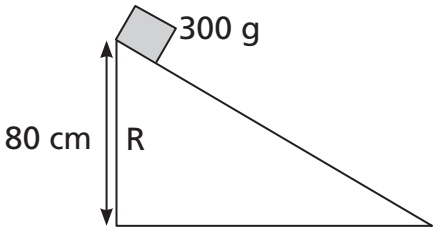

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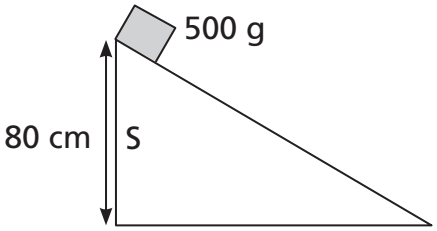
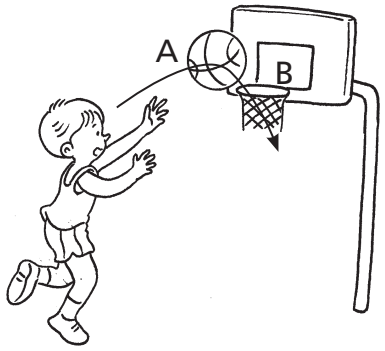


12. Muthu threw a ball into a net from a distance.

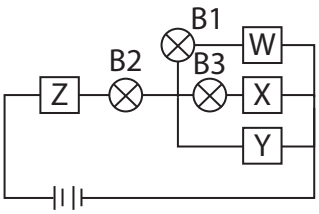


Which decreases when the ball moves from A to B?

(1) The mass of the ball
(2) The speed of the ball
(3) The gravitational force acting on the ball
(4) The gravitational potential energy of the ball

13. Dayang set up a circuit using four different materials W, X, Y and Z and three bulbs B1, B2 and B3. Only X and Z are conductors of electricity. In which circuit would only bulb B2 light up?

(1)



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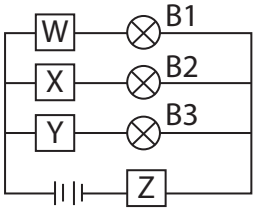

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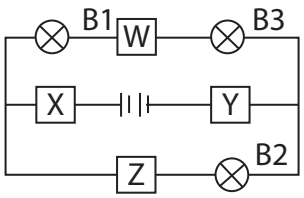

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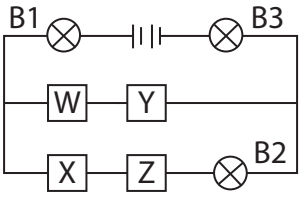
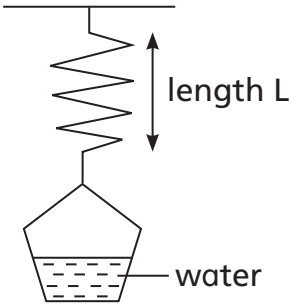


14. A cup of water is hung on a string. What will happen to length L of the spring over time and why?



(1) L decreases as the weight of water decreases due to evaporation.
(2) L decreases as the weight of water increases due to evaporation.
(3) L increases as the weight of water decreases due to evaporation.
(4) L increases as the weight of water increases due to evaporation.

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