Test:	Primary 6 Science (Prelim) - ACS (Y0)	
Points:	32 points	
Name:		Score:
Date:		
Signature:		
	e choice answers with a cross or tick:	
_	t multiple answers	

Question 1 of 66

Primary 6 Science (Prelim)

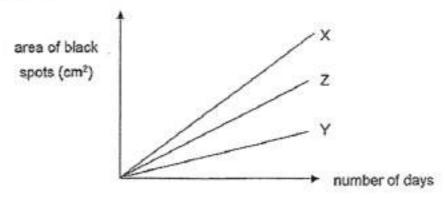
1 pt

For each question, four options are given. One of them is the correct answer. (28 \times 2 marks = 56 marks)

Devi carried out an experiment on three similar slices of bread under different conditions.

Bread	Conditions	
Slice A	Placed on a table in the kitchen	
Slice B	Sprinkled with water and kept in the cupboard	
Slice C	Put in an airtight container and kept in the refrigerator	

She observed the three slices of bread for black spots over ten days and plotted the results in the graph.



Which slices of bread best represent X, Y and Z in the graph?

	x	Y	Z
0	Slice A	Slice B	Slice C
0	Slice A	Slice C	Slice B
3)	Slice B	Slice A	Slice C
4)	Slice B	Slice C	Slice A

- **A**) 1
- **B**) 2
- **C**) 3
- OD) 4

The table shows some characteristics of three organisms, P, Q and R. A tick (*) indicates that the organism has that characteristic.

Organism	Can make its own food	Can reproduce by spores	Can be seen only under a microscope
Р		·	
Q	1	1	5
R			1

Which of the following correctly represents P, Q and R?

P	Q	R
Cat	Rose plant	Mushroom
Mushroo	m Bird's nest fem	Bacteria
Bacteria	Bird's nest fem	Rose Plant
Yeast	Mushroom	Bacteria

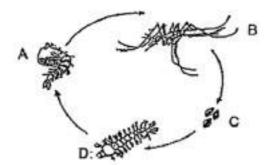
- **A**) 1
- **B**) 2
- **C**) 3
- OD) 4

Question 3 of 66

Primary 6 Science (Prelim)

1 pt

The diagram shows the life cycle of a mosquito. Tim sprayed oil onto the possible breeding grounds of mosquitoes in order to reduce the number of mosquitoes.



In which of the following two stages does this method help to reduce the number of mosquitoes?

- A) A and B
- OB) A and D
- OC) C and B
- OD) C and D

Question 4 of 66

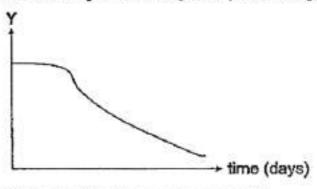
Primary 6 Science (Prelim)

1 pt

The diagram shows a seedling.



Ahmad observed the seedling for a few days and plotted the graph as shown.



What could the vertical axis, Y, of the graph represent?

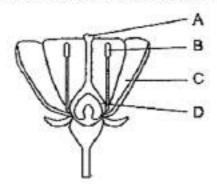
- A) Mass of the seedling
- **B)** Height of the seedling
- C) Length of the root of the seedling
- OD) Size of the seed leaves of the seedling

Question 5 of 66

Primary 6 Science (Prelim)

1 pt

The diagram shows a flower with parts labelled A, B, C and D.



During the process of pollination, pollen grains are transferred from part _____ to part

- **A)** A,B
- B) B,A
- **C**) B,C
- **D)** C,D

Question 6 of 66

Primary 6 Science (Prelim)

1 pt

Which of the following two traits can be passed from parents to their young?

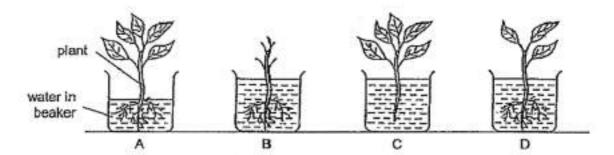
- A Eye colour
- B Hair length
- C Fingerprint
- D Ability to roll tongue
- **A)** A and B only
- **B)** A and D only
- C) C and B only
- **D)** C and D only

Question 7 of 66

Primary 6 Science (Prelim)

1 pt

Kay prepared four set-ups with identical beakers to investigate whether a plant can survive without its leaves.



Which of the following pairs of set-ups should she choose to test her aim?

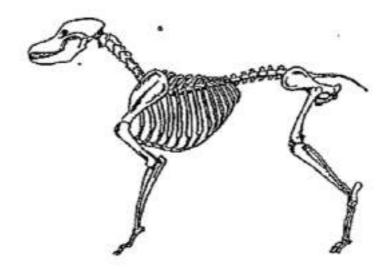
- A) A and B
- B) A and C
- OC) D and B
- OD) D and C

Question 8 of 66

Primary 6 Science (Prelim)

1 pt

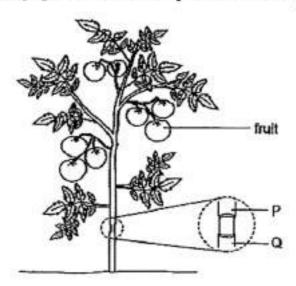
The diagram shows the skeleton of an animal.



Which of the following is/are the function(s) of the skeleton?

- A Protects the vital organs.
- B Allows the animal to move.
- C Shows the outer covering of the animal.
- D Provides structure and shape for the animal.
- **A)** A only
- **B)** B and D only
- C) A, B and D only
- OD) A, B, C and D

Jackie removed the outer ring of the stem from a plant between P and Q as shown. Only the food-carrying tubes were cut away with this outer ring.



After ten days, which of the following are likely observations that Jackle could make about the plant?

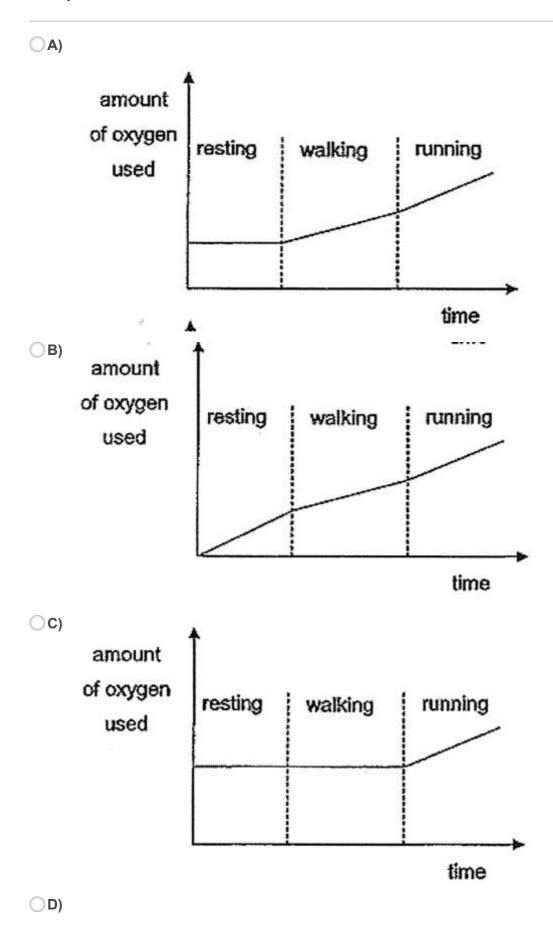
- A Part P will be swollen.
- B Part Q will be swollen.
- C The leaves have dried up.
- D The fruits have grown bigger.
- **A)** A and B only
- B) A and D only
- OC) B, C and D only
- OD) A, B, C and D

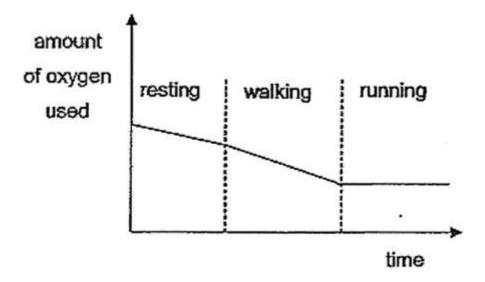
Question 10 of 66

Primary 6 Science (Prelim)

1 pt

Jie Yong carried out three consecutive activities, resting, walking and running, over a period of time. Which of the graphs best represents the amount oxygen Jie Yong used during each activity?





Question 11 of 66

Primary 6 Science (Prelim)

1 pt

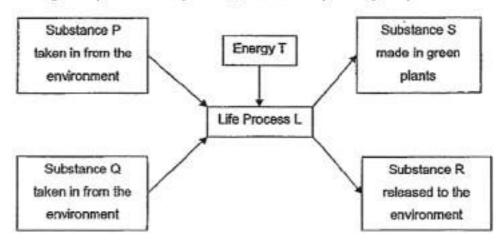
The table shows the different cell parts present in cells P, Q, R and S. A tick (<) indicates that the cell part is present.

		С	ell	
Cell part	Р	Q	R	s
Nucleus	1	1	1	V
Cell Wall	~		1	
Cytoplasm	1	1	-	1
Chloroplast			1	
Cell Membrane	-	1	1	~

Which cell, P, Q, R or S, is most likely from the root of a plant?

- (A) P
- ○B) C
- OC) R
- (D) S

The diagram represents a life process, L, which takes place in green plants.

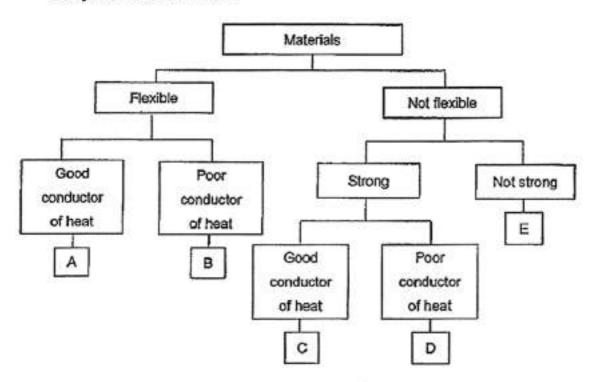


Which of the following represents P, Q, R, S and T?

	Substance				
P	Q	R	S	Energy T	
oxygen	water	carbon dioxide	food	heat	
carbon dioxide	water	oxygen	food	light	
oxygen	carbon dioxide	food	water	heat	
food	carbon dloxide	oxygen	water	light	

- ***
- **A**) 1
- **B**) 2
- **C**) 3
- OD) 4

Study the classification chart.

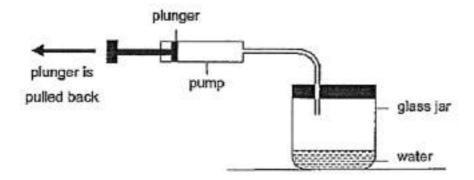


Which materials are most suitable for making oven gloves and baking trays when baking?

	Oven gloves	Baking trays
(1)	Α	С
(2)	В	D
(3)	В	С
(4)	E	E

- **A**) 1
- B) 2
- **□C)** 3
- OD) 4

The diagram shows a pump which is connected to a glass jar. The volume of the glass jar is 300 cm³ and it contains 30 cm³ of water.



Each time the plunger of the pump is pulled back completely, 20 cm³ of air would be drawn out of the glass jar.

Which of the following shows the correct volume of air and water in the glass jar after the plunger is pulled back completely once?

	Volume of air (cm³)	Volume of water (cm³)
(1)	250	50
(2)	250	30
(3)	270	30
(4)	290	10

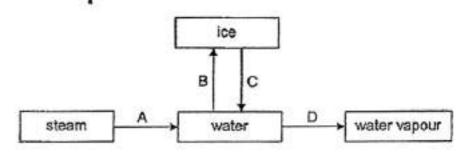
- **A**) 1
- (B) 2
- \bigcirc C) 3
- OD) 4

Question 15 of 66

Primary 6 Science (Prelim)

1 pt

The arrows in the diagram show some processes which involve the changes of state of water. Each process involves either a heat gain or heat loss.



Which pair of arrows represents the processes which involve heat gain?

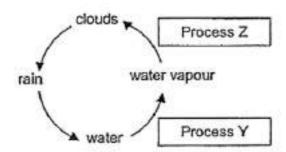
- (A) A and B
- OB) A and D
- C) C and B
- OD) C and D

Question 16 of 66

Primary 6 Science (Prelim)

1 pt

The diagram shows the water cycle.



Which of the following statements about processes Y or Z in the water cycle is correct?

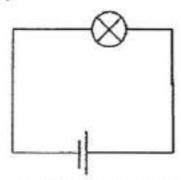
- A) Heat is needed for process Z only
- OB) Process Y occurs at any temperature
- OC) Process Y occurs during day time only
- OD) Process Z involves a liquid becoming gas

Question 17 of 66

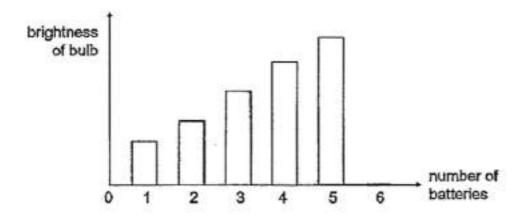
Primary 6 Science (Prelim)

1 pt

The diagram shows a simple circuit.



Gregory added batteries, one at a time, in a series arrangement to the circuit and recorded the brightness of the bulb. The graph shows his results.



Which of the following is/are possible explanation(s) why the brightness of the bulb was zero when the sixth battery was added?

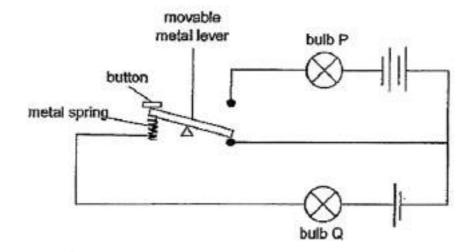
- A Too many batteries were added to the circuit.
- B The sixth battery did not have any potential energy.
- C The wire and the sixth battery were not connected properly.
- **A)** A only
- **B**) B only
- C) A and C only
- **D)** B and C only

Primary 6 Science (Prelim)

1 pt

The diagram shows how the brightness of the bulb(s) in a circuit is/are controlled by a button. The bulbs and batteries used are identical and are in working condition.

When the button is not pressed, only bulb Q lights up with a brightness of 10 units.



What would happen to the brightness of both bulbs P and Q if the button is pressed and held down?

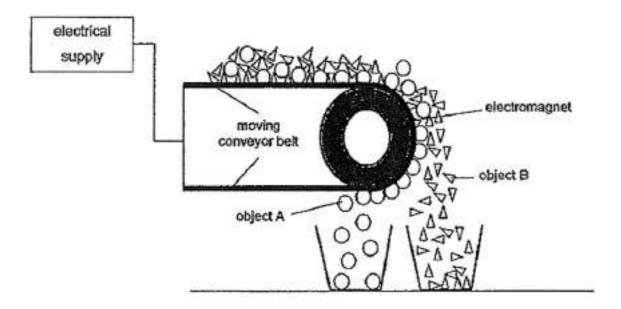
1	Bulb P	Bulb Q
(1)	10 units	0 units
(2)	more than 10 units	0 units
(3)	10 units	more than 10 units
(4)	more than 10 units	more than 10 units

- **A**) 1
- **B**) 2
- **C**) 3
- OD) 4

Primary 6 Science (Prelim)

1 pt

The diagram shows how an electromagnetic conveyor belt is used to separate objects A and B.



Based only on the above diagram, which of the following statements is likely to be true?

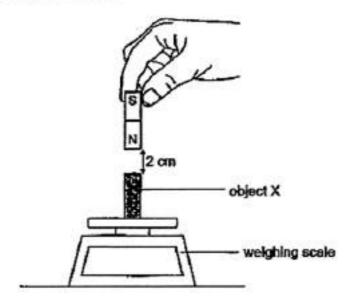
- A) The electromagnet is made of aluminium
- B) Both objects A and B are conductors of electricity
- OC) Both objects A and B are made of magnetic materials
- Object A is made of steel while object B is made of copper

Question 20 of 66

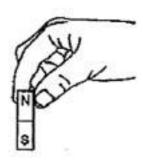
Primary 6 Science (Prelim)

1 pt

In an experiment, Mr Lim placed object X on the weighing scale and the scale showed a reading of 10 units. He then placed a bar magnet 2 cm directly above object X and the scale showed a reading of 12 units.



Next, Mr Lim flipped the bar magnet over and held it 2 cm directly above object X, as shown.



What would be the new reading on the weighing scale?

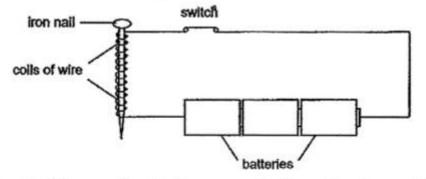
$\square \Delta$	\cap	unit

- **B)** 10 unit
- **C)** 12 unit
- **D)** 22 unit

Primary 6 Science (Prelim)

1 pt

Kasheem conducted an experiment to find out how the number of colls of wire around an iron nall would affect the strength of the magnetised nail.



The strength of the magnetised nail is measured by the number of paper clips that it could attract. Kasheem recorded the results in the table.

Number of coils of wire around iron nail	Number of paper clips attracted
10	7
20	10
30	13
40	15
50	16
60	16
70	16

Based only on the results, which of the following conclusion(s) can be made?

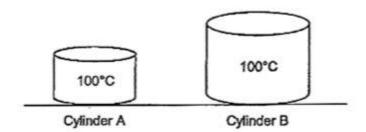
- A The magnetised nail will be able to attract more than 16 paper clips if four batteries are used.
- B The maximum number of paper clips that can be attracted by the magnetised nail is 16.
- C After 50 coils of wire, the number of colls of wire around the nail will not increase the strength of the magnetised nail.
- A) Bonly
- **B)** A and B only
- OC) A and C only
- **D)** B and C only

Question 22 of 66

Primary 6 Science (Prelim)

1 pt

The diagram shows two iron cylinders, A and B, heated to 100°C.



Which of the following is correct?

- A) Cylinder A is hotter than Cylinder B
- OB) Cylinder A has less heat energy than Cylinder B
- C) Both cylinders have the same amount of heat energy
- OD) Both cylinders will take the same amount of time to reach room temperature

Question 23 of 66

Primary 6 Science (Prelim)

1 pt

The picture shows a man pushing a box across the floor.



Which of the following makes it difficult for the man to push the box?

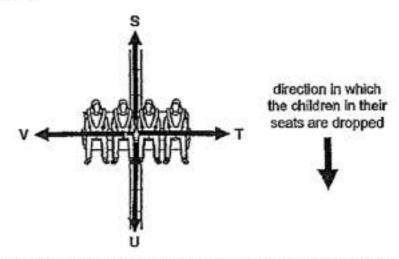
- A The mass of the box.
- B The force the man used to push the box.
- C The friction between the box and the floor.
- D The friction between the man's feet and the floor.
- **A)** A and B only
- **B)** A and C only
- OC) D and B only
- **D)** A and D only

Primary 6 Science (Prelim)

1 pt

The picture shows several children sitting on a carnival ride. During one part of the ride, the children in their seats are dropped from a certain height.

S, T, U and V represent the direction of possible forces acting on the children during this part of the ride.



Which arrows show the direction of gravity and friction acting on the children respectively when the seats drop?

	Direction of gravity	Direction of friction
1	υ	S
ſ	υ	V
1	S	т
Ī	S	v

A)) .
-	,

OD) 4

⁽ B) 2

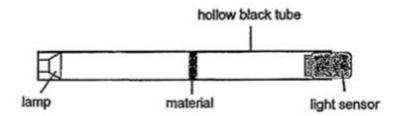
[○] C) 3

Question 25 of 66

Primary 6 Science (Prelim)

1 pt

Ephraim set up the following experiment to measure the amount of light that can pass through four materials, A, B, C and D using a light sensor.



He recorded the results in the table.

Material	Amount of light detected (units)			
Α	270			
В	158			
С	0			
D	97			

Which of the following shows the correct arrangement of materials from one that allows least light to pass through?

allows leas to pass th		allows most ligh to pass through	
Α	В	С	D
В	D	С	А
С	A	D	В
С	D	В	A

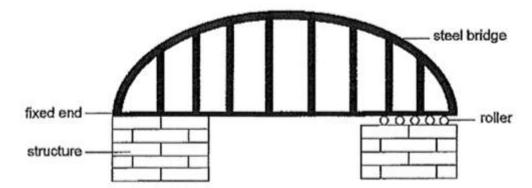
- OA) 1
- (B) 2
- OC) 3
- OD) 4

Question 26 of 66

Primary 6 Science (Prelim)

1 pt

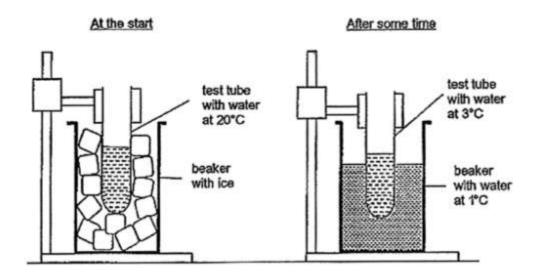
The diagram shows a steel bridge. One end of the bridge is fixed securely to the structure unlike the other end which is resting on rollers as shown.



Which of the following statement(s) explain(s) why one end of the bridge is resting on the rollers?

- A To reduce friction between the structure and the bridge.
- B To allow the bridge to expand on hot days without damaging the structure.
- C To allow the rollers to contract on cold days without damaging the structure.
- A) Bonly
- B) Conly
- OC) A and B only
- OD) A and C only

Shirleen carried out an experiment as shown. A test tube containing water at 20°C was placed in the centre of a beaker with some ice cubes. The beaker was then left in a room for some time.



Based on the experiment above, which of the following are correct?

- A The ice cubes gained heat from the surrounding and melted.
- B The ice cubes lost heat to the water in the test tube and melted.
- C The beaker gained heat from the surrounding and became cooler.
- D The water in the test tube lost heat to the ice cubes and became cooler.
- A) A and B only
- **B)** A and D only
- C) C and B only
- OD) C and D only

Question 28 of 66

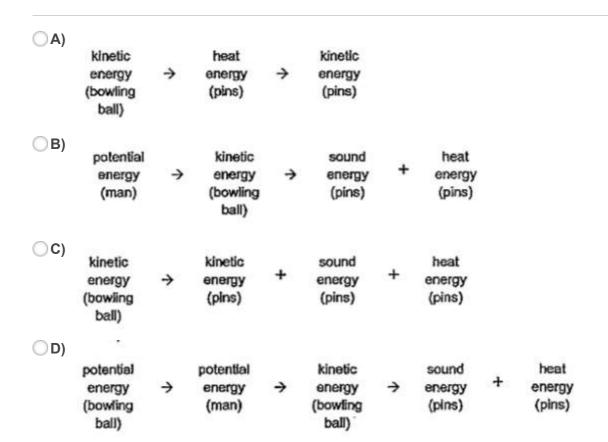
Primary 6 Science (Prelim)

1 pt

The diagram shows a man bowling.



Which of the following best shows the energy conversions when the bowling ball rolls on the ground and hits the pins down?

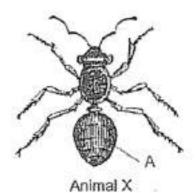


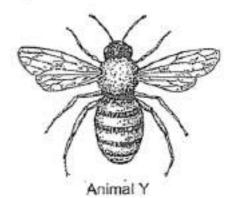
Question 29 of 66

Primary 6 Science (Prelim)

0 pts

Two boys, Elliott and Jimmy, saw two animals in the garden as shown.





Elliott said that both are insects but Jimmy said that only Animal X is an insect.

(a) Based on your observation, who is correct? Give a reason for your answer.

Question 30 of 66

Primary 6 Science (Prelim)

0 pts

b) State a characteristic of insects that the boys might have learnt which is not observed from the above pictures

Question 31 of 66

Primary 6 Science (Prelim)

0 pts

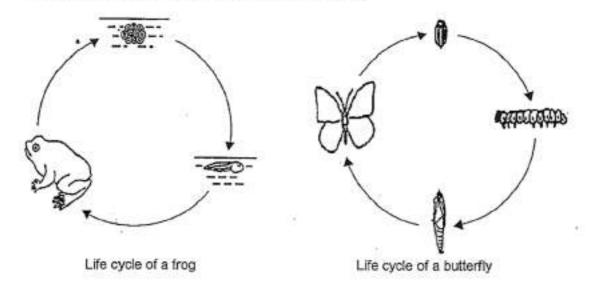
c) State a function of outer covering A

Question 32 of 66

Primary 6 Science (Prelim)

0 pts

The diagrams show the life cycles of a frog and a butterfly.



 (a) Based on the diagrams above, state one similarity between the life cycles of a frog and a butterfly.

Question 33 of 66

Primary 6 Science (Prelim)

0 pts

b) Both the frog and the butterfly lay many eggs at a time. Explain the advantage of laying eggs at a time

Question 34 of 66

Primary 6 Science (Prelim)

0 pts

c) How do the adult frog and its young breathe in water?

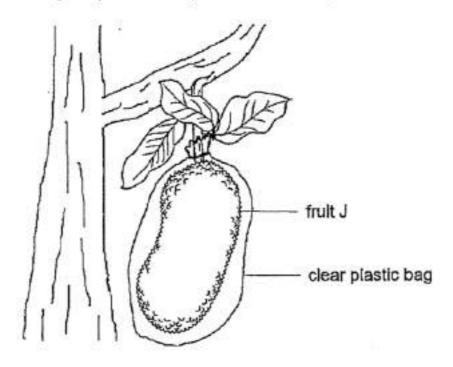
Question 35 of 66

Primary 6 Science (Prelim)

0 pts

Fruit J produces a gas, ethylene, which causes it to ripen faster.

As such, farmers usually wrap fruit J in a plastic or cloth bag as shown.



(a) Explain how wrapping fruit J in bags will cause it to ripen faster.

Question 36 of 66

Primary 6 Science (Prelim)

0 pts

b) What is another advantage for farmers to wrap fruit J in bags?

Question 37 of 66

Primary 6 Science (Prelim)

0 pts

Martin said that fruit J will only grow if wrapped in a clear plastic bag so that it will still be able to make food.

c) Do you agree with Martin? Explain your answer

Question 38 of 66

Primary 6 Science (Prelim)

0 pts

Eugene ate a meal of chicken rice.

(a) Complete the table to show the amount of digested food leaving the gullet and small intestine of Eugene's digestive system after the meal.
[1]

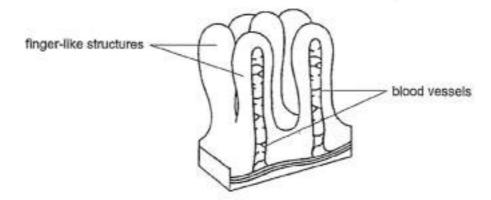
Name of organ	Amount of digested food leaving the organ (units)
mouth	10
gullet	
stomach	20
small intestine	

Question 39 of 66

Primary 6 Science (Prelim)

0 pts

Inside the walls of the small intestine are finger-like structures as shown.



(b) Explain how these finger-like structures affect the rate of absorption of digested food into the blood vessels. [1]

Question 40 of 66

Primary 6 Science (Prelim)

0 pts

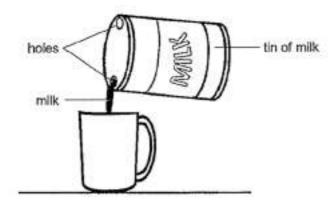
c) How do the blood vessels obtain and carry the digested food to all parts of the body

Question 41 of 66

Primary 6 Science (Prelim)

0 pts

Gina made a hole in a fin of milk before pouring it out. When she went to a drink stall, she saw that the stallholder had made two holes instead of one in a fin before pouring out the milk as shown.



(a) State a difference observed when the milk flowed out from a tin with one hole and a tin with two holes.
[1]

Question 42 of 66

Primary 6 Science (Prelim)

0 pts

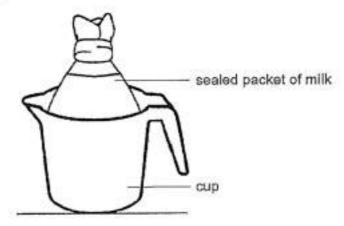
b) Explain your answer in (a)

Question 43 of 66

Primary 6 Science (Prelim)

0 pts

Gina then bought a sealed packet of milk and placed it inside a cup as shown. Both the packet of milk and the cup have a volume of 300 ml.



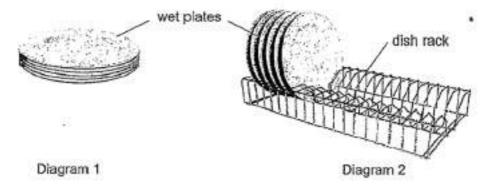
(c) What property of a liquid enabled the sealed milk to be placed in the cup as shown? [1]

Question 44 of 66

Primary 6 Science (Prelim)

1 pt

Mary stacked some wet plates, one on top of the other, and left them to dry as shown in diagram 1.



Her mother told her to place the wet plates on a dish rack, as shown in diagram 2, so that they could dry faster.

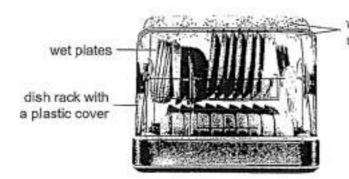
 (a) State two reasons why the wet plates in diagram 2 would dry faster. For each reason, explain your answer.

Question 45 of 66

Primary 6 Science (Prelim)

0 pts

Mary bought a dish rack with a plastic cover. She placed some wet plates onto the dish rack and closed the cover. After some time, she noticed water droplets on the inner surface of the plastic cover as shown.



water droplets on the inner surface of plastic cover

(b) Explain how the water droplets were formed.

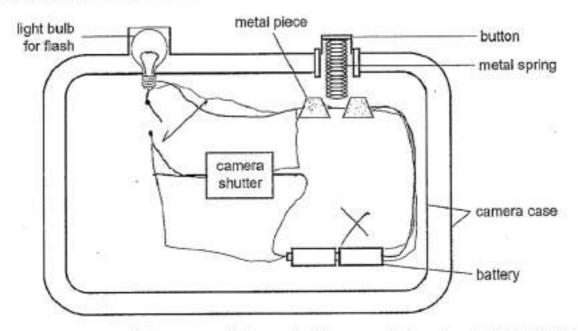
[2]

Question 46 of 66

Primary 6 Science (Prelim)

0 pts

The diagram shows part of a circuit in a camera.



To take a photograph, the camera shutter needs to be connected to a closed circuit with the button being pressed down. A photograph can also be taken by the camera with or without the use of flash.

(a) Using a switch and some wires, complete the circuit in the diagram so that the camera will worked as described above. [2]

Please type "done" to proceed to the next question

Question 47 of 66

Primary 6 Science (Prelim)

0 pts

b) Suggest a disadvantage of the circuit above

Question 48 of 66

Primary 6 Science (Prelim)

0 pts

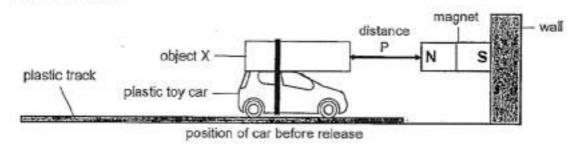
c) If the metal pieces are switch to plastic pieces, will the camera still work? Explain your answer

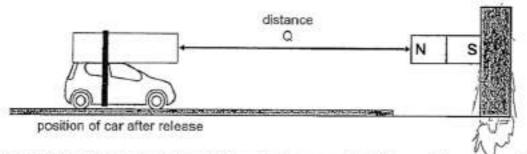
Question 49 of 66

Primary 6 Science (Prelim)

1 pt

Janesh tied object X on top of his plastic toy car. He placed them on a track which allowed the car to only travel in a straight line. At the end of the track, he attached a strong magnet to the wall as shown.





Janesh pushed the car with object X towards the magnet. At distance P, he released the car very gently. The car with object X was pushed back by the magnet and travelled a distance Q before stopping. He repeated the steps with decreasing distance P each time and measured the new distance Q.

(a) Name one suitable material for object X.

[1]

Question 50 of 66

Primary 6 Science (Prelim)

0 pts

b) Explain why the car with object X was pushed back along the track when Janesh released it.

Question 51 of 66

Primary 6 Science (Prelim)

0 pts

c) State the relationship between distance P and distance Q

Question 52 of 66

Primary 6 Science (Prelim)

0 pts

Janesh repeated the experiment using the same set-up, but he increased distance P instead. He observed that at a certain distance P, the car with object X did not move at all

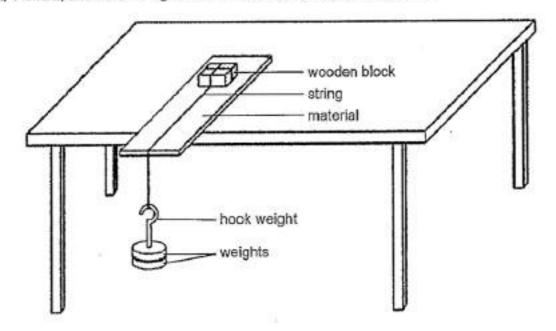
d) Explain Janesh's observation

Question 53 of 66

Primary 6 Science (Prelim)

0 pts

Noel carried out an experiment using the set-up as shown. He tied a wooden block to a string and hung a hook weight on the other end. He placed the wooden block on different materials, X, Y and Z, and added weights until the wooden block started to slide.



He recorded his results in the table.

Material	Х	Y	Z
Number of weights needed to cause the wooden block to slide	5	9	3

(a) Name the two types of forces acting on the wooden block as it slid across each material.

Question 54 of 66

Primary 6 Science (Prelim)

0 pts

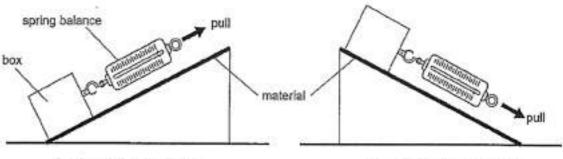
b) Based on Noel's results, which material was the smoothest? Explain why

Question 55 of 66

Primary 6 Science (Prelim)

0 pts

Noel prepared a different set-up for another experiment. He used a spring balance to pull a box up the slope and then down the slope made of each material as shown.



Box is pulled up the slope

Box is pulled down the slope

Noel noticed that for whichever material he used, more force was needed to pull the box up the slope than down.

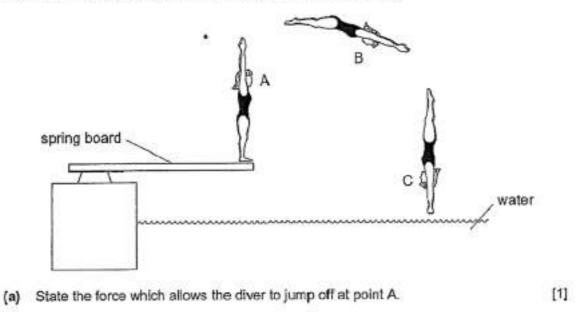
(c) Explain why a greater force was needed to pull the box up the slope. (P A [1]

Question 56 of 66

Primary 6 Science (Prelim)

0 pts

The diagram shows a diver diving into a pool. She jumps off the spring board at point A, reaches up into the air till point B and enters the water at point C.



Question 57 of 66

Primary 6 Science (Prelim)

0 pts

b) Without charging the spring board, what can the diver do if she wants to reach a point higher than B?

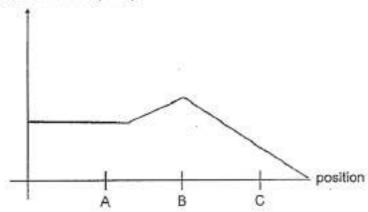
Question 58 of 66

Primary 6 Science (Prelim)

0 pts

(c) In the space below, draw a line graph to show the amount of gravitational force acting on the diver at positions A, B and C. [1]

amount of gravitational force (units)

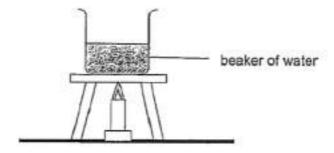


Question 59 of 66

Primary 6 Science (Prelim)

1 pt

Mingzhe heated a breaker of water to find out how the volume of water affects the rate at which its temperature rises.



Mingzhe used four identical set-ups and filled each beaker with different volumes of water. He recorded the results of his experiment in the table.

Beaker	Volume of water Temperature at the start (cm³) at the start (°C)		Temperature at the 5th min (°C)
A	30	15	65
В	50	15	50
С	65	15	Y
D	80	15	35

(a) Predict the value of Y.

[1]

Question 60 of 66

Primary 6 Science (Prelim)

0 pts

b) What could Mingzhe conclude from the results above?

Question 61 of 66

Primary 6 Science (Prelim)

0 pts

Mingzhe continued to heat the water in beaker D. The table shows the results.

Time (min)	0	5	10	15	20	25	30
Temperature of water (°C)	15	35	60	85	100	100	No reading

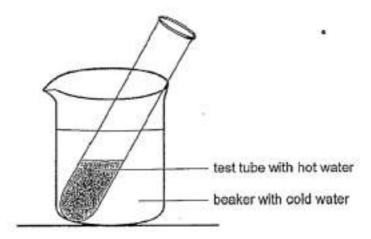
Why was there no reading at the 30th minute?

Question 62 of 66

Primary 6 Science (Prelim)

0 pts

In another experiment, Mingzhe poured some hot water into a test tube and placed it into a beaker of cold water, as shown.



(d) What will happen to the temperature of the hot water in the test tube after some time? Explain why.
[1]

Question 63 of 66

Primary 6 Science (Prelim)

0 pts

e) After three hours, the temperature of the water in the test tube and beaker reached room temperature and remained at room temperature. Explain why

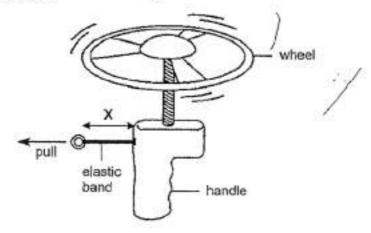
Question 64 of 66

Primary 6 Science (Prelim)

0 pts

The diagram shows a toy. When the elastic band is pulled and then released, the wheel will spin before flying off. The greater the number of times the wheel spins, the further it travels.

Aishah wants to find out how the number of spins of the wheel changes when the elastic band is pulled to different lengths.



The table shows the results of her experiment.

Length of the elastic band when pulled, X (cm)	Number of times the wheel spins		
4	2		
8	4		
12	6		

(a) Aishah used the same wheel throughout her experiment. Explain how this ensures a fair test. [1]

Question 65 of 66

Primary 6 Science (Prelim)

0 pts

b) State the relationship between X and the number of times the wheel spins

Question 66 of 66 Primary 6 Science (Prelim) 1 pt

Match the options below to show the energy conversion of the toy starting from the time Aishah releases the elastic band till the wheel spins : (energy)

1. []	elastic potential	A.	spining wheel
2. []	kinetic	В.	the elastic band is released
3. []	kinetic	C.	tretched elastic band