NANYANG PRIMARY SCHOOL

PRIMARY 3 SCIENCE

~~END-OF-YEAR EXAMINATION~~
2021

BOOKLET A

Total duration for Booklets A and B: 1 h 30 min

Name: _____ ( )

Class: Primary 3 ( )

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FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 16 printed pages including this cover page.

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Section A: Multiple Choice Questions [44 marks]

For each question from 1 to 22, four options are given. One of them is the correct answer.
Indicate your choice in this booklet and shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.

1. The table below shows some characteristics of living things.
A tick (✓) in the box shows that the characteristic is present for A, B and C.

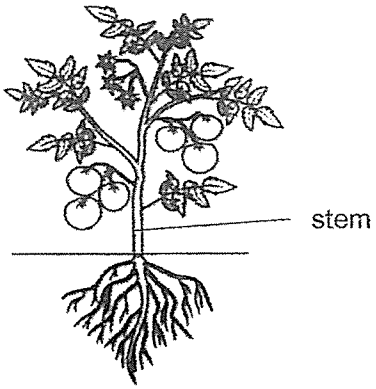
Characteristic	A	B	C
It needs water to survive.	✓		✓
It can make its own food.			✓
It responds to surrounding changes.	✓		✓

Which of the following correctly represents A, B and C?

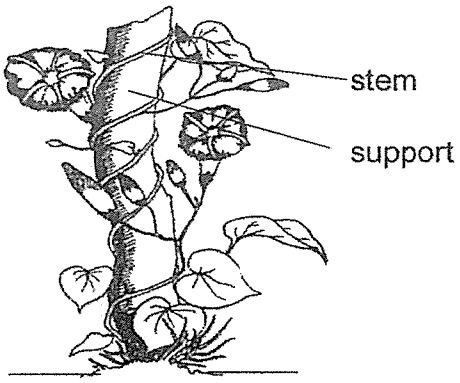
	A	B	C
(1)	tomato plant	toy dog	cat
(2)	toy dog	cat	tomato plant
(3)	cat	tomato plant	toy dog
(4)	cat	toy dog	tomato plant

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2. Study the two plants shown below.



Plant G



Plant H

John made the following statements about plant G and H.

A Both have strong stems.
B Both plants grow on land.
C Plant G reproduces by seeds.
D Plant H reproduces by spores.

Which of the statement(s) above is/are true about plant G and H?

(1) A only
(2) A and D only
(3) B and C only
(4) B, C and D only

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3. The characteristics of plants J and K are listed below.

Characteristics	Plant J	Plant K
Able to make its own food	Yes	Yes
Reproduce by spores	No	Yes
Bear fruits	Yes	No

Three children made the following statements.

Aini : Plant K is a flowering plant.
Bala : Plant J reproduce by seeds.
Caili : Both plants absorb sunlight to make food.

Which of the statements above are correct?

(1) Aini only
(2) Aini and Caili only
(3) Bala and Caili only
(4) Aini, Bala and Caili

4. Arni caught an animal in the school field.

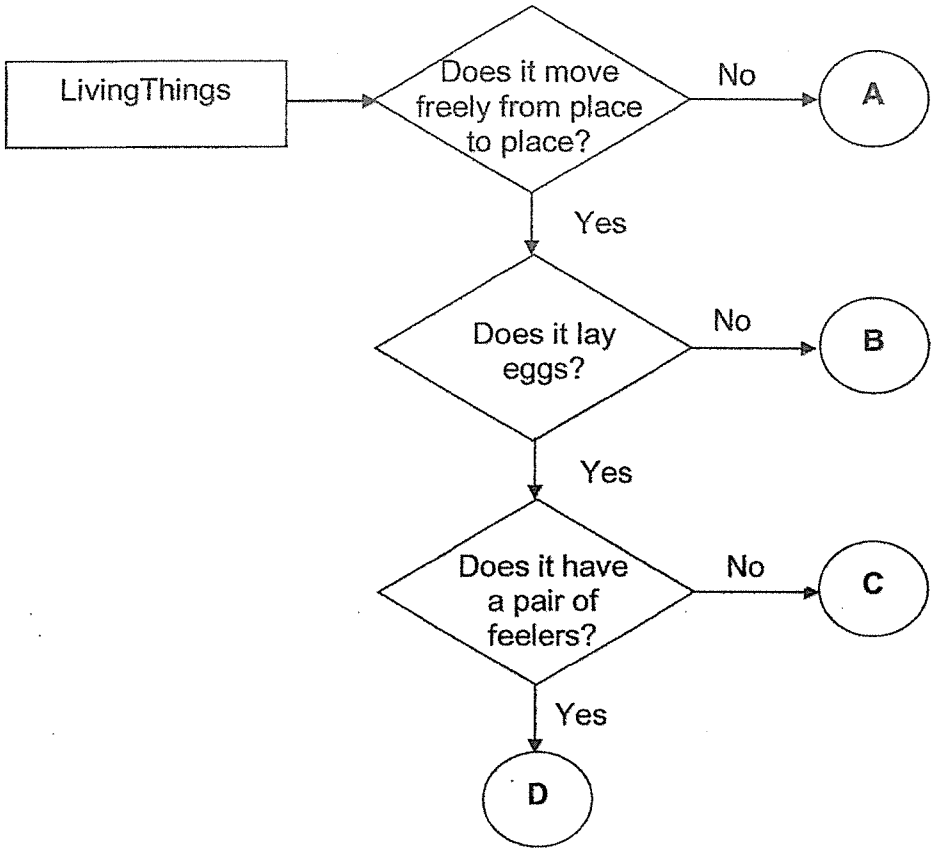
Which of the following characteristics should she look out for to find out if the animal is an insect?

A It has wings.
B It has six legs.
C It has three body parts.
D It gives birth to young alive.

(1) A and D only
(2) B and C only
(3) A, B and C only
(4) B, C and D only

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5. Study the flowchart below.



Based on the information above, which of the following best represents A, B, C and D?

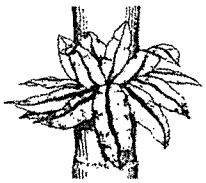
	A	B	C	D
(1)	plant	amphibians	reptiles	insects
(2)	plant	mammals	reptiles	birds
(3)	fungi	mammals	fish	insects
(4)	fungi	amphibians	fish	birds

6. Which of the following statements about bacteria is **false**?

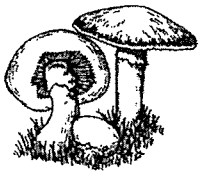
(1) All bacteria can reproduce.
(2) All bacteria cause diseases.
(3) All bacteria need water to survive.
(4) All bacteria can only be seen clearly using a microscope.

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7. Study the diagram below.



fern



mushroom

How are the living things shown above similar?

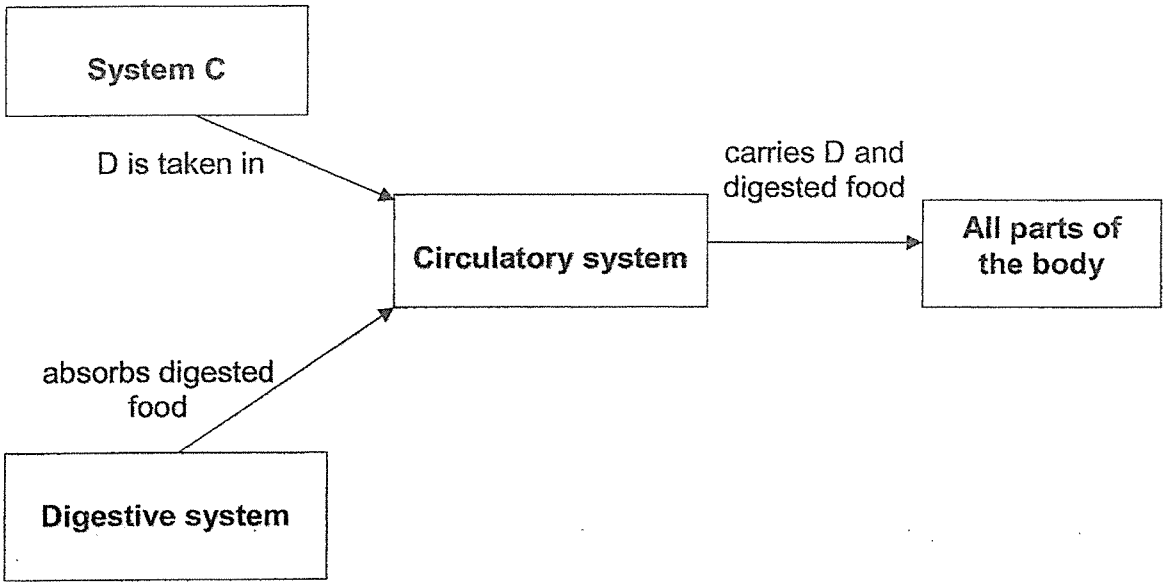
(1) They make their own food.
(2) They reproduce by spores.
(3) They are non-flowering plants.
(4) They feed on other living things.

8. Which one of the following statements about the similarities between fungi and bacteria is correct?

(1) All fungi and bacteria are harmful to us.
(2) All fungi and bacteria can be eaten without harming us.
(3) All fungi and bacteria feed on living things dead or alive.
(4) All fungi and bacteria can only be seen under a microscope.

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9. The diagram below shows how the organ systems in the human body work together.

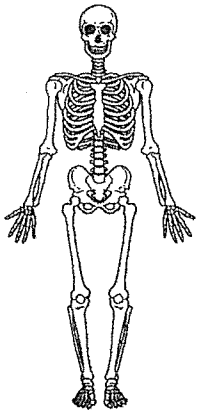


Which of the following best represents system C and D?

	System C	D
(1)	respiratory system	air
(2)	respiratory system	water
(3)	muscular system	air
(4)	muscular system	water

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10. Study the diagram below.

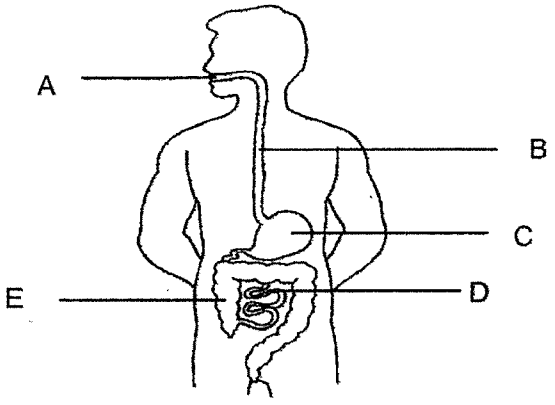


Which of the following statements best describe the functions of the human body system shown above?

A It protects the organs.
B It protects the muscles.
C It gives the body shape.
D It takes in air from the surroundings.

(1) A only
(2) B only
(3) A and C only
(4) B and D only

11. The diagram below shows a human digestive system.



Which of the following parts of the digestive system contain digestive juices?

(1) A, B and C only
(2) A, C and D only
(3) B, C and E only
(4) B, D and E only

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12. Mike was given a list of objects. He grouped them into 2 groups, X and Y, as shown below.

X	Y
metal rod glass bottle wooden chair floor tiles	table cloth tissue paper plastic bag aluminum foil

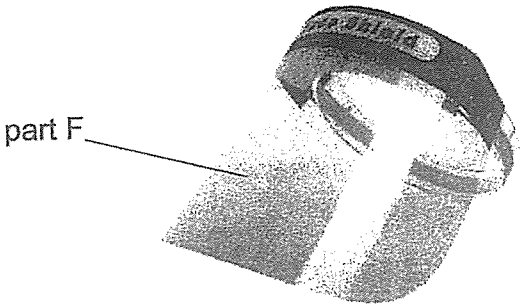
Which one of the following properties did Mike use to group the objects?

(1) Flexibility
(2) Transparency
(3) Strength
(4) Waterproof

13. Si Qing listed the properties of 4 materials, J, K, L and M, in the table below.

Properties	Material J	Material K	Material L	Material M
Does it tear easily?	No	No	Yes	No
Is it waterproof?	Yes	Yes	Yes	Yes
Can most light pass through it?	No	No	Yes	Yes
Is it flexible?	No	Yes	Yes	Yes

Which one of the materials is most suitable for making part F of a face shield?

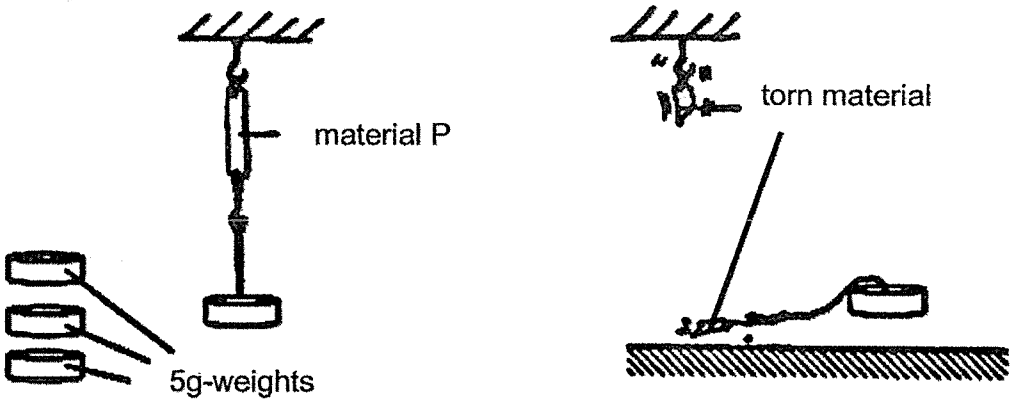


(1) Material J
(2) Material K
(3) Material L
(4) Material M

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14. Osman carried out an experiment using 4 strips of different materials, P, Q, R and S. The 4 strips have the same length and thickness.

He hung one end of each strip from a hook as shown in the diagram below. At the other end of the strip, he hung 5g-weights, one at a time, until the strip tore.



He repeated the experiment with materials, Q, R and S. Osman recorded the number of 5g-weights hung below each strip of material before it tore, in the table below.

Material	Number of 5-g weights hung to tear material
P	6
Q	1
R	3
S	9

Based on the results of the experiment, which one of the following statements about the materials is true?

(1) P is lighter than S.
(2) P is weaker than R.
(3) Q is the most flexible.
(4) S is the strongest material.

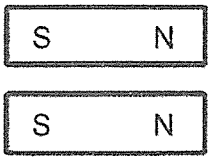
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15. In which one of the following set-ups will the two magnets push each other away?

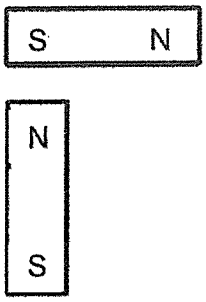
(1)



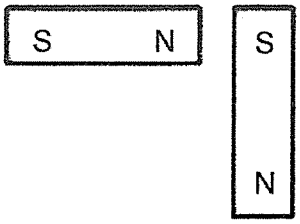
(2)



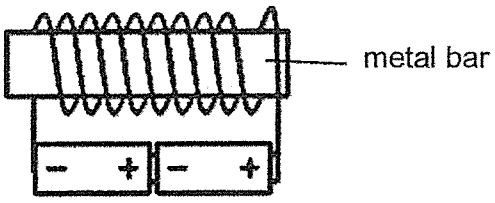
(3)



(4)



16. The diagram below shows an electromagnet.



Which one of the following should be done in order for the electromagnet to attract an iron nail from a greater distance?

(1) Use a thinner wire
(2) Use only one battery
(3) Use a bigger metal bar
(4) Make more coils of wire around the metal bar

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17. Diagram 1 below shows a bar magnet lowered onto a pile of steel pins. Diagram 2 shows the bottom view of the magnet.

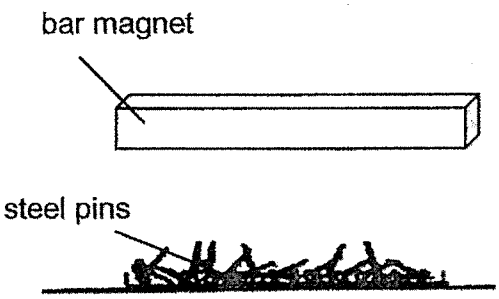


Diagram 1

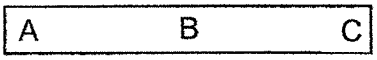
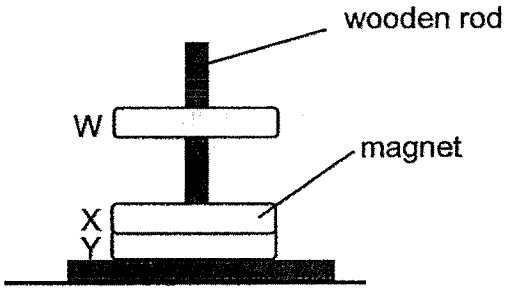


Diagram 2

Which one of the following most likely shows the number of pins attracted to the bottom of the magnet at positions A, B and C?

	A	B	C
(1)	6	18	6
(2)	12	6	13
(3)	15	10	5
(4)	10	10	10

18. Three rings, W, X and Y are passed through a wooden rod. Ring X is a magnet.

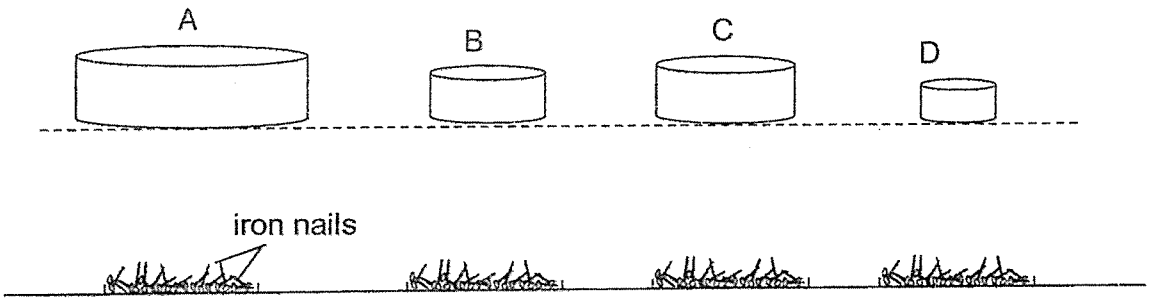


Which one of the following is possible?

	W	Y
(1)	rubber	steel
(2)	steel	steel
(3)	magnet	magnet
(4)	steel	magnet

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19. The diagram below shows four magnets, A, B, C and D, of different sizes. Each of the magnets was then placed at an equal distance above a pile of iron nails. The number of iron nails attracted to each magnet was recorded in a table as shown below.



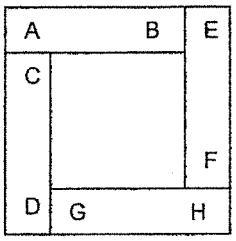
Magnet	A	B	C	D
Number of nails attracted	9	5	12	8

Based on the experiment above, which one of the following statements is **incorrect**?

(1) Magnet A is the strongest magnet.
(2) Magnet C is stronger than magnet D.
(3) Magnet B is the weakest among the magnets.
(4) The strength of the magnet is not affected by its size.

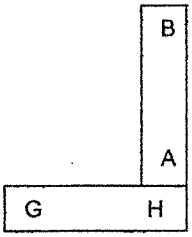
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20. Reena arranged four magnets with poles labelled A to H as shown below. The magnets do not repel one another.

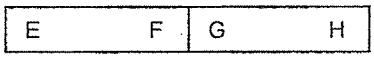


Which one of the following is another possible arrangement of the magnets?

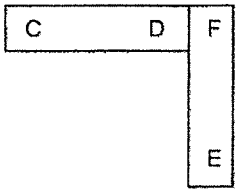
(1)



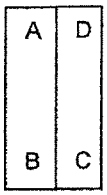
(2)



(3)



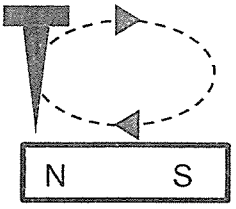
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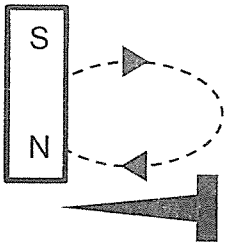
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21. Which one of the following diagrams shows how to make an iron nail into a magnet using the stroking method?

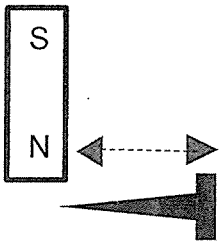
(1)



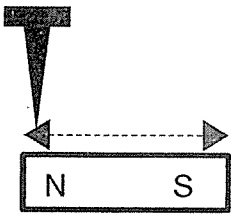
(2)



(3)



(4)



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22. Derrick magnetised 2 iron nails and carried out an experiment as shown below.

He suspended one of the magnetised iron nails as shown in Diagram 1.
He placed the other magnetised iron nail on a plastic that was floating in a basin of water as shown in Diagram 2.

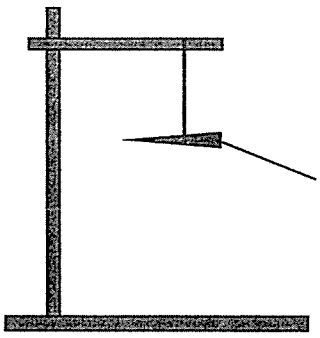


Diagram 1

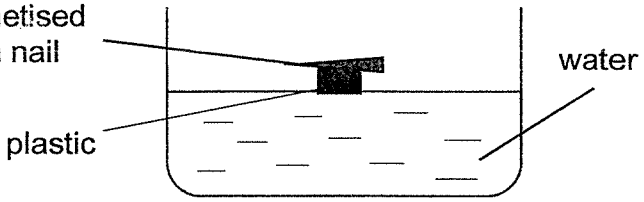


Diagram 2

Which one of the following shows the direction that each iron nail come to a rest?

	Suspended iron nail in Diagram 1	Floating iron nail in Diagram 2
(1)	North-South	East-West
(2)	East- West	North-South
(3)	North-South	North-South
(4)	East-West	East-West

~ END OF BOOKLET A ~

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NANYANG PRIMARY SCHOOL

PRIMARY 3 SCIENCE

END-OF-YEAR EXAMINATION

BOOKLET B

Duration : 1 h 30 min

Name : _____ ( )

Class: Primary 3 ( )

Marks Scored:

Booklet A:		44
Booklet B:		26
Total :		70

Please sign and return the End of Year Examination paper the next day.
Any queries should be raised at the same time when returning the paper.

Parent's signature: _____

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FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet B consists of 10 printed pages including this cover page.

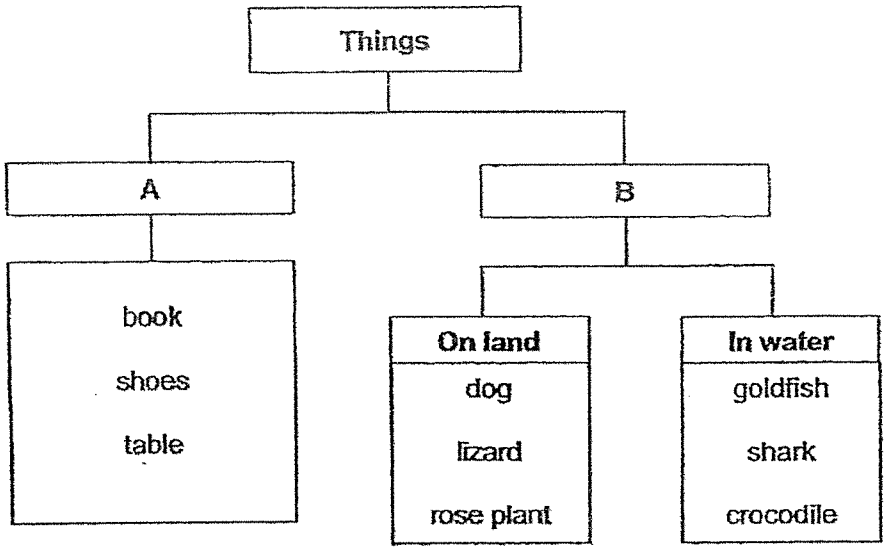
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Section B

Write your answers to questions 23 to 31 in the spaces provided.

23. Study the classification chart below.



(a) Based on the classification chart above, state the possible headings for A and B. [1]

(i) A: _____

(ii) B: _____

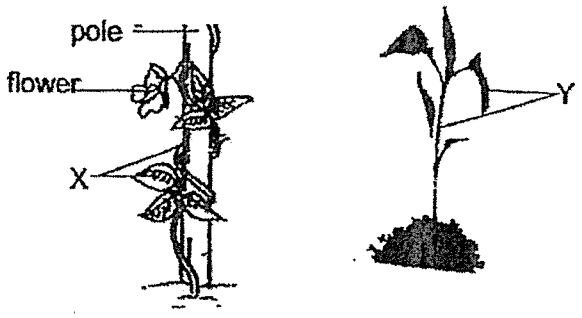
(b) Alex said that both the book and the rose plant cannot move on its own. Therefore, rose plant should be classified in Group A. Show comparison to explain why Alex was wrong. [1]

_____

_____

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24. Ahmad was walking in the park and saw two different living things, X and Y, as shown in the diagram below.



(a) Based on the diagram, state one similarity between X and Y. [1]

_____

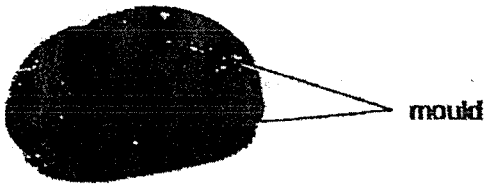
_____

(b) Based on the diagram, state one difference between X and Y. [1]

_____

_____

25. Brendon was packing his school bag and found a bun which he had forgotten for a week. He noticed that green patches of mould had grown on the bun.



(a) State all the conditions that had enabled the mould to grow well in his school bag. [1]

_____

(b) State where the mould had obtained its food. [1]

_____

4

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26. The table below shows the characteristics of three animals, J, K and L. A tick (✓) shows that the animal has the characteristics.

Characteristics	Animals		
	J	K	L
Breathes through its moist skin.	✓		
Has six legs.		✓	
Reproduces by laying eggs.	✓	✓	
Lives on land.		✓	✓

(a) Based on the table above, state the animal group for animals J and L. [1]

Animal J: _____

Animal L: _____

(b) Based on the characteristics of the animals in the table above, state one difference between animal J and animal L. [1]

_____

_____

(c) State the outer covering of animal K and its function. [1]

Outer covering: _____

Function of this outer covering:

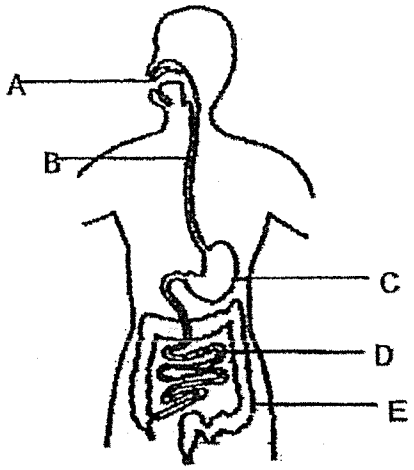
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27. The diagram below shows the human digestive system.



(a) State the two functions of the human digestive system. [1]

(i) _____

_____

(ii) _____

_____

No digestion takes place in some parts of the human digestive system.

(b) (i) State <u>one</u> part (A, B, C, D or E) where no digestion takes place. [1]

_____

(ii) Besides no digestion taking place, state another function of the part mentioned in (b)(i). [1]

_____

(c) (i) Identify part D.

_____

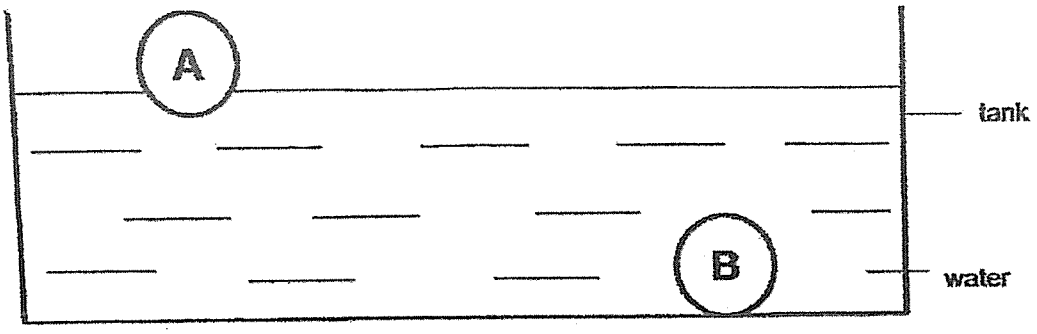
(iii) How is digestion affected if part D is removed from the human digestive system? [1]

_____

_____

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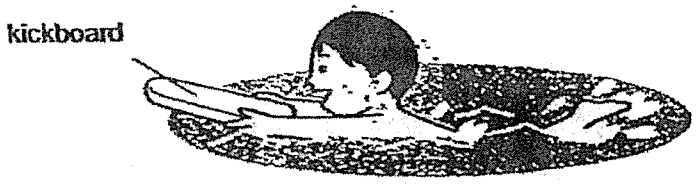
28. Gavin conducted an experiment using two balls made of different materials, A and B. He placed the two balls into a tank of water. The results are as shown below.



(a) What property of the materials was he testing for? [1]

_____

The diagram below shows Gavin swimming with a kickboard.



(b) i) Which material, A or B, is more suitable for making a kickboard for swimming? [1]

_____

(b) ii) Explain your answer. [1]

_____

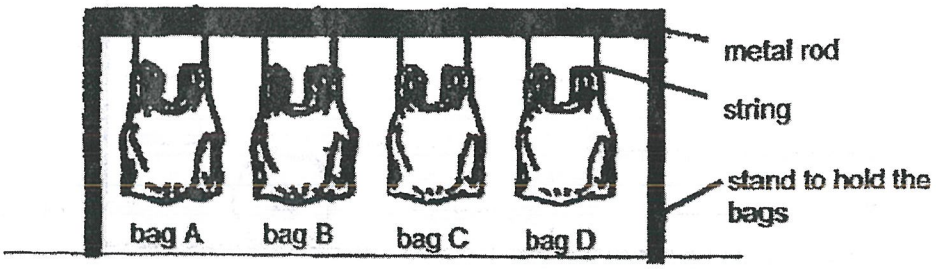
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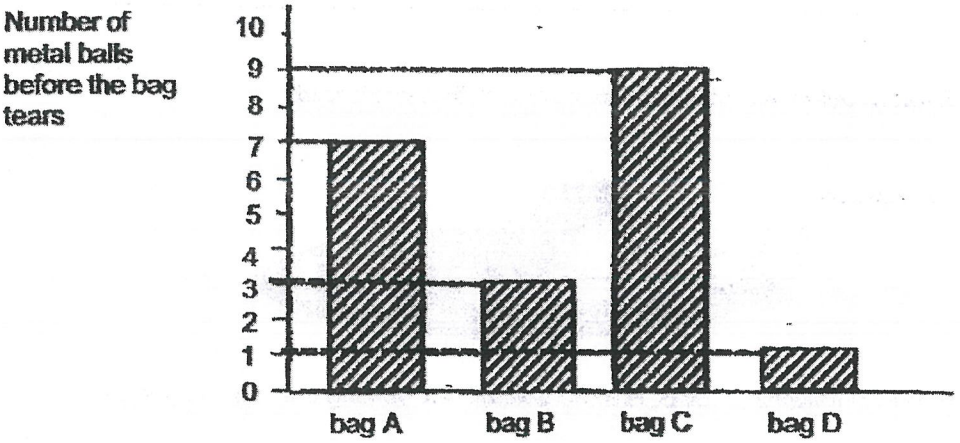
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29. Jolyn wanted to find out which material makes a good bag that does not tear easily when she carries a lot of things. She used four identical bags, A, B, C and D, made of different materials as shown below. She then added metal balls into each of the bags until the bag was torn.



She recorded her observation in the bar graph below.



(a) State the property that Jolyn was testing for. [1]

(b) (i) Which bag is the most suitable for her to carry the most number of items? [1]

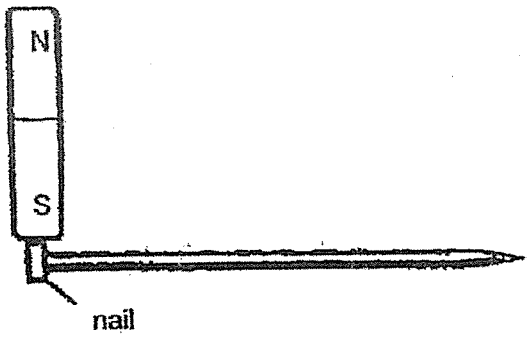
(ii) Explain your answer. [1]

3

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30. A nail can be made into a temporary magnet by stroking it with a strong magnet as shown in the diagram below.

(a) Complete the diagram below by drawing arrows to show the circular movement of the strokes. [1]



Ronald wants to magnetise a copper bar using one of the poles of the bar magnet. However, no matter how many times he stroke the copper bar, it is not able to attract any steel paper clips.

(b) Suggest a change he should do so that the steel paper clips can be attracted. Explain your answer. [2]

(i) Change to the setup: _____

(ii) Reason for the change:

_____

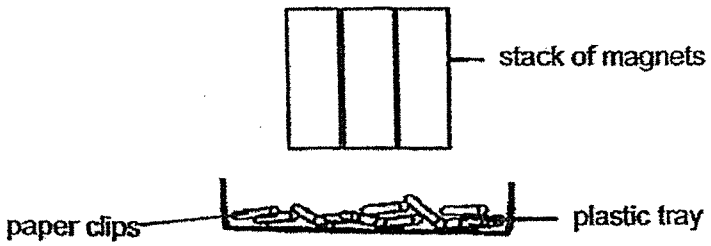
_____

_____

3

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31. Raymus carried out an experiment to find out how the number of similar magnets stacked together will affect the number of paper clips attracted to the magnets from a fixed distance.



The table below shows the results of his experiment.

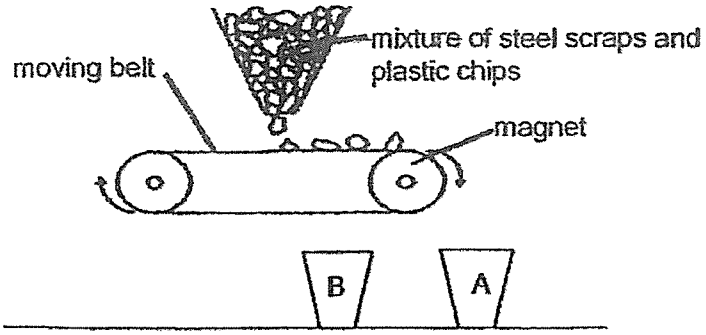
Number of magnets stacked together	Number of paper clips attracted to the magnet
1	2
2	5
3	(a) ☐
4	8

(a) Fill in the table with a suitable number of paper clips that are most likely attracted to the magnets when 3 magnets are stacked together. [1]

1

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A scientist carried out an experiment using a special machine to separate steel scraps from plastic chip as shown in the diagram below.



(b) Which of the materials, steel scraps and plastic chips, are most likely to be found in containers A and B? Give a reason for each answer.

(i) Container A: _____ [1]

Reason for Container A:

_____

_____

(ii) Container B: _____ [1]

Reason for Container B:

_____

_____

~ END OF BOOKLET B ~

2

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P3 SCIENCE Practice Paper 2021
Answer Key

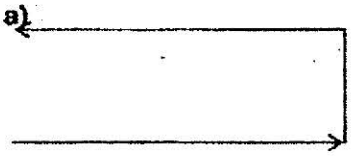
Section A

1	**4**	11	**2**	21	**2**
2	**3**	12	**1**	22	**3**
3	**3**	13	**4**	23	
4	**2**	14	**4**	24	
5	**3**	15	**2**	25	
6	**2**	16	**4**	26	
7	**2**	17	**2**	27	
8	**3**	18	**3**	28	
9	**1**	19	**1**		
10	**3**	20	**3**		

Section B

Qn No	Answers
23(ai)	Non-Living things
(aii)	Living things
(b)	Rose plant can respond to changes in the surroundings by moving its part but the book cannot.
24(a)	Similarity: Both X and Y have a stem and leaves.
(b)	X has flowers but Y does not. Or X has a weak stem but Y has a strong stem.
25(a)	Air (oxygen) , Warmth, moisture and food (any of the 3 conditions)
(b)	Mould had obtained its food from the bun/bread.
26(a)	Animal J: amphibian; Animal L: mammal
(b)	(Any 1 difference): Animal J has moist skin but animal L does not / has hair. Animal J lays eggs but animal L does not (gives birth to young alive). Animal J does not live on land but animal L lives on land. Animal J breathes through its moist skin but Animal L does not /breathes through its lungs
(c)	Outer covering : <u>hard</u> outer covering / exoskeleton Function : to protect animal K or to give it shape.

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27(ai)	Digests / Breaks down food into simpler/simple substances
(ii)	Digested food could be absorbed and (used by the body)
(bi)	Part B: (gullet) Function:
(ii)	The muscle helps to push the food down the gullet to the stomach. or Transport /push food from the mouth to the stomach Or Part E: (large intestine) Function: Water is removed from the undigested food in the large intestine. Absorbs water from the undigested food
(ci)	Part D : Small intestine
(cii)	Final round of digestion will not take place in the small intestine. or No more/ less digestive juices is added to further break down the partially digested food.
28(a)	Ability of the balls to float /sink in water or Buoyancy of the balls
bi)	Material A.
bii)	Property: Material A or the kickboard floats on water Function of the kickboard: It helps the user to stay afloat in water or the user will not drown.
29(a)	Property: Strength of the material
(bi)	Bag C
(bii)	Explain why this property of the bag is important in its function. Property:Bag C is the strongest Function: Bag C can carry the most number of things (without breaking). Or Bag C can hold the most metal balls (without breaking).
30(a)	a) 
(bi)	Change to the setup: Change the copper bar to either iron/ steel/ nickel/ cobalt bar or to any magnetic material
(bii)	By changing to either iron/steel/nickel/cobalt which is a magnetic material so it can be magnetised / to become a temporary magnet.
31(a)	6 or 7
(bi)	Container A: Plastic Chips Reason for Container A: Plastic chips are non-magnetic and it cannot be attracted by the magnet, hence it will drop into Container A first.
(bii)	Container B: Steel Scraps Reason for Container B: Steel scraps are magnetic and will be attracted by the magnet and will only drop into Container B when they are no longer attracted to the magnet.

END

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