

CANDIDATE  
NAME  
CENTRE  
NUMBER

					CANDIDATE NUMBER				

## Secondary 1

**Science**

Paper 1

Candidates answer on the Question Paper.

Additional Materials:

12/08/24

August 2024

45 minutes

### READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** the questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

The total of the marks for this paper is **50**.

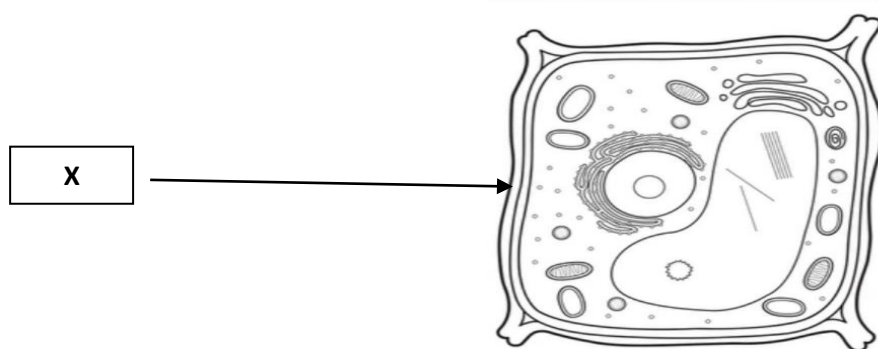
For Teacher Use	
Question No	Marks
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
Total	

Invigilator's Name:.....

Invigilator's Sign:.....



1. Peter uses a microscope to look at cells.  
He makes a labeled drawing of a cell.



- (a) Name the structure labelled X.

..... [1]

- (b) Peter cannot be sure whether the cell is animal or plant.

Use the information from the diagram to explain why.

.....  
..... [2]





- (c) Give the function of cell membrane.

.....  
..... [1]

**[Total: 4]**

2. Name the following apparatus in table below.

[4]

Laboratory equipment	
 .....	 .....
 .....	 .....

- (a) Name the laboratory equipment that is used for pouring liquids or powder through a small opening and for holding the filter paper in filtration.

..... [1]

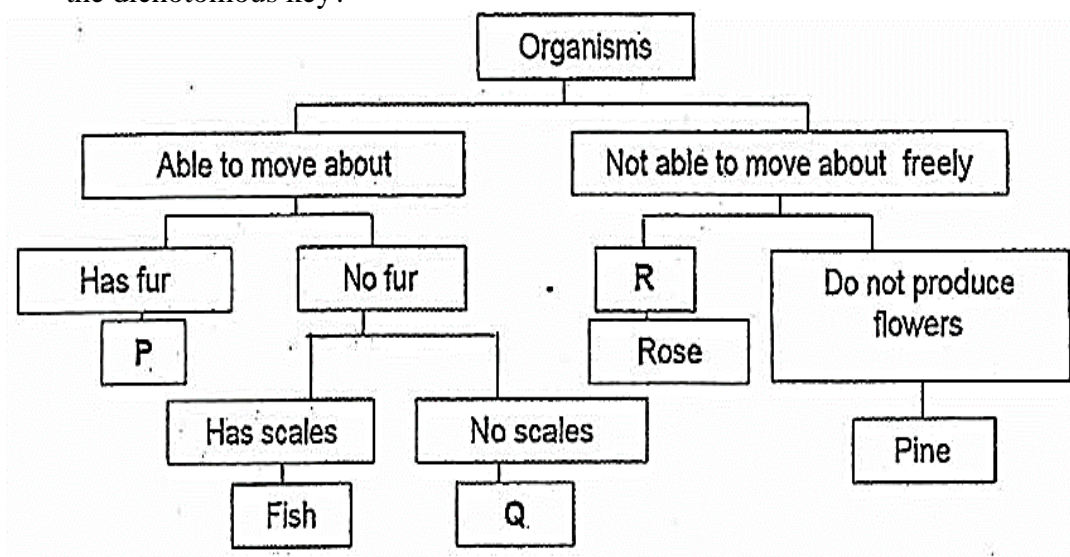
- (b) Name the laboratory equipment that it is used for holding, mixing, and heating small quantities of liquids or solids in laboratory experiments.

..... [1]

[Total: 6]

3. The figure below shows a dichotomous key.

Which of the following statements best matches the unknown blanks P, Q and R in the dichotomous key?



P	Q	R
Giraffe	Snake	Produce cones
Giraffe	Penguin	Has true stems
Monkey	Snake	Has thorns
Monkey	Penguin	Produce flowers

Write your answer below.

**P:** .....

**Q:** .....

**R:** .....

[Total: 3]

4. How many atoms of each element are there in one molecule of glucose,  $C_6H_{12}O_6$ ?

C	H	O	Total
.....	.....	.....	.....

[2]

- (a) Name the three elements involved in this given compound.

..... [2]

[Total: 4]

5. (a) The boxes show some parts of plants and the functions of the parts.

Draw a line from each **part** to match its **function**.

part	function
flower	photosynthesis
leaf	absorption of water
root	Transport of water and minerals
stem	reproduction

[4]

- (b) Complete the **word equation** for photosynthesis.



[2]

[Total: 6]

6. A list of characteristics of life is given below.

external stimuli	homeostasis	metabolism
reproduction	organization	growth

- (a) Which characteristic is the organism's ability to maintain steady internal conditions when outside conditions change.

.....

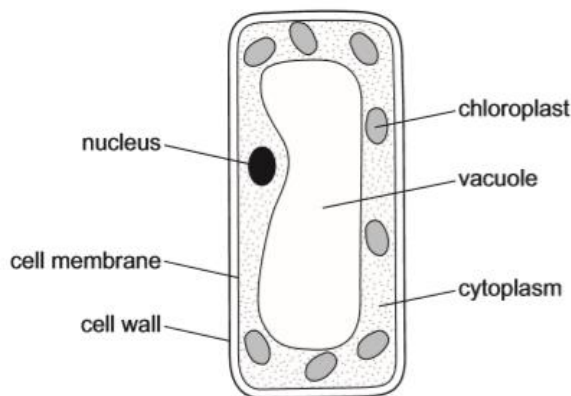
- (b) Which characteristic is when living things have specialized structures with specialized function like perform together.  
.....

- (c) Which characteristic is when living things use its energy for all the processes they perform?  
.....

- (d) Which characteristic is when living things adjust and respond to changes especially when exposed to light and temperature?  
.....

[Total: 4]

7. The diagram shows a palisade cell.



- (a) Which three structures, labelled in the diagram, are **not** found in animal cells?

1. ....
2. ....
3. ....

[2]

- (b) What stage of photosynthesis wherein water is converted into oxygen?

.....

[1]

- (c) Plants have pigments that can absorb and reflect light.

Name the most common pigment in plants that reflects only green light.

.....

[1]

[Total: 5]

8. Look at the following list of organisms written below in their most specific taxonomic level (Genus and species). Identify which organism/s is/are written wrongly.

Rewrite the three (3) answers and make it right in the line provided below.

- a) canis lupus
- b) *Felis catus*
- c) Homo Sapiens
- d) *Panthera leo*
- e) Mus musculus

.....  
 .....  
 .....

[2]

9. (a) (i) Name the process that plants use to make their own food.

.....

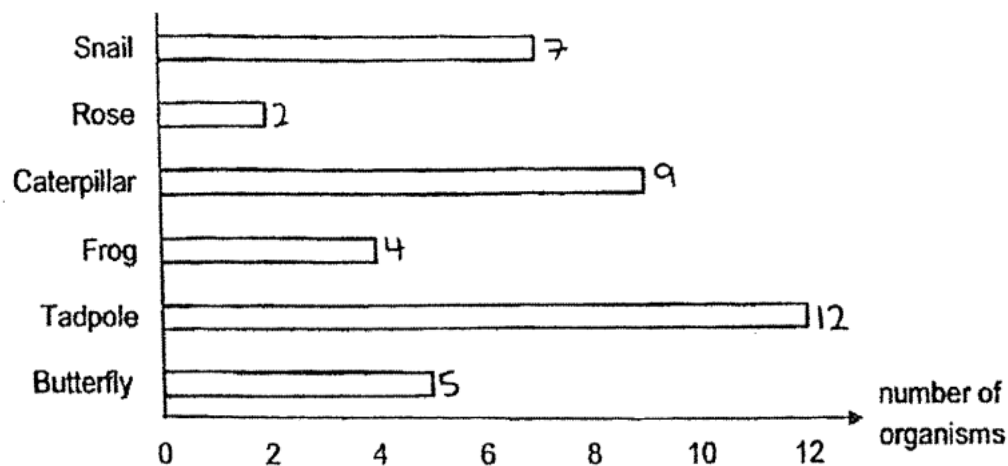
[1]

- (ii) Name one product of this process using its **chemical formula**.

.....

[1]

10. Farmer Steve counted the number of organisms living in his garden and plotted the bar graph as shown.



Based on the bar graph, answer the following questions:

1. Total number of producers.

.....

[1]

2. Total number of populations.

.....

[1]

3. How many populations of consumers? Identify all.

.....  
.....  
.....

[2]

4. What type of vertebrate animal group that has the highest population?

.....

[1]

[Total: 5]

11. Cell is made up of water and macromolecules.

(a) Look at the list of substances.

**more than 70 %**

**amino acids**

**H<sub>2</sub>O**

**DNA + RNA**

**store energy**

**water insoluble**

Sort the substances into water and macromolecules.

One has been done for you.

Water	Macromolecules
	store energy

[4]

(b) Read these sentences about the cell theory.

Tick (✓) the box next to the correct sentence.

Cell is the second smallest unit of life.

☐

All new cells come from preexisting cells.

☐

There are three principles under the cell theory.

☐

Cells are microscopic it means it's visible to naked eye.

☐

[2]

[Total: 6]



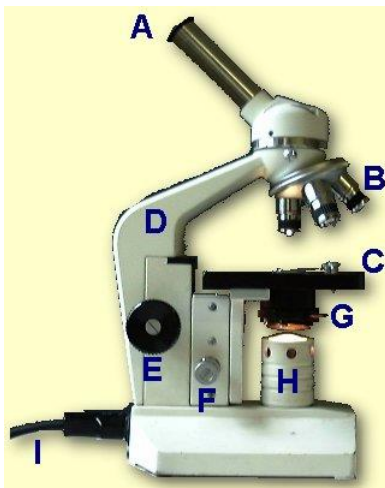
12. A team of virologists headed by Dr Tia is investigating a new virus strain responsible for a recent outbreak. To understand the virus's structure and mechanism, they need to examine its detailed morphology (shape and structure) at a molecular level.

What type of microscope the team needs to use?

.....  
 .....  
 ..... [2]

- (a) **Magnification** is the process of enlarging the appearance of an object, making it appear larger than its actual size. It is a measure of how much bigger an image is compared to the object's real size.

Identify which two parts of microscope are needed to calculate for the magnification.



..... and .....

[1]

[Total: 3]