



Cambridge Lower Secondary Progression Test

Science paper 1

Stage 7



45 minutes

Name

Additional materials: Ruler

READ THESE INSTRUCTIONS FIRST

Answer **all** questions in the spaces provided on the question paper.

You should show all your working on the question paper.

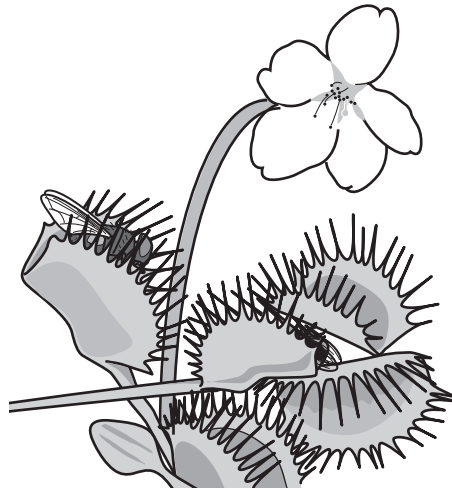
The number of marks is given in brackets [] at the end of each question or part question.

The total number of marks for this paper is 50.

For Teacher's Use	
Page	Mark
1	
2	
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12	
13	
14	
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16	
Total	

- 1 The diagram shows a plant called the Venus flytrap.

Part of the plant traps insects when they walk on it.



- (a) Which part of the Venus flytrap is adapted to trap insects?

Circle the correct answer.

flower fruit leaf root

[1]

- (b) The Venus flytrap grows in soil that lacks nutrients.

A trapped insect dies and breaks down.

The Venus flytrap absorbs the nutrients from the body of the insect.

- (i) Which part of a plant **normally** takes in nutrients?

Circle the correct answer.

flower fruit root stem

[1]

- (ii) Why do plants need a good supply of nutrients?

..... [1]

- (c) Describe **two** functions of the stem of a Venus flytrap.

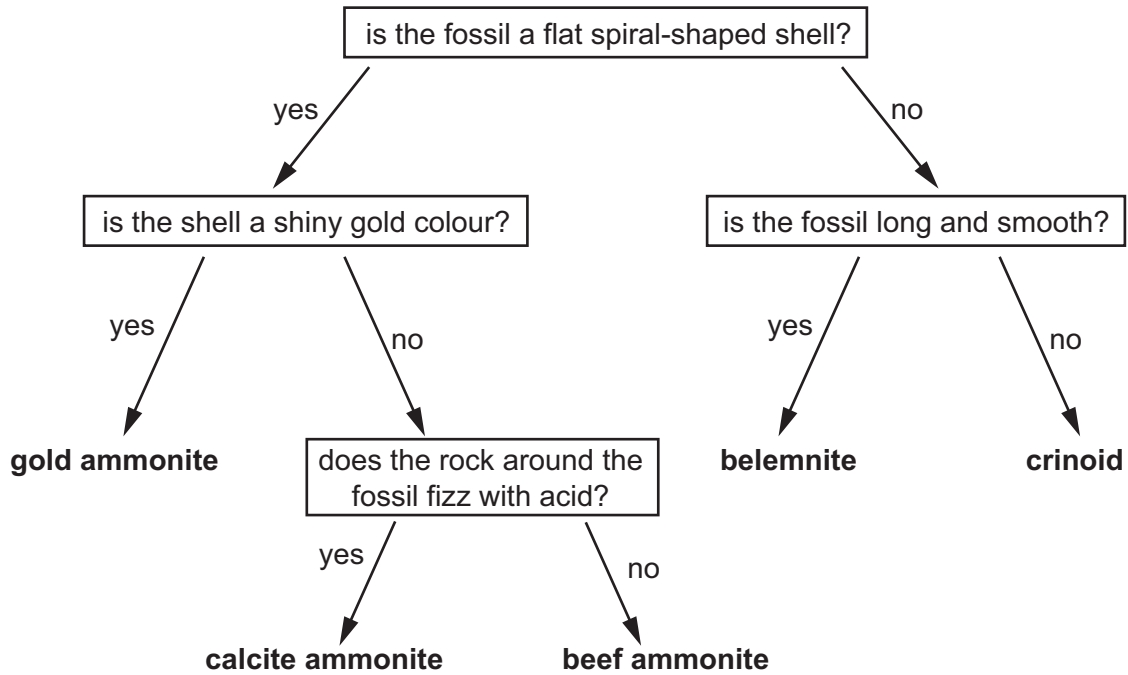
1

2

[2]

2 Oliver investigates different fossils.

He finds five fossils and uses this key to identify them.



Use the key to answer these questions.

(a) Which fossil is gold in colour? [1]

(b) Which fossil is long and smooth? [1]

(c) Describe the calcite ammonite that Oliver finds.

.....
 [1]

3 This question is about famous space scientists.

Complete the sentences.

Choose words from

Curie **Earth** **Galileo** **Lister** **Mars** **Mercury**
Moon **Pasteur** **Sun** **Uranus** **Venus**

Our understanding of the universe has changed over many years.

Famous **space** scientists include Ptolemy, Copernicus and

Copernicus thought that the was at the centre of the universe.

Copernicus did not include the distant planets in his model.

As telescopes improved, more distant planets were discovered.

One of the most distant planets is

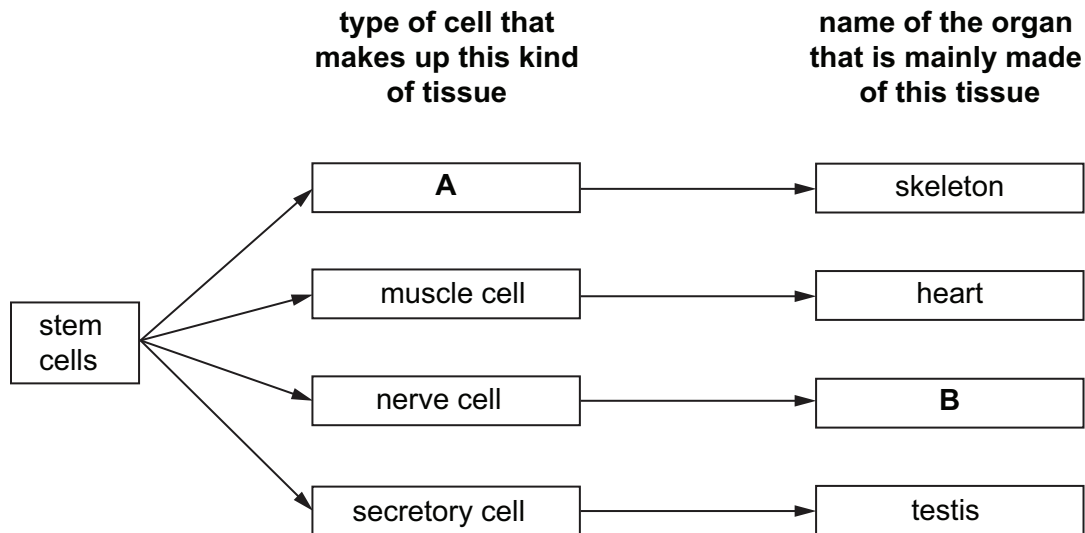
[3]

4 This question is about cells, tissues and organs.

Stem cells are able to turn into many other types of cell that form different tissues.

Different tissues are then used to build organs.

This is shown in the diagram.



(a) Name cell **A**.

Choose from the list.

blood cell

bone cell

liver cell

sperm cell

..... [1]

(b) Name organ **B**.

Choose from the list

kidney

salivary gland

skull

spinal cord

..... [1]

5 Safia is stung by a bee.

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(a) Bee stings are acidic.

Calamine lotion will neutralise a bee sting.

(i) Suggest the pH value of a **bee sting**.

..... [1]

(ii) Suggest the pH value of **calamine lotion**.

..... [1]

(b) Acids and alkalis can be identified using indicators.

Plan how you can use an indicator to identify acids and alkalis.

Include

- the name of the indicator
- the result with acid
- the result with alkali.

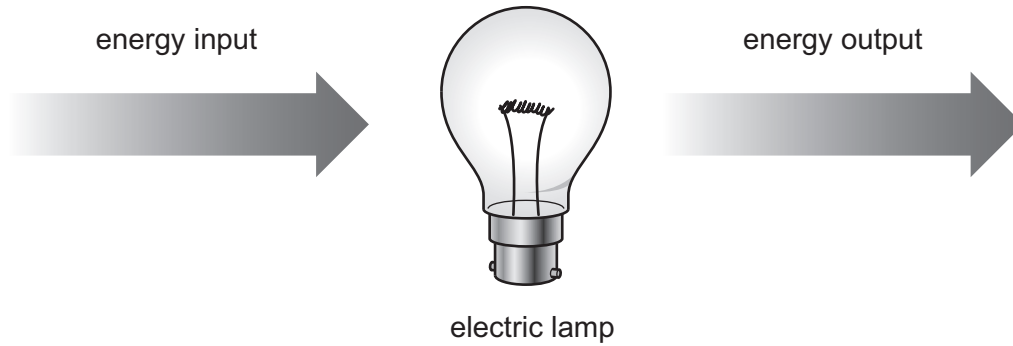
.....

.....

.....

..... [3]

6 Look at the energy transfer diagram.



(a) What is the energy **input**?

Circle the correct answer.

electrical **kinetic** **light** **magnetic** **sound** [1]

(b) What are **two** of the energy **outputs**?

Circle the **two** correct answers.

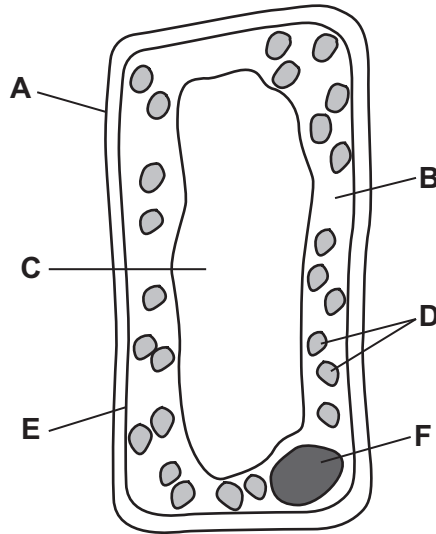
chemical **electrical** **kinetic** **light** **thermal** [2]

(c) Complete the sentence.

Energy **cannot** be created or

7 This question is about cells.

(a) The diagram shows a plant cell.



Which letter shows the cell membrane?

.....

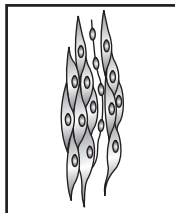
[1]

(b) Draw a line from the **cell** diagram to the correct **function**.

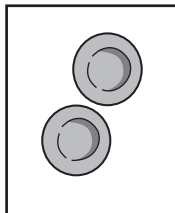
The cells are not all drawn to the same scale.

cell

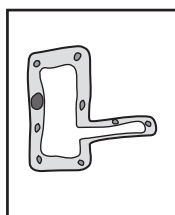
function



contract to cause movement



fertilises an egg cell



takes up water and minerals from soil

transports oxygen in blood

transports water and minerals to leaves

[3]

8 The table shows some information about solids, liquids and gases.

Complete the table.

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state	distance between particles	movement of particles	forces between particles	shape
solid	close together	fixed shape
liquid	close together	move slowly in all directions	shape of container
gas	move quickly in all directions	very weak

[5]

9 Pierre investigates the time it takes for parachutes of different sizes to fall to the ground.

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ground

He records his results in a table.

area of parachute in cm ²	time for parachute to fall to the ground in seconds			average (mean)
	test 1	test 2	test 3	
50	1.7	1.5	2.8	?
113	3.0	3.6	3.3	3.3
201	6.2	6.3	6.7	6.4
314	9.5	9.9	10.0	9.8

(a) There is **one** anomalous result in the table.

Circle the anomalous result.

[1]

(b) Calculate the missing average (mean) time in the table.

average (mean) time = seconds [1]

(c) Describe the pattern in Pierre's results.

.....

.....

.....

Use your scientific knowledge to explain the pattern.

.....

..... [3]

10 This question is about muscles.

Choose words from the list.

You may use each word once, more than once or not at all.

antagonistic breaks contracts involuntary
relaxes stretches voluntary

When the arm bends upwards, the biceps muscle

and the triceps muscle

The biceps and triceps are muscles.

[3]

11 Yuri investigates some different soils.

He writes a description of each of the soils.

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soil	description of soil
A	dry and gritty to touch, with large soil grains
B	small soil grains smooth to the touch
C	black soil with a pH of 4.5 containing small pieces of decaying vegetation
D	sticky damp soil with very small soil grains
E	black soil with a pH of 7.0 containing small pieces of decaying vegetation
F	light brown soil with a pH of 9.0 containing small pieces of decaying vegetation

(a) Clay soils are made up of very small grains that hold water.

Which soil is clay?

Choose from **A, B, C, D, E** or **F**.

.....

[1]

(b) Peat forms when dead plants decay very slowly in acidic conditions.

Which soil is peat?

Choose from **A, B, C, D, E** or **F**.

.....

[1]

(c) Sandy soils have large spaces between the soil grains.

This means water drains easily through the soil.

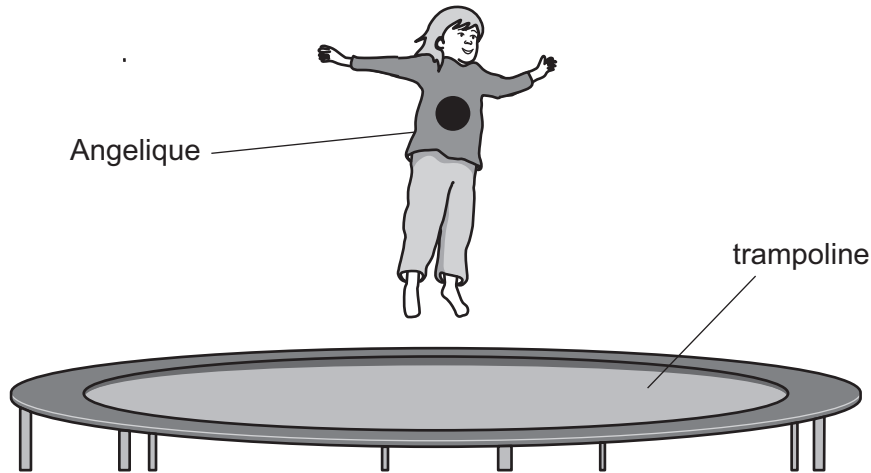
Which soil is sandy?

Choose from **A, B, C, D, E** or **F**.

.....

[1]

12 Angelique jumps up and down on a trampoline.



(a) (i) Write down the name of the force that pulls Angelique towards the trampoline.

..... [1]

(ii) Draw a line with an arrow (\rightarrow) to show the direction of this force.

Start the line on the large dot on Angelique. [1]

(b) Angelique lands on the trampoline.

She bends her knees and pushes hard against the trampoline.

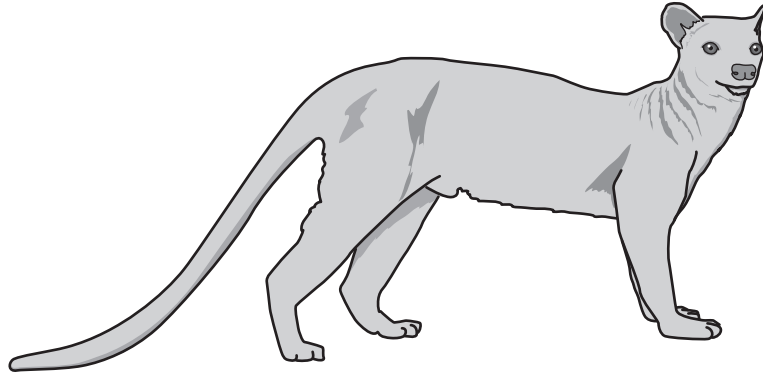
Complete the sentence.

Choose the best word from the list.

force **friction** **mass** **weight**

Angelique exerts more so she jumps higher. [1]

13 The fossa is an endangered species of mammal.



(a) Explain the meaning of the term **species**.

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

(b) The fossa lives on an island.

It is a predator.

Dogs were brought to the island.

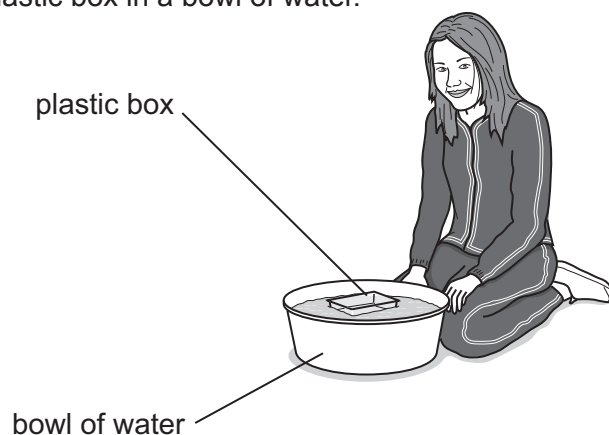
The number of fossas on the island decreased.

Suggest **one** reason why the number of fossas decreased.

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

14 Blessy investigates floating objects.

She uses a small plastic box in a bowl of water.



She puts weights into the box.

She measures the depth of the box below the water.

(a) Blessy needs to measure the **weights** in the box.

What piece of equipment should she use?

Tick (✓) the correct box.

ammeter

clock

measuring cylinder

ruler

spring balance

[1]

(b) Blessy needs to measure the **depth** of the box below the water.

What piece of equipment should she use?

Tick (✓) the correct box.

ammeter

clock

measuring cylinder

ruler

spring balance

[1]

