Cambridge Assessment International Education

Cambridge Primary Sample Test

For use with curriculum published in September 2020

Science Paper 2

Stage 6

35 minutes

Name .....

No additional materials are needed.

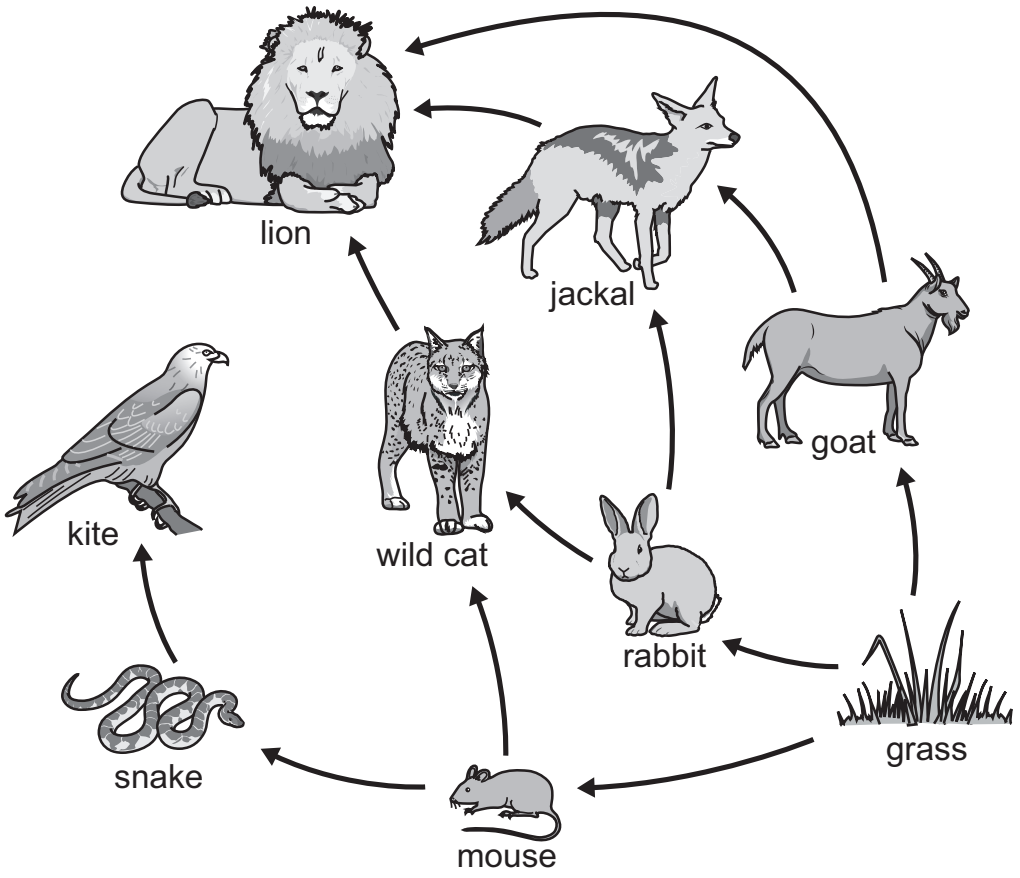
INSTRUCTIONS

- Answer **all** questions.
- Write your answer to each question in the space provided.
- You should show all your working on the question paper.

INFORMATION

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [ ].

1 The diagram shows a food web.



(a) Which animals in the food web eat the mouse?

..... [1]

(b) Which animals get their energy directly from the grass?

..... [1]

(c) This food web includes many food chains.

Write down a complete food chain that includes the snake.

..... [2]

(d) Rabbits eat grass that has been sprayed with a poisonous chemical.

Explain how this poisonous chemical reaches the body of the lion.

.....

.....

..... [1]

2 Safia mixes solids with water and observes what happens.

solid	observations when solid and water are mixed
A	mixture bubbles and gets warm
B	mixture does **not** change colour and stays the same temperature
C	the solid dissolves and the mixture gets colder
D	mixture remains green
E	mixture turns colourless and gets warmer

(a) Which solids have a chemical reaction with water?

..... [2]

(b) Magnesium is added to dilute hydrochloric acid.

This makes bubbles of hydrogen and a colourless solution of magnesium chloride.

Write down the name of one of the **products** of this reaction.

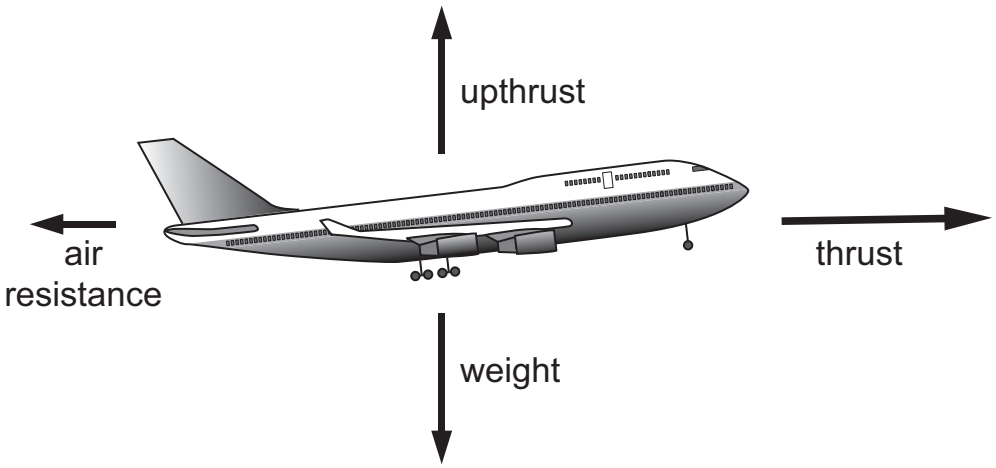
..... [1]

(c) Burning wood is a chemical reaction.

Suggest **one** piece of evidence that shows burning wood is a chemical reaction.

..... [1]

3 The diagram shows the forces acting on an aeroplane.



(a) Which force is the effect of gravity on the mass of the aeroplane?

..... [1]

(b) The thrust is greater than the air resistance.

Circle what happens to the speed of the aeroplane.

remains constant

decreases

increases

[1]

(c) The aeroplane is in level flight.

The aeroplane is **not** moving up or down.

Which **two** forces must be equal in size?

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

4 Changes of state are physical changes.

(a) Complete the sentence to explain why melting is a physical change.

Melting is a ..... process because the liquid formed can be changed into a solid by .....

[2]

(b) Describe one **similarity** between boiling and evaporation.

..... [1]

(c) Describe two **differences** between boiling and evaporation.

1 .....

.....

2 .....

.....

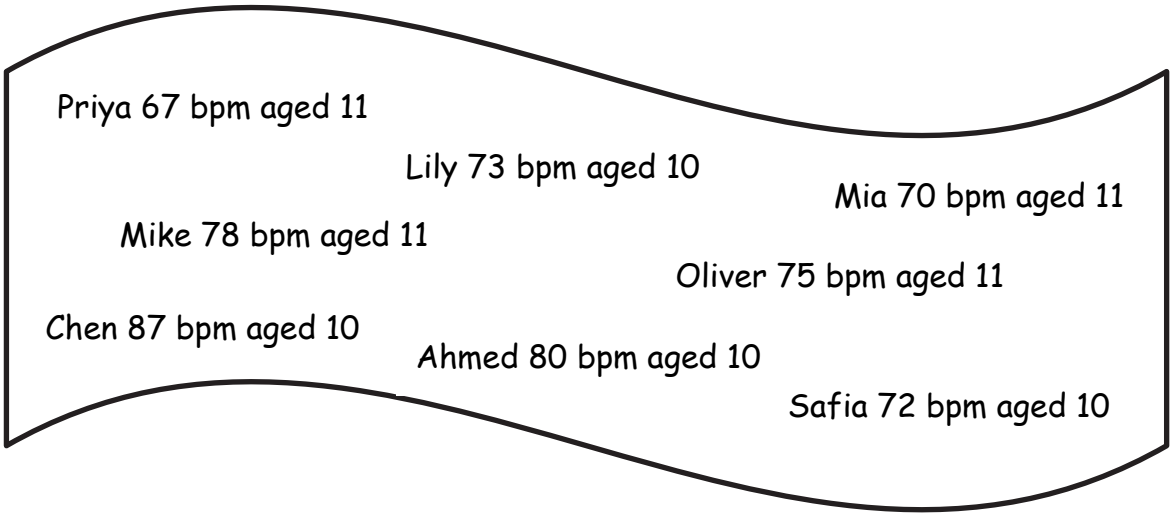
[2]

5 Heart rate is measured in beats per minute, bpm.

Angelique investigates the average heart rate of the children in her class.

She records her results in her notebook.

Look at her results.



(a) Complete her results table.

name of child	gender	age of child in years	
Priya	female		
Mia	female		
Lily	female		
Safia	female		
Mike	male		
Oliver	male		
Chen	male		
Ahmed	male		

[3]

(b) The heart rate results show some patterns.

Describe **two** patterns shown by the results.

1 .....

.....

2 .....

.....

[2]

6 Soils contain water and organic plant material.

(a) What is the name of the organic plant material found in soil?

..... [1]

(b) Write down two **other** parts of soil.

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

7 Chen investigates the floating and sinking of objects in water.

In his first experiment Chen

- measures the mass of a solid cube
- puts the cube into a container of water
- records if the cube floats or sinks.

Chen repeats this experiment with cubes of different mass and of different material.

Here are his results.

mass of cube in g	material of cube	does it sink or float?
100	wood	float
300	wood	float
100	steel	sink
200	steel	sink

(a) What piece of equipment does Chen use to measure the mass of the cube?

..... [1]

(b) Chen thinks the greater the mass of the cube the more likely the cube will sink.

Is he correct?

.....

Use information from the results table to explain your answer.

.....

.....

[1]

(c) Chen wants to make a piece of steel float.

Describe how he could change the shape of the steel cube to make it float.

You may draw a diagram to help you answer the question.

.....

.....

[1]

8 Carlos adds salt to cold water.

It takes one hour for the salt to dissolve to make a salt solution.

(a) Describe how Carlos could dissolve the salt faster.

.....

..... [1]

(b) Salt solution contains salt particles and water particles.

Tick (✓) the boxes next to the **two** correct statements about salt solution.

salt particles are **not** moving	
water particles surround salt particles	
water particles are moving	
salt particles are arranged in a regular pattern	

[2]

9 There are three types of rock found on the Earth's surface.

One of the types of rock is called sedimentary.

(a) Name the **other** two types of rock.

1 .....

2 .....

[2]

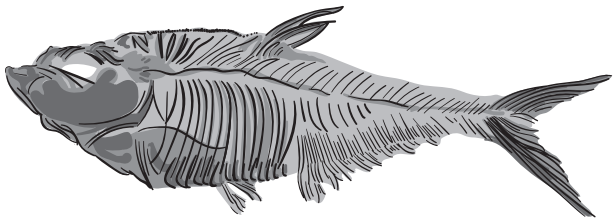
(b) Look at the table. It shows the description of some rocks.

rock	description
A	This rock is found in layers and is very crumbly.
B	This rock is very hard and contains crystals.
C	This rock is black and very shiny.
D	This rock is soft and contains very small particles.

Which **two** rocks are sedimentary?

..... [1]

(c) Aiko finds this fossil in some sedimentary rock.



Describe how fossils are formed in sedimentary rock.

.....

.....

.....

..... [2]

10 Inhaled air is the air we breathe in.

Exhaled air is the air we breathe out.

The table shows how inhaled and exhaled air are different.

gas	inhaled air	exhaled air
carbon dioxide	0.04%	4%
oxygen	21%	16%
water vapour	0.5%	5%

(a) Complete these sentences about exhaled air.

The percentage of carbon dioxide in exhaled air is ..... than in inhaled air.

The percentage of water vapour in exhaled air is ..... than in inhaled air.

[1]

(b) Explain why the percentage of oxygen in exhaled air is less than in inhaled air.

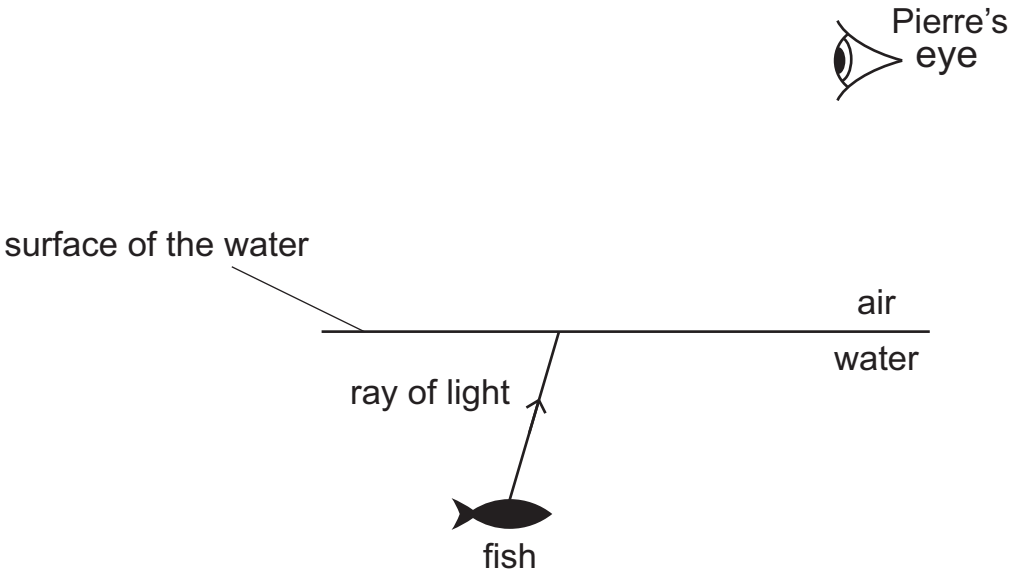
.....

..... [1]

11 Pierre sees a fish in a river.

The diagram shows part of a ray of light from the fish to Pierre's eye.

(a) Complete the diagram to show the ray of light entering his eye.



[1]

(b) Circle what happens to the ray of light at the surface of the water.

condensation

evaporation

reflection

refraction

[1]