

DEPARTMENT FOR CURRICULUM,  
LIFELONG LEARNING AND EMPLOYABILITY  
Directorate for Learning and Assessment Programmes  
Educational Assessment Unit

Annual Examinations for Primary Schools 2021

Year 6

SCIENCE

Time: 60 minutes

Name: \_\_\_\_\_

Class: \_\_\_\_\_

1. The pictures below show different states of matter - solids, liquids and gases.

a) Write **one** word under each picture to show the correct state of matter.

Choose the correct word from the word bank below.

solid	liquid	gas
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ice cube



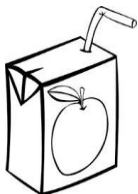
steam



water in a cup



bubbles



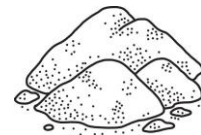
juice



ruler



soap



sand

(8 marks)

b) From the pictures above, name **one** solid which can be poured.

Name of solid: \_\_\_\_\_

(1 mark)

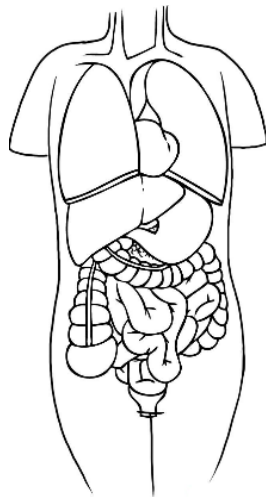
2. The organs in our body have different functions.

a) Name the organ responsible for digesting the food eaten.

Name of organ: \_\_\_\_\_

(1 mark)

b) On the diagram below, shade the organ responsible for digestion.



(1 mark)

c) Maria has some ideas about a balanced diet.

Write **True (T)** or **False (F)** next to each idea in the table below.

		T or F
i.	A balanced diet provides all the nutrients needed to grow healthy.	
ii.	A balanced diet means drinking water is not necessary.	
iii.	A balanced diet means eating only meat.	

(3 marks)

d) Food from different food groups have a different function.

Write letters A to C in the table below to match the food to its function.

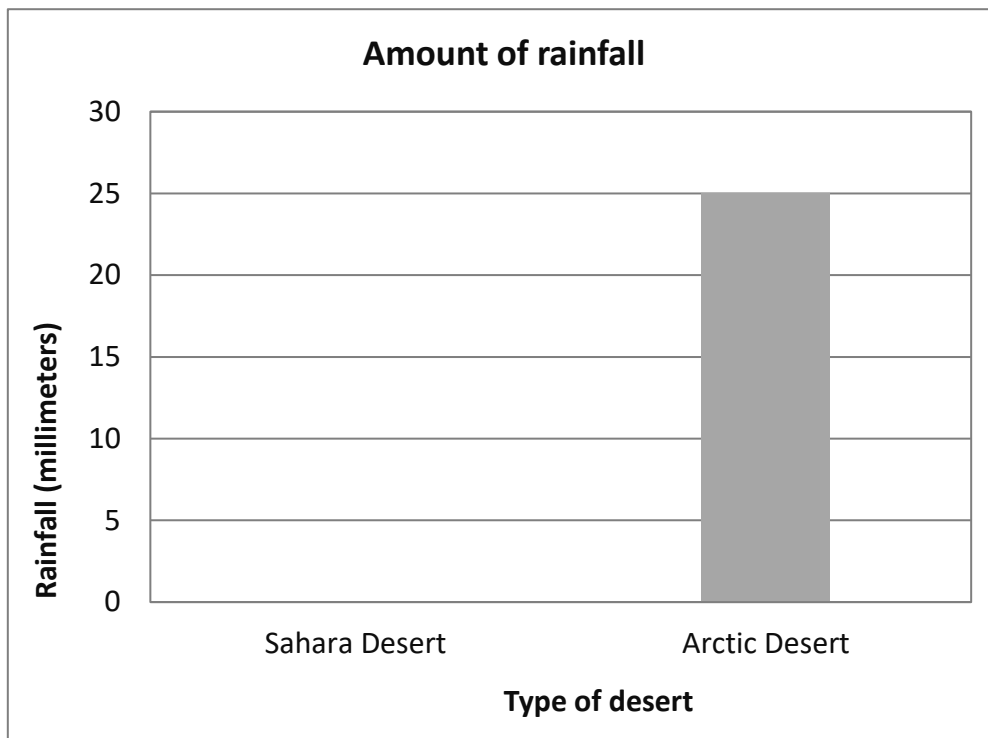
	Food		Function
<b>A</b>	strawberries and broccoli		Energy for physical activity.
<b>B</b>	meat and eggs		Vitamins for health.
<b>C</b>	rice and bread		Help the body to grow and repair itself.

(3 marks)

3. The table below provides information about rainfall and temperature in the Sahara Desert and in the Arctic Desert.

	Sahara Desert	Arctic Desert
Maximum temperature (°C)	21	-20
Rainfall (mm)	8	25

a) On the graph below, draw the correct column to show the amount of rainfall in the Sahara Desert.



(2 marks)

b) Underline **one** correct word to complete the sentence below.

The Sahara Desert is a (hot, cold) desert whilst the Arctic Desert is a (hot, cold) desert. (2 marks)

c) The pictures below show **two** animals, the Fennec fox and the Polar bear.

One animal lives in the Sahara Desert while the other animal lives in the Arctic Desert.



Fennec fox



Polar bear

i. Look at the **ears** of both animals.

Name **one observable difference** between the ears of the Fennec fox and the ears of the Polar bear.

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(1 mark)

ii. Tick (✓) **one** box for each animal to indicate its correct habitat.

Fennec fox

Sahara Desert

Arctic Desert

Polar bear

Sahara Desert

Arctic Desert

(2 marks)

iii. Explain how the Fennec fox and the Polar bear are suited for their habitat.

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(2 marks)

d) Hot deserts, like other environments, can also be harmed.

Tick (✓) **two** correct sentences to identify threats to **hot deserts**.

An increase in high temperatures may result in wildfires.

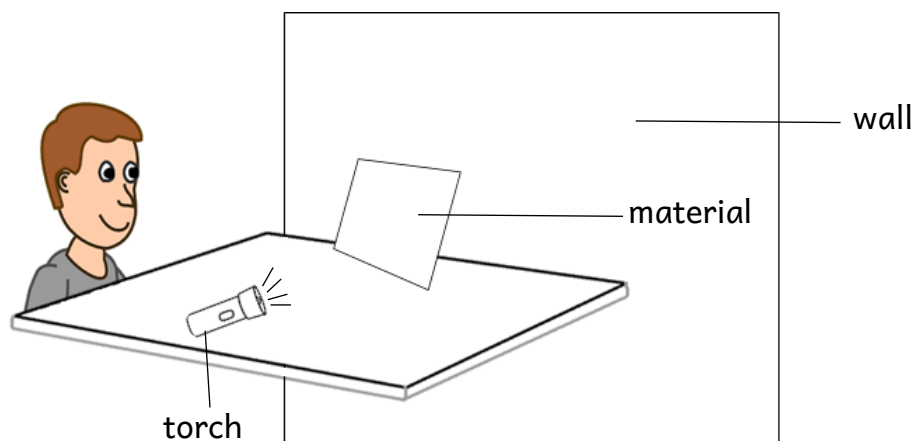
High temperatures may destroy rain forests.

High temperatures may result in drought which dries up any water.

(2 marks)

4. Sarah is investigating which material reflects light best.

She shines a torch on **three** different materials, namely cling film, metal foil and baking paper, as in the diagram below.



a) Tick (✓) **one** material that would reflect light best.

cling film

metal foil

baking paper  (1 mark)

b) Sarah observes that two materials cast a shadow.

Tick (✓) **one** material that casts the **darkest** shadow.

cling film       metal foil       baking paper       (1 mark)

c) Sarah sorts the materials in three different groups – transparent, translucent and opaque, as in the table below.

i. Tick (✓) the correct column to complete the table below.

The first one has been given as an example.

Material	Transparent (allows light to pass through)	Translucent (allows some light to pass through)	Opaque (blocks light)
tissue paper		✓	
metal foil			
baking paper			
cling film			

(3 marks)

ii. What conclusion can be drawn from Sarah's investigation?

Tick (✓) **one** correct statement.

- Opaque materials block light and cast a dark shadow.
- Transparent materials do not block light and cast a dark shadow.
- Translucent materials block some light and cast a dark shadow.

(2 marks)

d) Explain why a magnifying glass is made of transparent glass.

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(1 mark)

5. Alex is investigating different switches.

a) What is a switch used for?

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(1 mark)

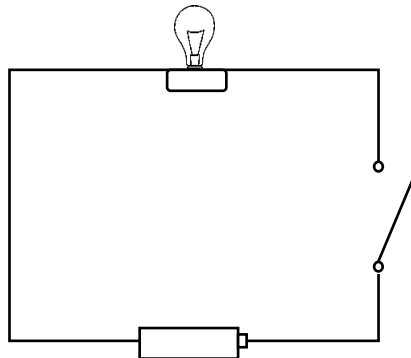
b) Name **two** everyday objects that use a switch.

Object 1: \_\_\_\_\_

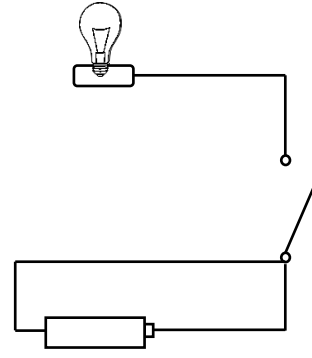
Object 2: \_\_\_\_\_

(2 marks)

c) Alex sets up circuits A and B as in the diagram below.



Circuit A



Circuit B

i. Explain why the light bulb in **circuit A** does **not** light up.

\_\_\_\_\_

(1 mark)

ii. Explain why the light bulb in **circuit B** does **not** light up.

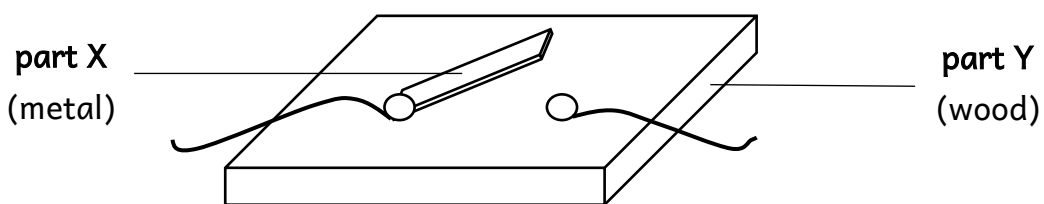
\_\_\_\_\_

(1 mark)

d) Alex designs a circuit with a switch using materials he found at home.

The diagram below shows the switch.

He uses a metal clip for **part X** and a wooden base for **part Y**.



i. Why is **metal** a good material to use for **part X** of the switch?

\_\_\_\_\_

(2 marks)

ii. Why is **wood** a good material to use for **part Y** of the switch?

\_\_\_\_\_

(2 marks)

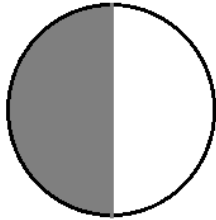
6. Sam observes the Moon on **three different** days during the month of May.

The diagram below shows Sam's observations of the Moon.

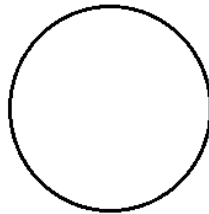
a) Write the correct word under each Moon phase.

Choose the word from the word bank below.

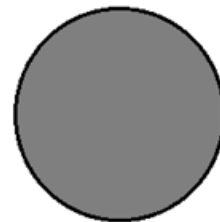
full moon	first quarter	new moon
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Moon phase 1



Moon phase 2



Moon phase 3

(3 marks)

b) Tick (✓) **one** correct statement to explain what Sam observes.

The Moon changes its shape.

The Moon appears to change its shape and what Sam observes is the lit up part of the Moon.

The Moon appears to be always the same.

(2 marks)

c) Tick (✓) **one** correct statement to explain why astronauts appear to float on the Moon.

The force of gravity on the Moon is weaker than that on Earth.

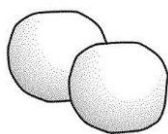
There is no gravity on the Moon and in space.

(2 marks)

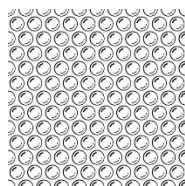
7. Jade is investigating sound.

She would like to find out which material decreases the sounds heard.

Jade uses the following items for her investigation.



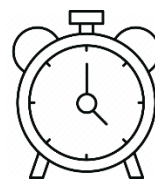
cotton wool



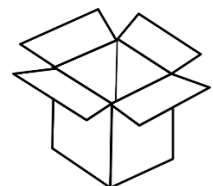
bubble wrap



newspaper



alarm clock



box

a) Jade followed the steps below to carry out the investigation.

Write number 1 to 3 in the boxes below to put the steps of the investigation in the correct order.

- Put the alarm clock in a box and wrap it in one of the materials. Set the alarm clock and measure the loudness of the sound of the alarm clock. Record your result in a table.
- Repeat this step for the remaining two materials and measure the loudness of the sound of the alarm clock each time. Record your results in a table.
- Put the alarm clock in a box and set the alarm clock. Measure the loudness of the sound of the alarm clock. Record your result in a table. (3 marks)

b) Jade records her observations in the table below.

Type of wrapping material	Volume (in decibels)
no wrapping	80
cotton wool	16
bubble wrap	24
newspaper	56

i. Which material decreases the sound of the alarm clock **most**?

cotton wool  bubble wrap  newspaper  (1 mark)

ii. Which material decreases the sound of the alarm clock **least**?

cotton wool  bubble wrap  newspaper  (1 mark)

iii. The bubble wrap decreases the sound of the alarm clock by \_\_\_\_\_

decibels. (1 mark)

c) Ear muffs **decrease** the sound heard. If ear muffs were made of **cotton wool**, can the noise of people talking, which measures **60 decibels**, be heard?

yes  no  (1 mark)

d) Jade uses different materials to investigate sound.

Tick (✓) **one** natural material.

cotton wool  bubble wrap  newspaper  (1 mark)

**END OF EXAM**