Key Stage 2 2006

SCIENCE

Modified Large Print

Levels 3-5
Test B

First name _____

Last name _____

School _____

Note to markers:
This paper should be marked using the MODIFIED LARGE PRINT mark scheme amendments – MLP.

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TIME ALLOWED

You have 45 minutes for this test plus your additional time allowance.

INSTRUCTIONS

Write all your answers on this question paper.

For some questions, you may need to draw an answer instead of writing one.

Some questions may have a box like this for you to write down your thoughts and ideas.

My idea

1. Bones

(a) A human skeleton is made up of bones.

Tick one box to show the main life process for which bones are important. [1 mark]

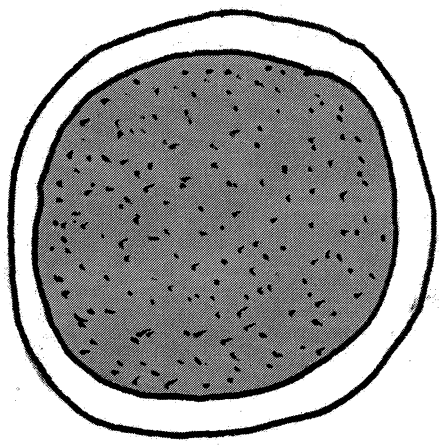
breathing ☐

nutrition ☐

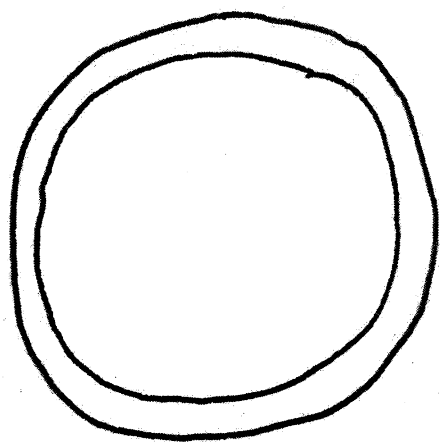
movement ☐

reproduction ☐

(b) **Birds also have a skeleton. The diagrams below show a human bone and a bird bone cut in half.**



human bone



bird bone

The bird bone is hollow (filled with air) inside. This makes it easier for the bird to fly.

Why do hollow bones make it easier for birds to fly?
[1 mark]

THIS QUESTION CONTINUES ON THE NEXT PAGE

(c) **Some birds eat only meat.**

Meat is all they need for their bones to stay strong.

If humans ate only meat, their bones would not stay strong.

Tick one box to show what is best for humans to eat to keep their bones strong. [1 mark]

all food without fat ☐

only fruit and vegetables ☐

any food that tastes good ☐

a balanced diet ☐

(d) **Describe a different way humans can keep their bones strong. [1 mark]**

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TURN OVER FOR THE NEXT QUESTION

2. In the kitchen

(a) Layla collects different objects from the kitchen.

aluminium foil

drinking glass

plastic food wrap

wooden rolling pin

wax candle

She looks at some of the properties of the materials these objects are made from.

Write a ✓ or ✗ in each empty box in the table to show the properties of the materials. [1 mark]

Material/Object	Flexible	Hard	Transparent
aluminium foil	✓	✗	✗
wax candle	✗	✗	✗
wooden rolling pin	✗	✓	✗
plastic food wrap			
glass			

(b) **Aluminium foil is flexible.**

Give one use of aluminium foil in the kitchen where it is important that the foil is flexible. [1 mark]

_____

_____

(c) **Layla knows some changes are reversible.**

Tick three boxes to show which changes are reversible. [2 marks]

cooling water ☐

cooking bread ☐

boiling an egg ☐

freezing water into ice ☐

mixing vinegar with bicarbonate of soda ☐

burning a candle ☐

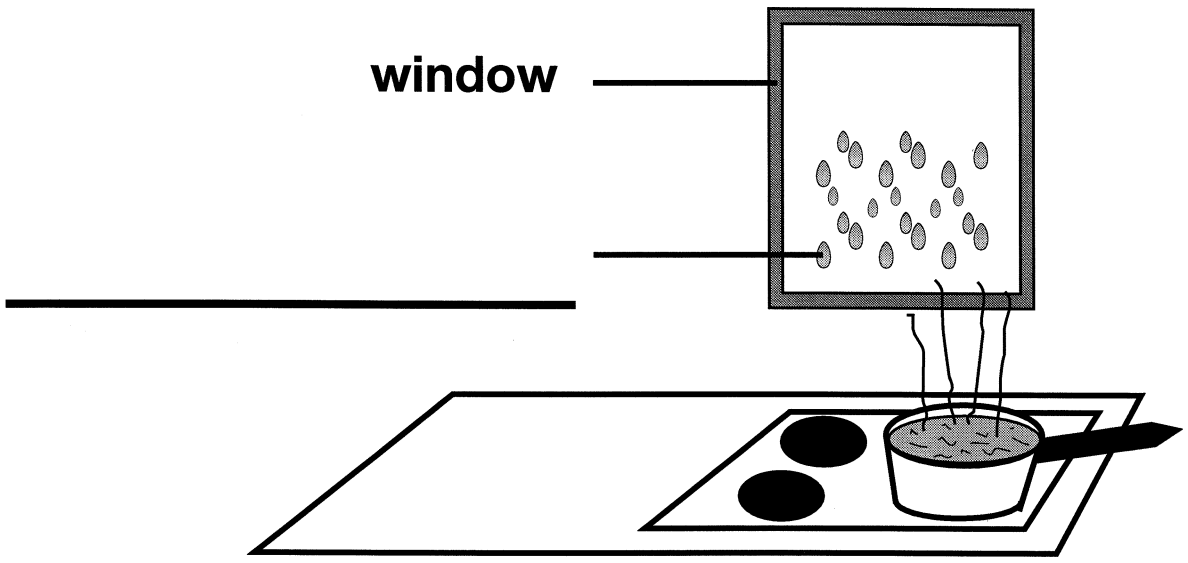
dissolving salt in water ☐

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(d) **Layla watches some water boiling near a window. The picture shows what she can see on the window.**

(i) **Write the missing label for the picture below by choosing from the words in the box below. [1 mark]**

water vapour	condensation	steam	smoke



(ii) **Why does the level of the water inside the saucepan go down if the water continues to boil? [1 mark]**

_____

_____

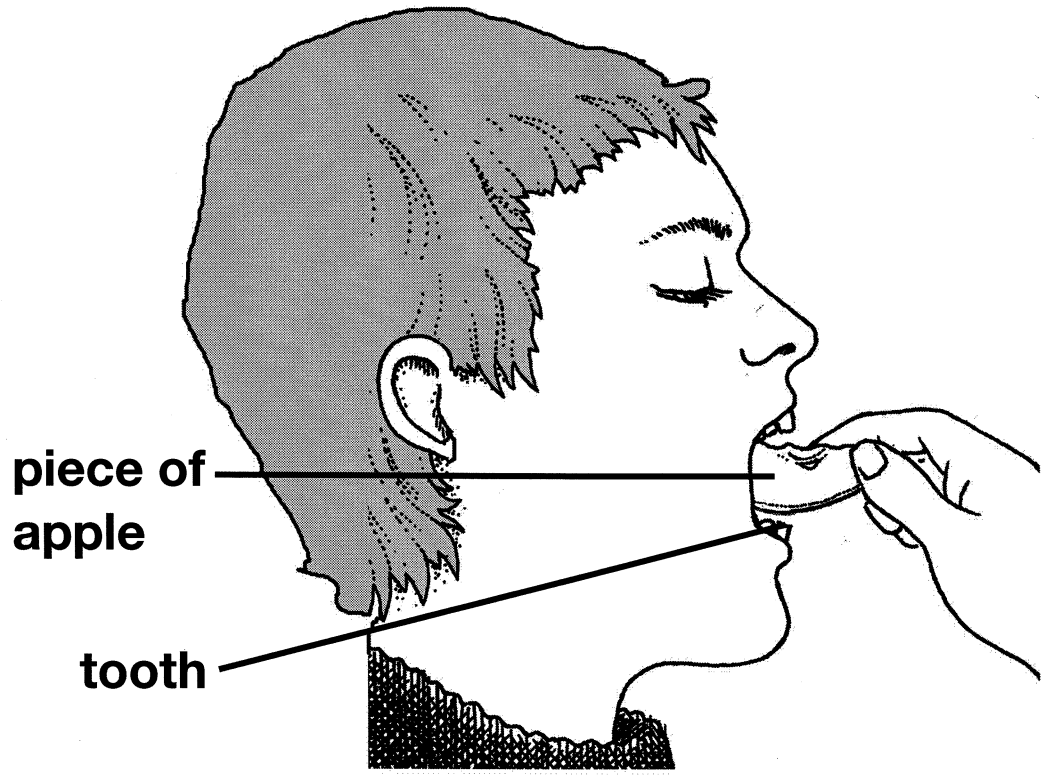
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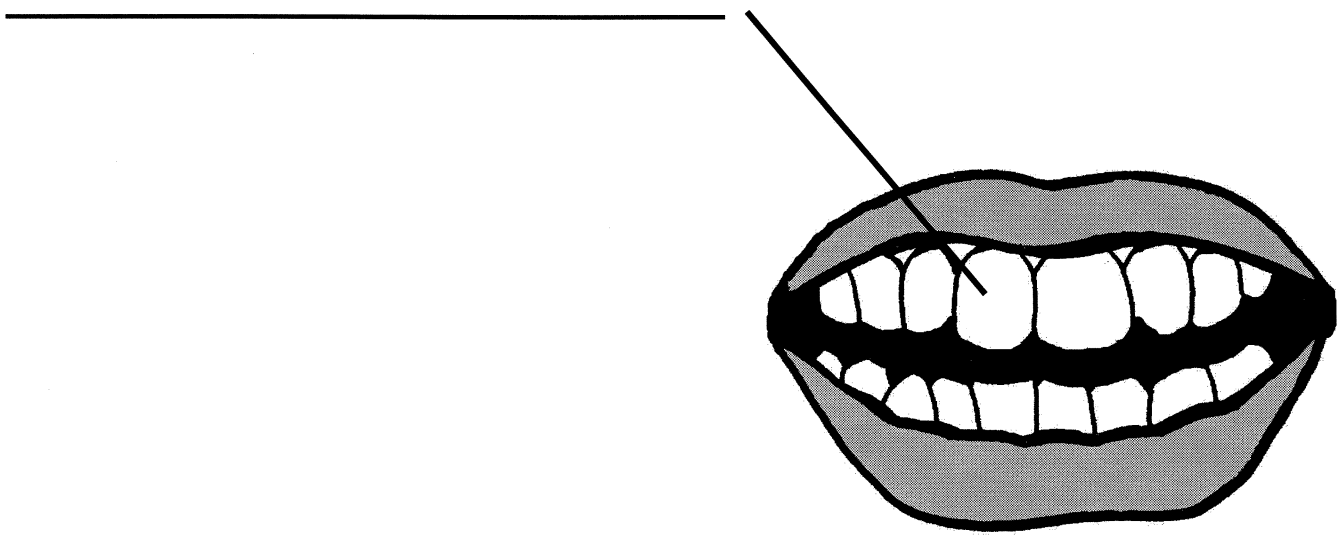
3. At the dentist

(a) When Jon bites a piece of apple, there is a force from Jon's teeth on the apple.

(i) Draw one arrow on the picture below to show the direction of the force from Jon's bottom teeth when he bites the apple. [1 mark]



(ii) Label the main type of tooth Jon uses to bite the apple. [1 mark]



(b) Jon visits the dentist regularly to help stop tooth decay.

Describe one other way Jon can help stop tooth decay.
[1 mark]

_____

_____

(c) Jon looks around the dentist's surgery.
He can see the following objects.

Tick one box to show which object light passes through best. [1 mark]

mirror ☐

glass ☐

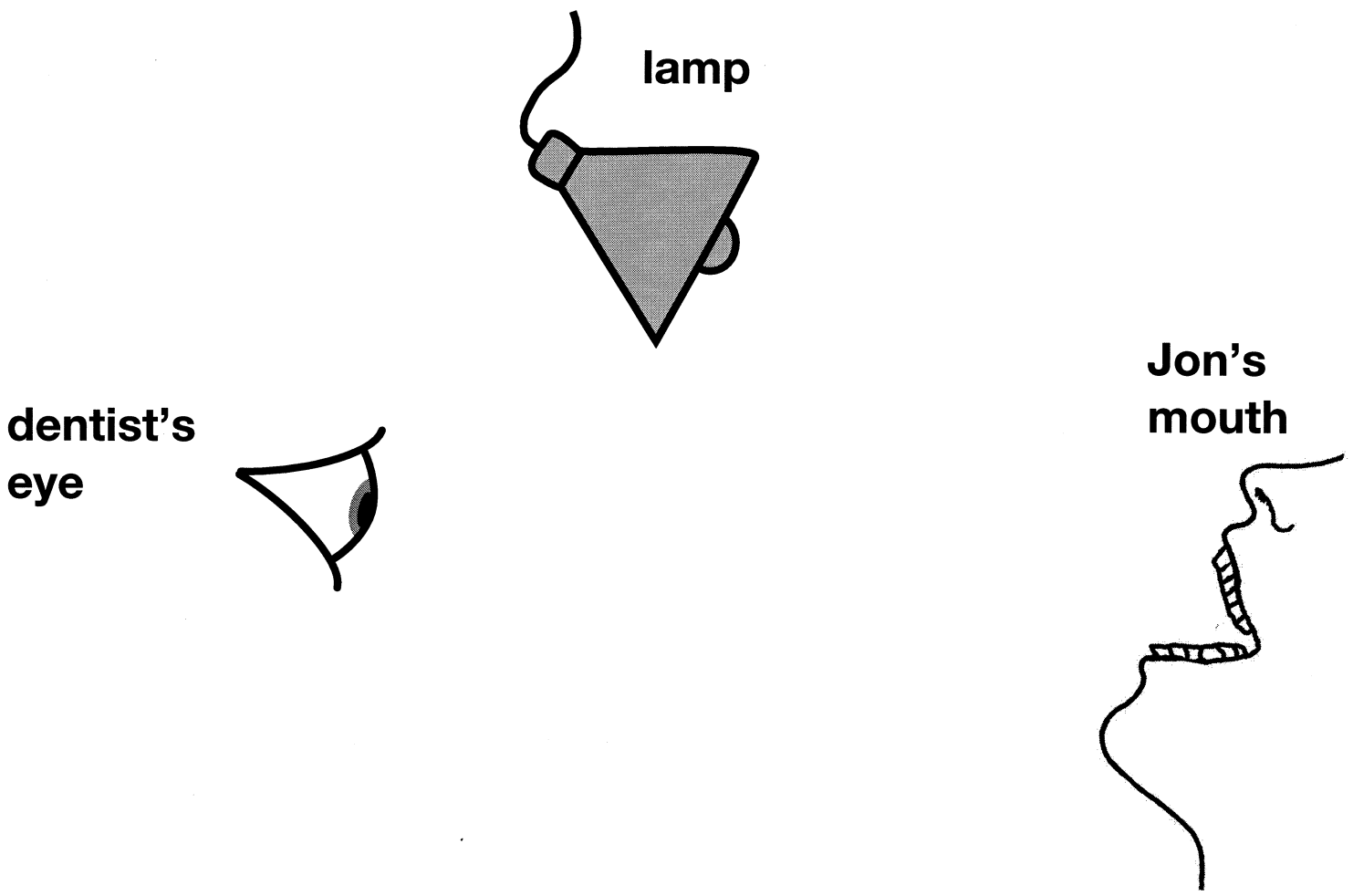
pencil ☐

coat ☐

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(d) **The dentist uses a lamp to see Jon's teeth clearly.**

Draw two arrows on the diagram below to show the direction light travels for the dentist to see Jon's teeth. [2 marks]



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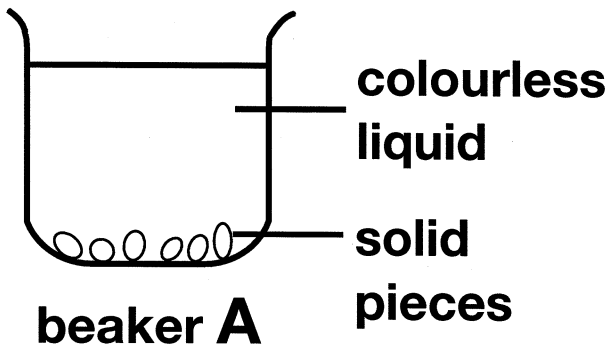
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4. Adding water

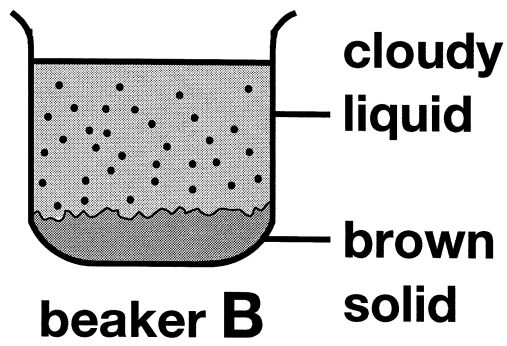
(a) Safara wants to find out what happens when solids are mixed with water.

She adds water to four different solids and stirs the mixtures.

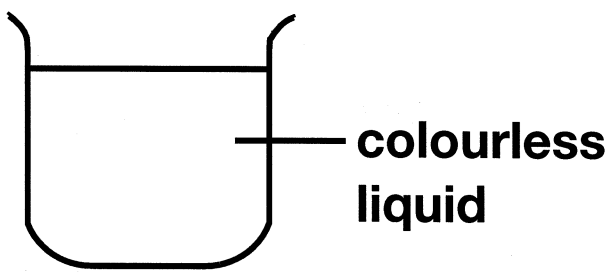
After 20 minutes she draws pictures of her results.



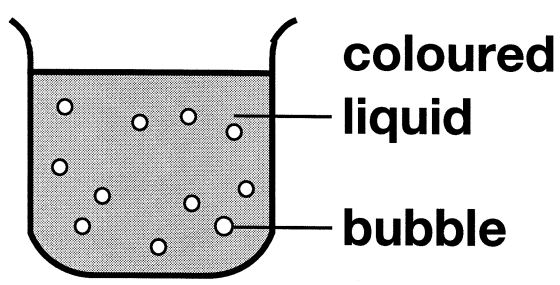
beaker **A**



beaker **B**



beaker **C**



beaker **D**

The table opposite names the four solids that Safara mixed with water.

Look at Safara's pictures on the opposite page again.
Which solid was in each beaker?
Write **A**, **B**, **C** or **D** to complete each row of the table.
[1 mark]

Solid	Beaker
soil	
vitamin tablet	
plastic beads	
salt	

(b) Explain what happened to the solid in beaker **C**. [1 mark]

_____

_____

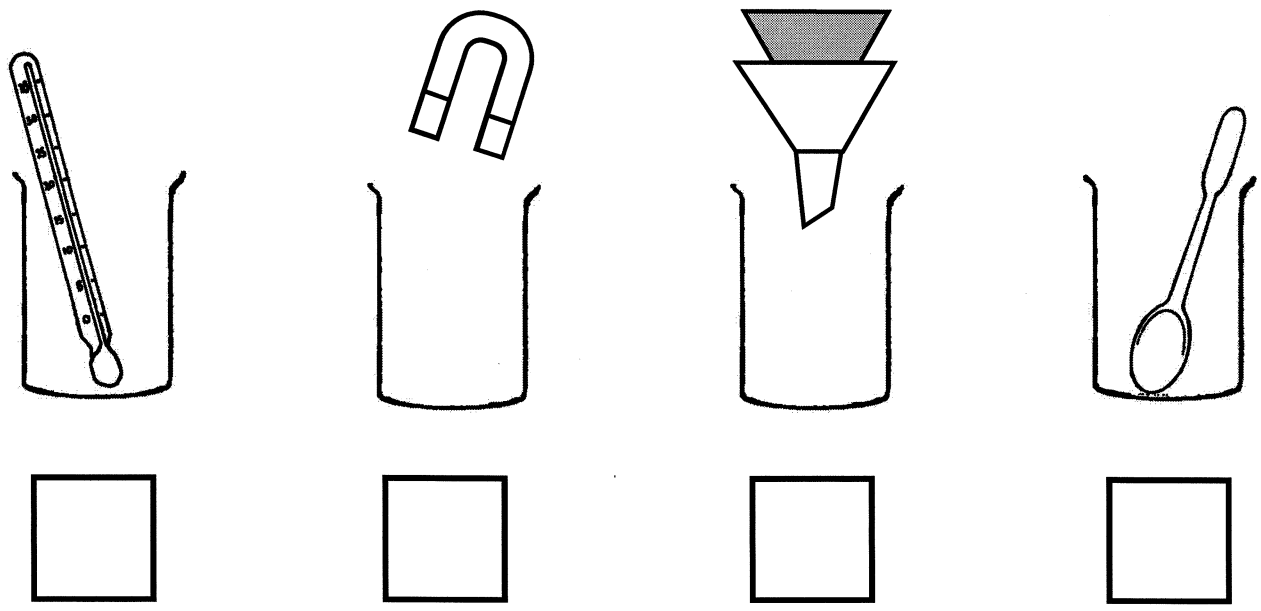
(c) In which beaker was there a non-reversible change?
[1 mark]

Beaker _____

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(d) **Safara wants to separate the soil from her mixture of soil and water.**

Tick one box to show which equipment would be best for separating the soil from the water. [1 mark]



(e) **Safara wants to separate the salt from her mixture of salt and water.**

Describe how Safara could get solid salt back from the salt and water mixture. [1 mark]

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TURN OVER FOR THE NEXT QUESTION

5. Bean seeds

(a) Aysha has three different types of bean seed.
She wants to find out which bean seed germinates most quickly.

Aysha says 'To make my investigation fair I will use:

- **the same type of soil.**
- **watering cans of the same colour'.**

(i) Does using the same type of soil for each bean seed help to make Aysha's test fair?

Tick one box. **yes** ☐ **no** ☐

(ii) Give a reason for your answer. [1 mark]

_____

_____

(b) (i) Does using watering cans of the same colour for each bean seed help to make Aysha's test fair? [1 mark]

Tick one box. **yes** ☐ **no** ☐

(ii) Give a reason for your answer. [1 mark]

_____

_____

(c) The table shows some of the factors in Aysha's investigation.

Complete the table to show how Aysha should carry out her investigation. Tick one box in each row. [2 marks]

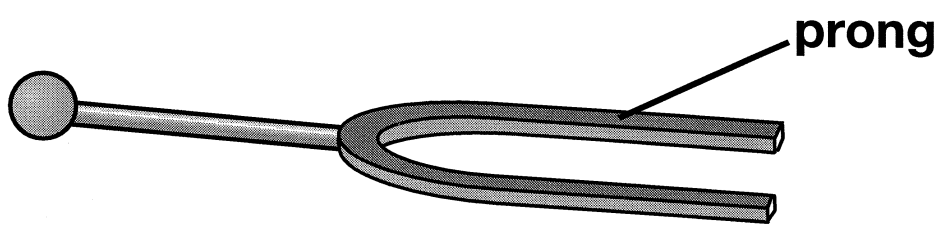
Factor	Factor to be changed	Factor to be kept the same	Result to be measured
the type of bean seed			
the time taken for the seed to germinate			
the place where the seeds are left			
the type of pot the seed is grown in			

(d) Sarah thought it would be better if Aysha used more than one of each type of bean.

How could using more than one of each type of bean improve Aysha's investigation? [1 mark]

6. Tuning fork

(a) Some children hit the prongs of a tuning fork on a desk. It makes a sound.



tuning fork

What happens to the prongs so that the tuning fork makes a sound? [1 mark]

(b) What happens to the sound made by the tuning fork if they hit the prongs harder? [1 mark]

(c) When the tuning fork is not touching the desk, the sound is quiet.

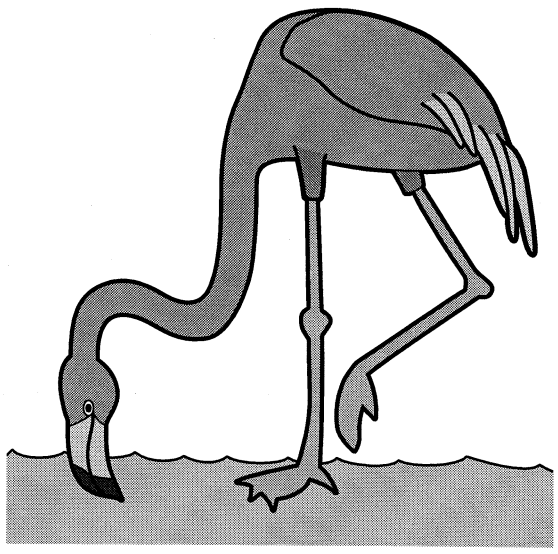
When it touches the desk, the sound becomes louder.

Tick one box next to each question to show what the sound travels through to reach the children's ears. [1 mark]

What does the sound travel through when . . .	desk	air	both
. . . the tuning fork is not touching the desk?			
. . . the tuning fork is touching the desk?			

7. Brine shrimps and flamingoes

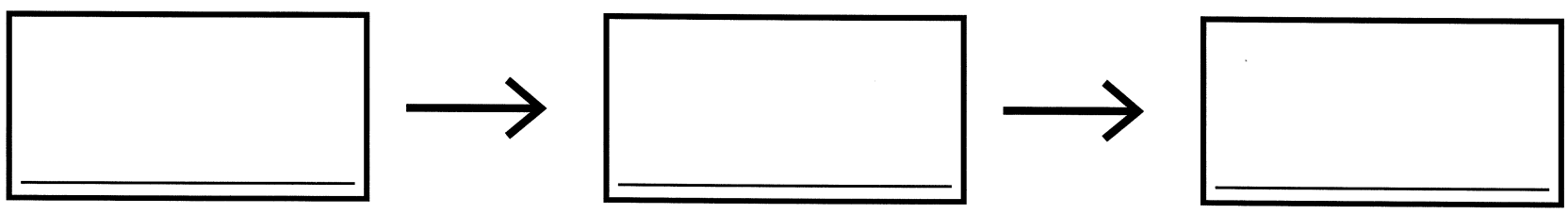
(a) A brine shrimp is a tiny living thing.
It lives in lakes and eats algae (green plants).



Flamingoes eat brine shrimps.
They filter the shrimps from the water.
Look at the picture of the flamingo.

Describe one feature of the flamingo's neck that helps the flamingo to feed. [1 mark]

(b) Write the food chain for the three living things described above. [1 mark]



(c) **The lakes dry up in hot weather and fill up again when it rains.**

When the lake is dry the adult brine shrimps die, but the eggs do not.

Explain why it is important to the life cycle of brine shrimps that the eggs do not die when the lake dries up. [1 mark]

8. Keeping drinks hot

Materials used to keep drinks hot are called insulators.

You are asked to plan your own investigation to compare different kinds of insulating materials used to keep drinks hot.

You can plan to use any equipment and as many different kinds of insulating materials as you need.

Write a short draft in the box of the question YOU plan to investigate.

My idea

Use your draft to help you answer the questions on the next page.

(a) **What one factor will you plan to change as you carry out your investigation? [1 mark]**

(b) **Give one factor you will keep the same to make your test fair. [1 mark]**

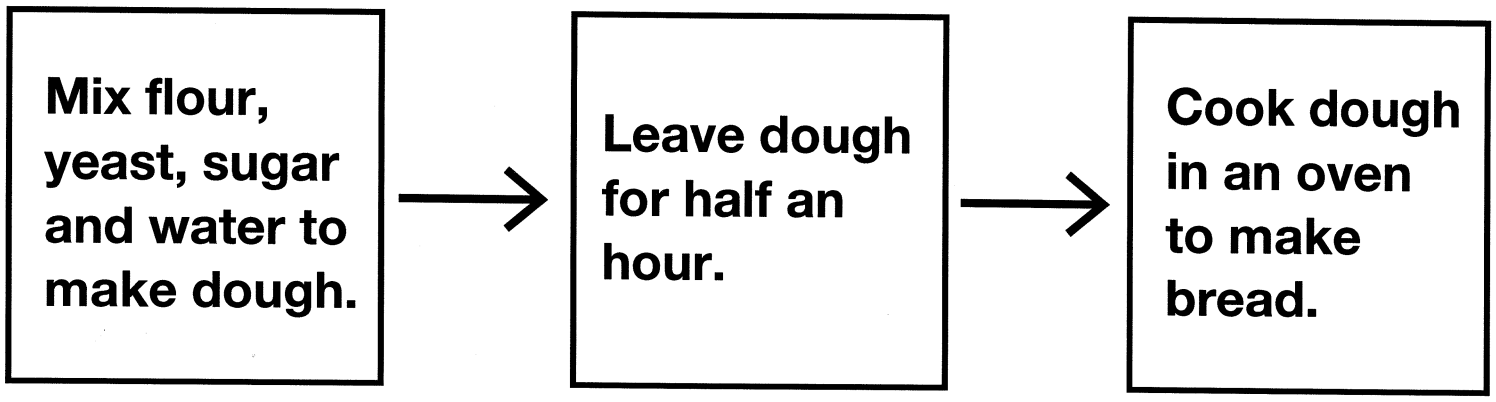
(c) **What factor will you observe or measure to collect your results? [1 mark]**

(d) **Think of another investigation into 'keeping drinks hot'.**

What factor will you change as you carry out your new investigation? [1 mark]

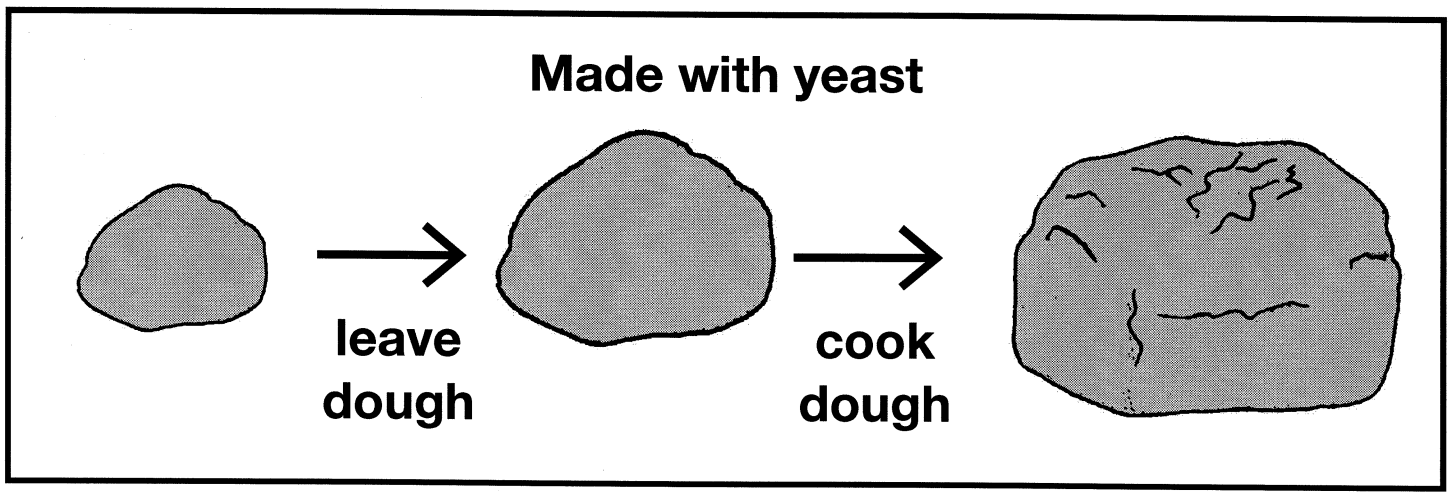
9. Making bread

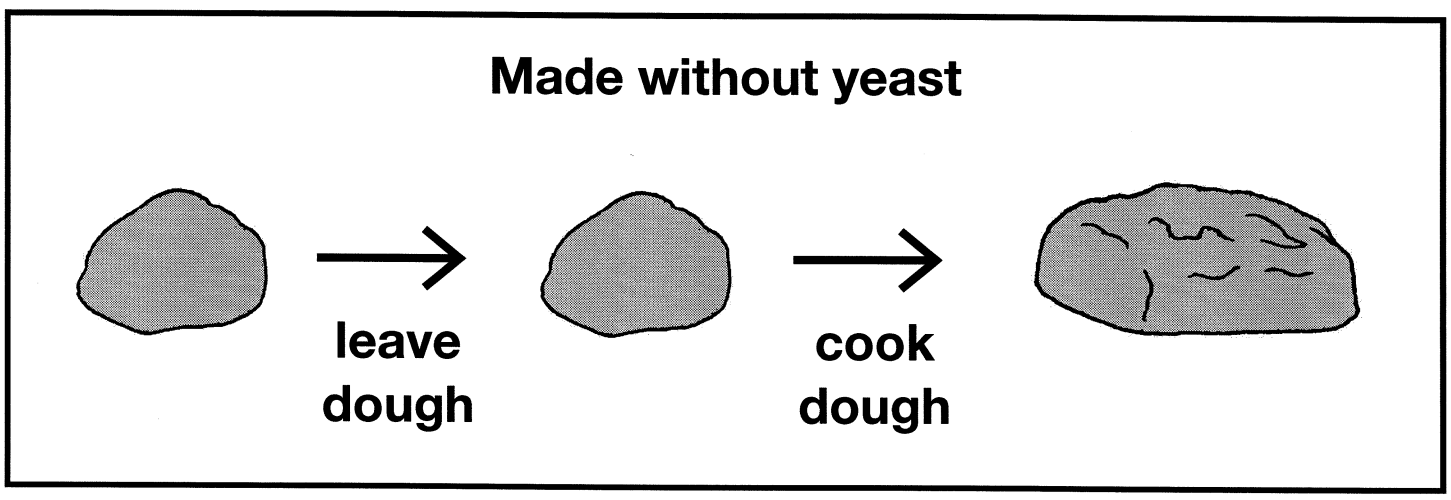
(a) Dan is making bread. This is how he does it.



Dan wants to find out why yeast is used to make some types of bread. He carries out a test.

He makes one loaf of bread with yeast and one loaf without yeast.





Look at the pictures of Dan's test.

What is the effect of yeast in bread making? [1 mark]

_____

_____

(b) Dan wants to know if the water temperature makes a difference to the bread. He sets up a new test using two mixtures.

Which ingredients should go in each mixture to test if the temperature of the water makes a difference? [1 mark]

Tick as many boxes as you need.

Ingredients	Mixture 1	Mixture 2
flour	☐	☐
yeast	☐	☐
sugar	☐	☐
warm water	☐	☐
cold water	☐	☐

THIS QUESTION CONTINUES ON THE NEXT PAGE.

(c) **The yeast Dan uses is made up of lots of micro-organisms.**

Write true or false next to each statement below about micro-organisms. [2 marks]

Micro-organisms . . .	True or false?
are very small.	_____
cannot reproduce.	_____
need nutrients.	_____
can grow.	_____

END OF TEST

PLEASE CHECK YOUR ANSWERS

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