Cambridge Primary Progression Test

Question paper

Cambridge Primary

45 minutes

Science Paper 2

Stage 6

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.

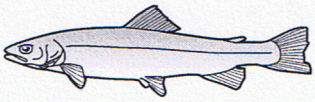
For Teacher's Use	
Page	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
Total	

V1

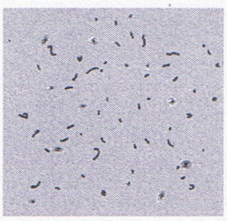
UNIVERSITY of CAMBRIDGE
International Examinations

For Teacher Use

1 The pictures show some living things found in the sea.

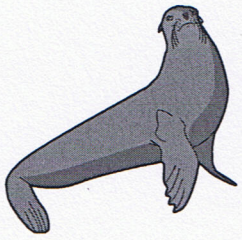


fish



plankton

penguin



seal

(a) Draw arrows between the pictures to make a food chain.

[2]

(b) (i) Name **one** producer in this food chain.

.....

[1]

(ii) Name **one** predator in this food chain.

.....

[1]

(iii) Name **two** consumers in this food chain.

1 .....

2 .....

[1]

2 Class 6 are discussing the destruction of habitats.

Here are some of their ideas.
Which one occurs naturally?

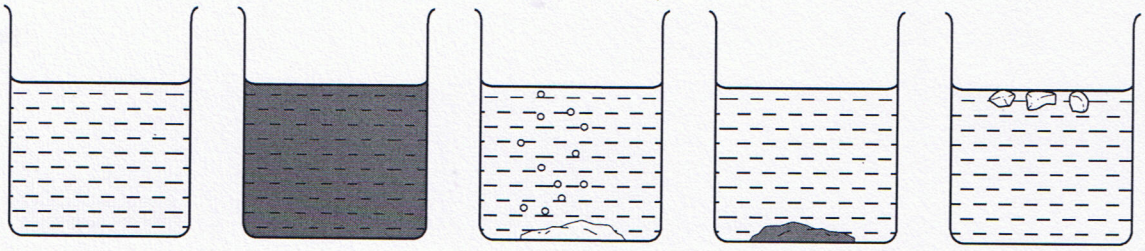
Tick (✓) **one** box.

building roads	☐
cattle ranching	☐
conversion of land to agriculture	☐
eruption of a volcano	☐

[1]

For Teacher Use

3 Five different solids are added to five different beakers of water.



(a) Which **two** beakers contain solids that have dissolved?

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

(b) In which beaker is a chemical reaction taking place?

.....

How can you tell?

..... [1]

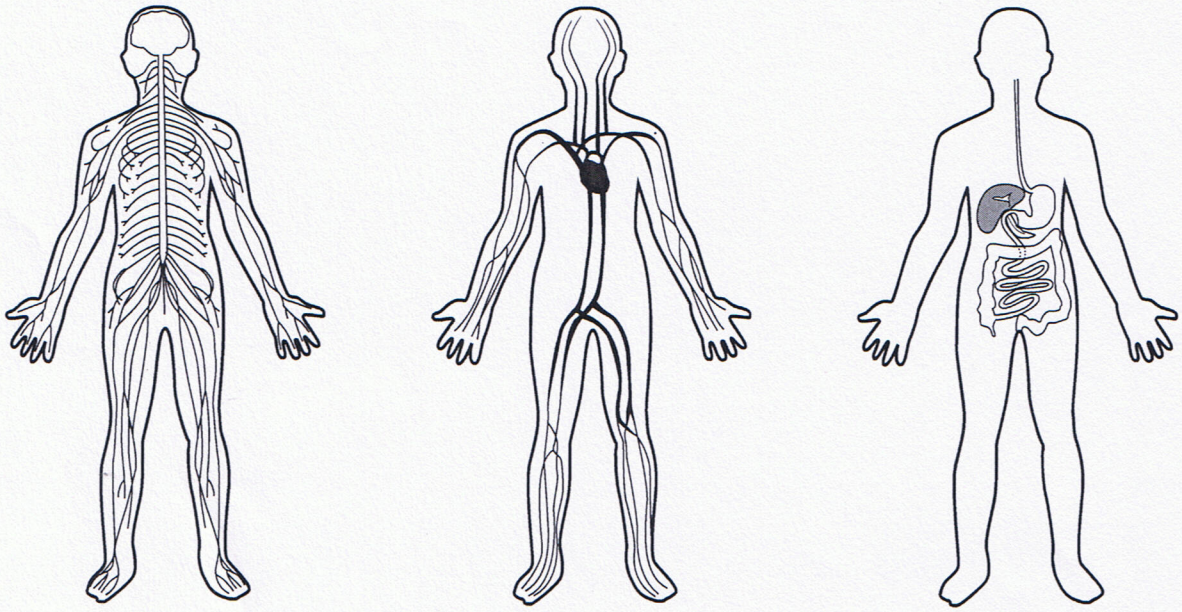
(c) What process can be used to separate the solid from the water in beaker **E**?

..... [1]

4 The diagram shows some labels and body systems.

For Teacher's Use

circulatory system | digestive system | nervous system



A B C

(a) Draw lines between the labels and the correct body system diagrams.

[2]

(b) Which body systems do these major organs belong to?

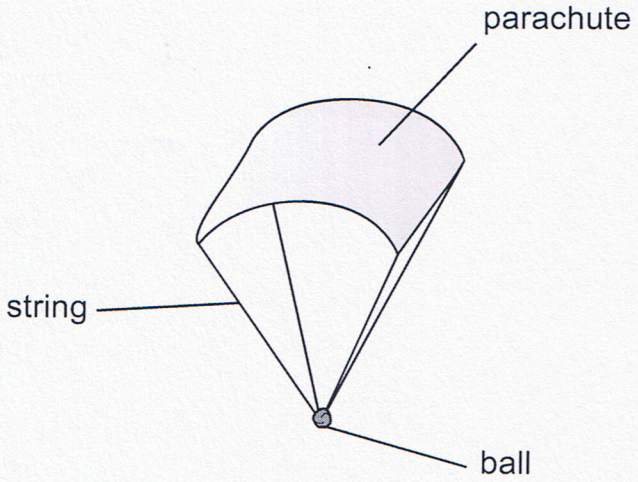
heart .....

stomach .....

brain ..... [2]

5 Bianca and Katia investigate the time it takes for parachutes with different surface areas to reach the floor.

They make four different sized parachutes.
Each parachute has a ball of the same mass attached to it.



Bianca drops each one from a height of 2 metres.
Katia measures the time it takes each one to reach the floor.
Each parachute is dropped three times.

Here are their results.

surface area of parachute in cm^2		100	400	900	1600
time to reach the floor in seconds	1st try	3	10	11	14
	2nd try	4	8	13	15
	3rd try	5	6	12	16
average (mean) time to reach the floor in seconds					

(a) Complete the table to show the average time it takes to reach the floor for each parachute.

[2]

For Teacher's Use

(b) Katia says that the pieces of string should all be the same length.
Is she correct?

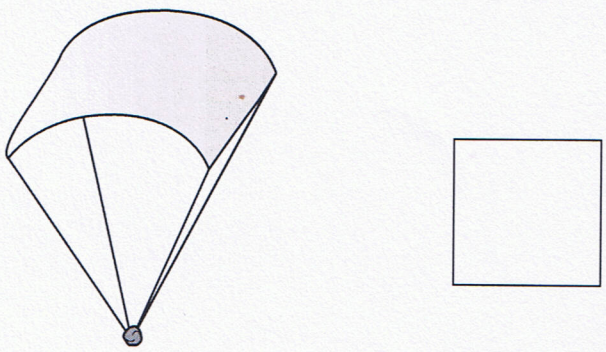
.....

Give a reason.

..... [1]

(c) What is the direction of the air resistance on the parachute?

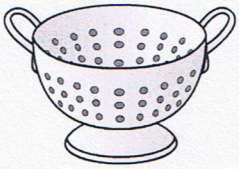
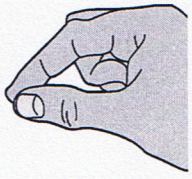
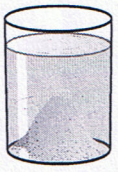
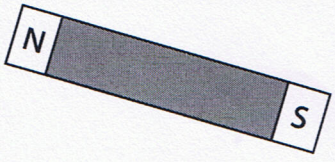
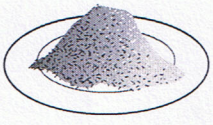
Draw an arrow in the box.



[1]

6 These pictures show mixtures and methods of separating mixtures.

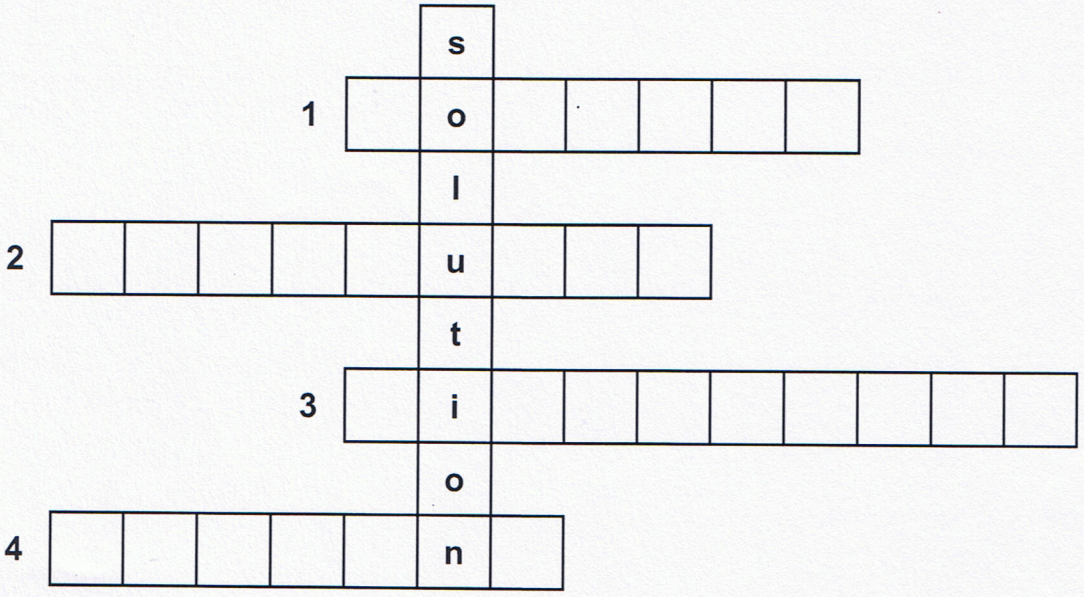
Draw a line from each **mixture** to the correct **method of separation**.

mixture	method of separation
 mixed nuts	 colander
 peas in boiling water	 fingers
 sand and water	 bar magnet
 iron and copper powder	 filter funnel

[3]

7 The diagram shows a word tree.

Four words have been made, each using one letter from the word **solution**.



Read each of the clues 1–4 and complete the words in the word tree.

Clue 1 What type of solid dissolves in a liquid?

Clue 2 What type of solid does **not** dissolve in a liquid?

Clue 3 What method is used to separate a solid from a solution?

Clue 4 What is the name of the liquid that dissolves a solid?

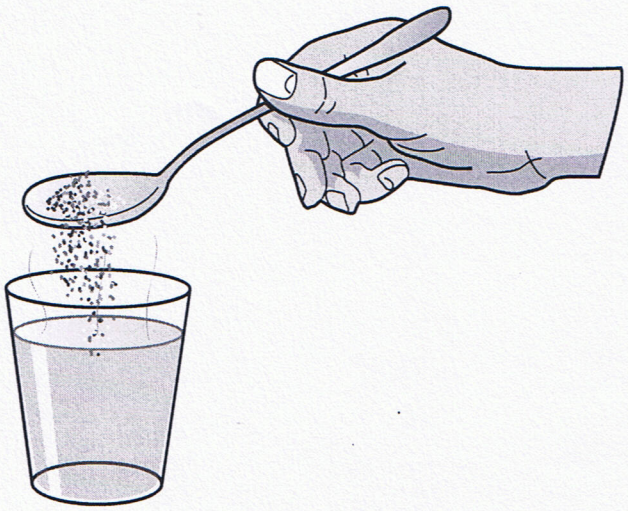
[4]

For Teacher's Use

For Teacher's Use

8 Dan and Beth investigate if changing the volume of water makes sugar dissolve quicker.

They put different volumes of water into four beakers.
They put the same mass of sugar into each beaker.
They stir each solution the same number of times.
They use warm water.



Here are their results.

beaker number	**1**	**2**	**3**	**4**
volume of water in cm^3	100	200	300	400
time taken to dissolve in seconds	45	40	35	30

(a) Name **one** factor they change in their investigation.

.....

[1]

(b) What apparatus is used to measure the volume of water?

.....

[1]

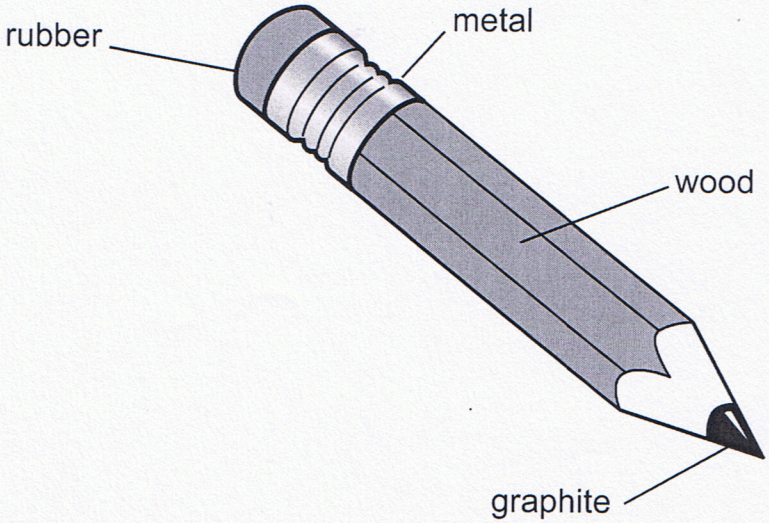
(c) What conclusion can they make from their investigation?

.....

.....

[1]

9 Here is a pencil.



Complete the table to show which parts of the pencil are electrical conductors and which are electrical insulators.

Tick (✓) the correct column for each part of the pencil.

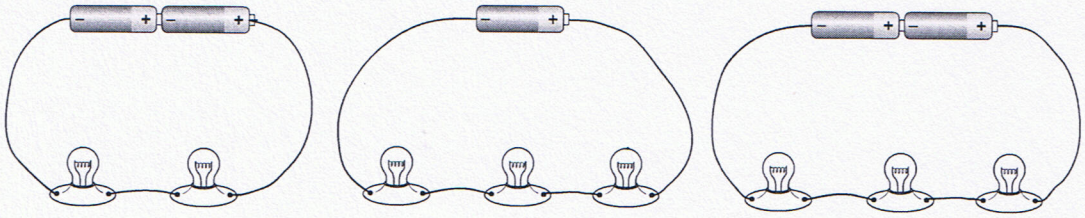
part of the pencil	electrical conductor	electrical insulator
graphite		
metal		
rubber		
wood		

[2]

[Turn over

10 Sol and Ramiro investigate the brightness of the lamps in three different circuits, using a light sensor.

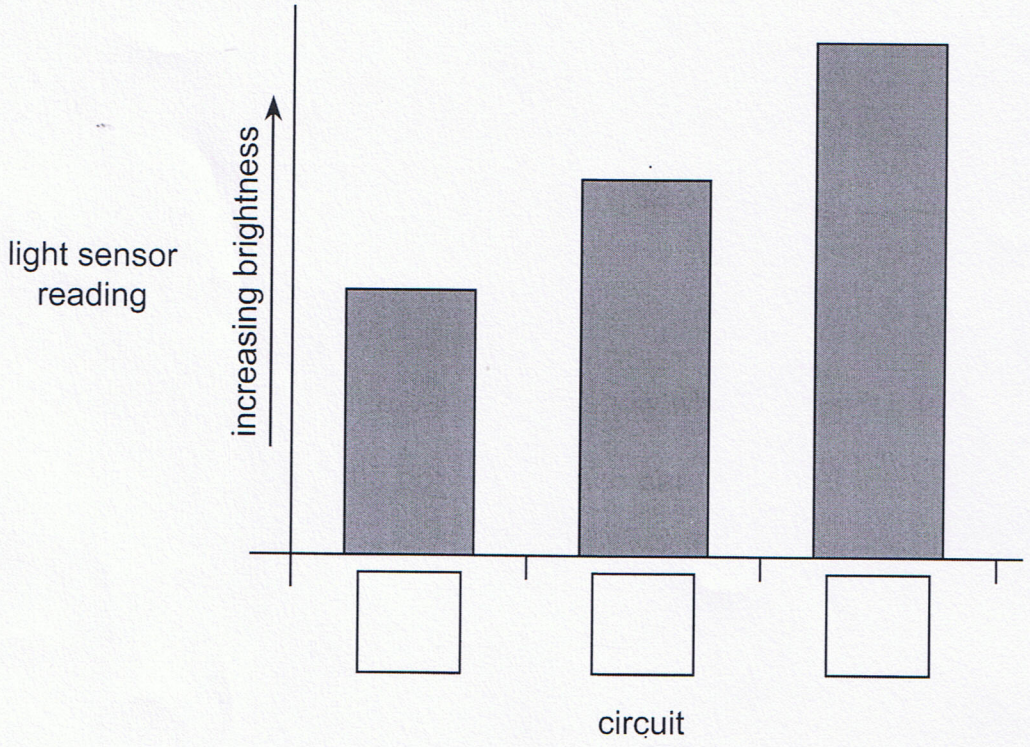
For Teacher's Use



A **B** **C**

(a) Label each bar on the bar chart to show which circuit it is.

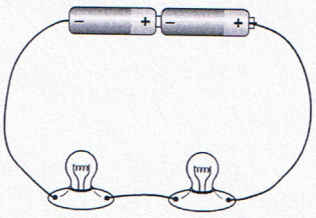
Write **A**, **B** or **C** in the box under each bar.

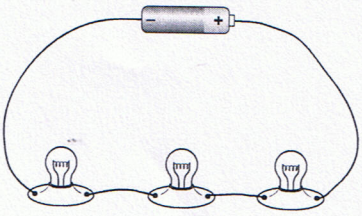


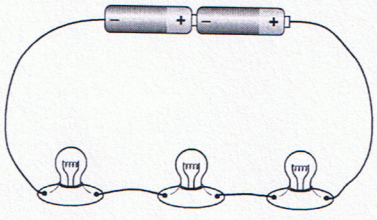
[2]

(b) For each of the circuits, draw the correct circuit diagram in the box.

For Teacher's Use







[2]

11 Everybody can help to care for the environment.

From the list choose **three** things you, as a student, can do.

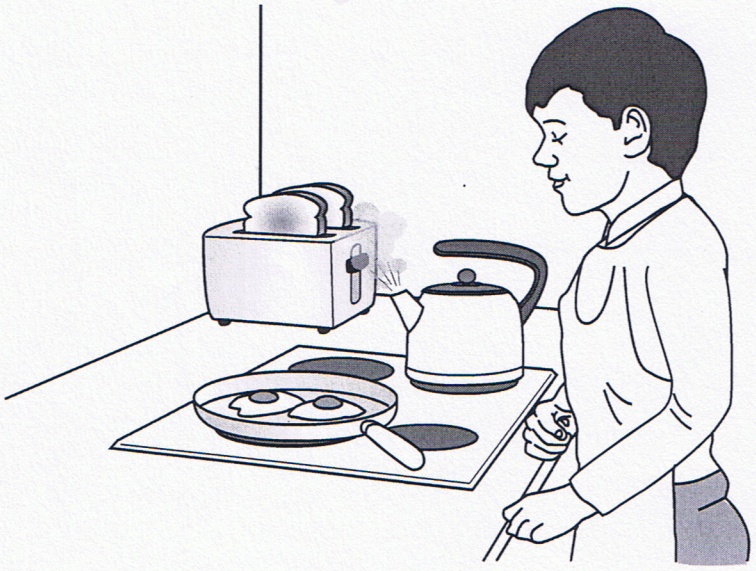
Tick (✓) **three** boxes.

do not drop litter	☐
stop cutting down the rainforests	☐
build solar power stations instead of oil-fired ones	☐
switch lights off when you leave an empty room	☐
recycle glass bottles	☐

[2]

For Teacher Use

12 Damien cooks breakfast.
He is having fried eggs on toast (grilled bread). He puts sugar in his tea.



(a) Which of the following processes are reversible and which are irreversible?

Tick (✓) the correct box for each process.

process	reversible	irreversible
heating the eggs	☐	☐
boiling the water	☐	☐
toasting (grilling) the bread	☐	☐
putting sugar in the tea	☐	☐

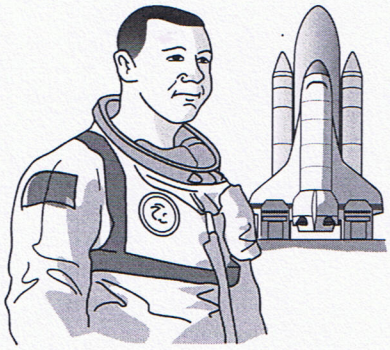
[2]

(b) Explain why fruit ripening is an irreversible process.

.....

[1]

13 Here is an astronaut on Earth before getting into the spaceship.



He stands on the electronic scales before getting into the spaceship.
The scales read 90 kg.

(a) Put a tick (✓) in **two** boxes next to the correct statements.

On Earth his mass is 90 kg	☐
On Earth his weight is 90 N	☐
In space his mass is 90 kg	☐
In space his mass is 0 kg	☐

[1]

(b) A second astronaut has a weight of 600 N on Earth.

(i) On the planet Jupiter, the gravity is three times greater than on Earth.

What is his weight on Jupiter? ..... units: .....

[1]

(ii) On the planet Mars, the gravity is three times less than on Earth.

What is his weight on Mars? ..... units: .....

[1]

14 Jason goes sledging down a snow-covered hill.

He reaches a patch of grass.

(a) Draw an arrow on the diagram to show the direction of the frictional force.

[1]

(b) What happens to the frictional force when the sledge reaches the grass?

..... [1]

(c) What happens to the speed of the sledge when it reaches the grass?

..... [1]

[Turn over

15 Peta and Anya investigate how pulse rate changes with exercise.

They decide to use the following method.

Measure and record Anya's pulse rate at rest.
Exercise for ½ minute.
Measure and record her pulse rate.
Wait for her pulse rate to go back to normal.

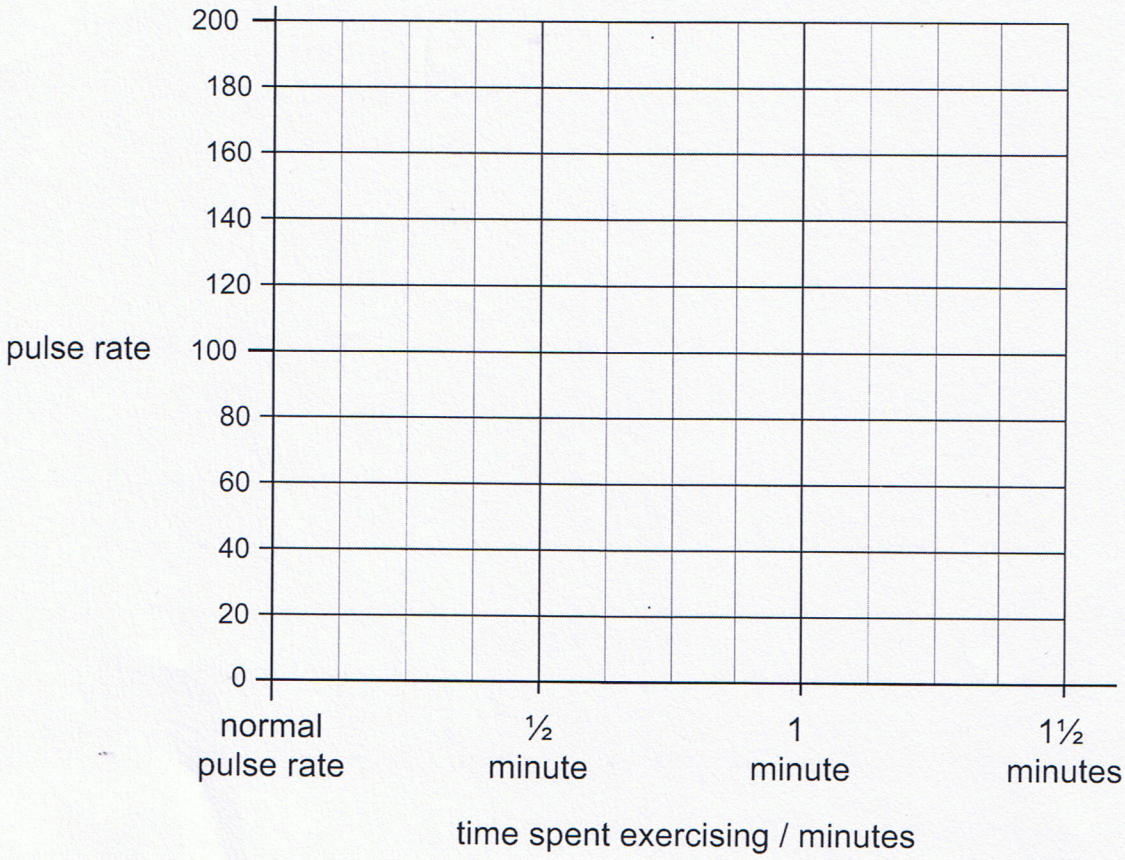
Do the same exercise for 1 minute, measure and record her pulse rate.
Wait for pulse rate to go back to normal.

Do the same exercise for 1½ minutes, measure and record her pulse rate.

Here are Peta and Anya's results.

time spent exercising in minutes	pulse rate
0	60
½	100
1	130
1½	150

(a) Plot the results on the graph.



[2]

(b) Why do they wait for Anya's pulse rate to go back to normal before she does more exercise?

.....

[1]

(c) (i) The units for pulse rate on the table are missing.

What is pulse rate measured in?

.....

[1]

(ii) What organ of the body is responsible for pulse rate?

.....

[1]

(d) Complete the sentence to write a conclusion for this investigation.

The ..... Anya exercises the ..... her pulse rate. [1]