



Cambridge Lower Secondary Progression Test Science paper 1 Stage 8



45 minutes

Name

Additional materials: Calculator
Ruler

READ THESE INSTRUCTIONS FIRST

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

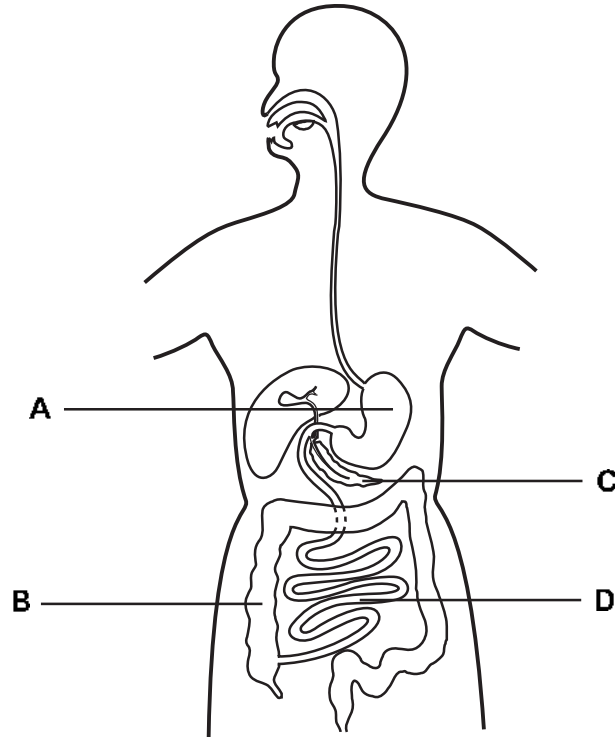
You should show all your working on the question paper.

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	
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9	
10	
11	
12	
13	
14	
15	
16	
Total	

1 The diagram shows the digestive system.



Draw a line from each letter to the correct organ and its function in the digestive system.

One has been done for you.

organ	letter	function
large intestine	A	absorbs water
stomach	B	digests protein
small intestine	C	produces enzymes
pancreas	D	absorbs digested food

[3]

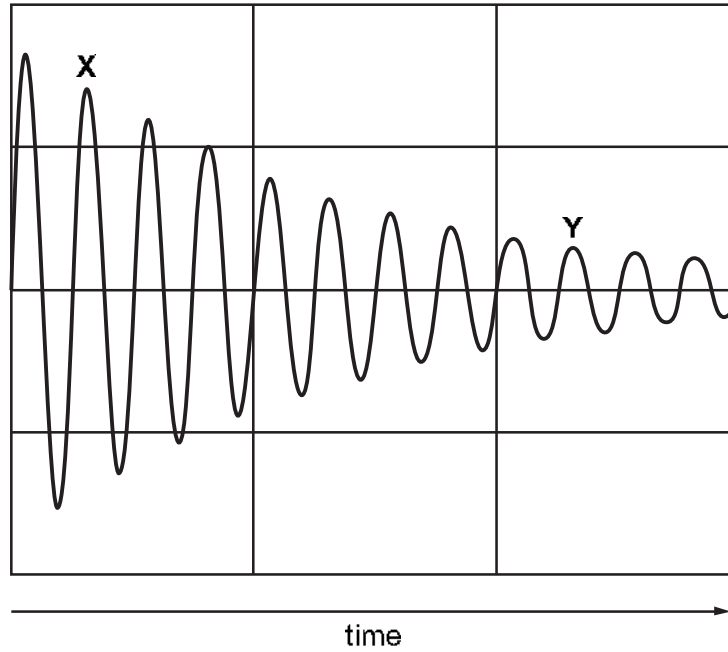
2 Draw a line between the **element** and the correct **chemical symbol**.

*For
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Use*

element	chemical symbol
	Ni
nitrogen	P
phosphorus	N
potassium	Na
silicon	Po
sodium	S
sulfur	K
	Si

[4]

3 Sound waves can be shown on an oscilloscope.



Answer the questions.

Tick (✓) the correct box for each question.

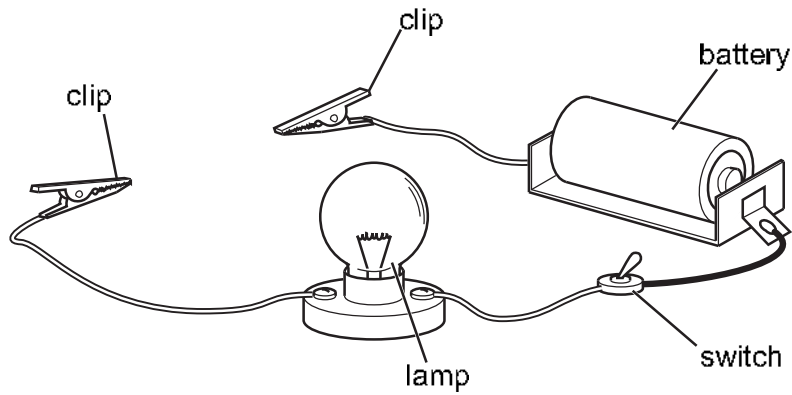
question	decreases	increases	stays the same
What happens to the loudness of the sound between X and Y?			
What happens to the amplitude of the sound between X and Y?			
What happens to the pitch of the sound between X and Y?			
What happens to the frequency of the sound between X and Y?			

[3]

4 Gabriella has five different materials.

She uses an electric circuit to find out which of the materials are metals.

This is the apparatus she uses.



(a) Describe how Gabriella uses the apparatus to find out if the material is a metal.

What does she do?

.....

What will she see if the material is a metal?

..... [2]

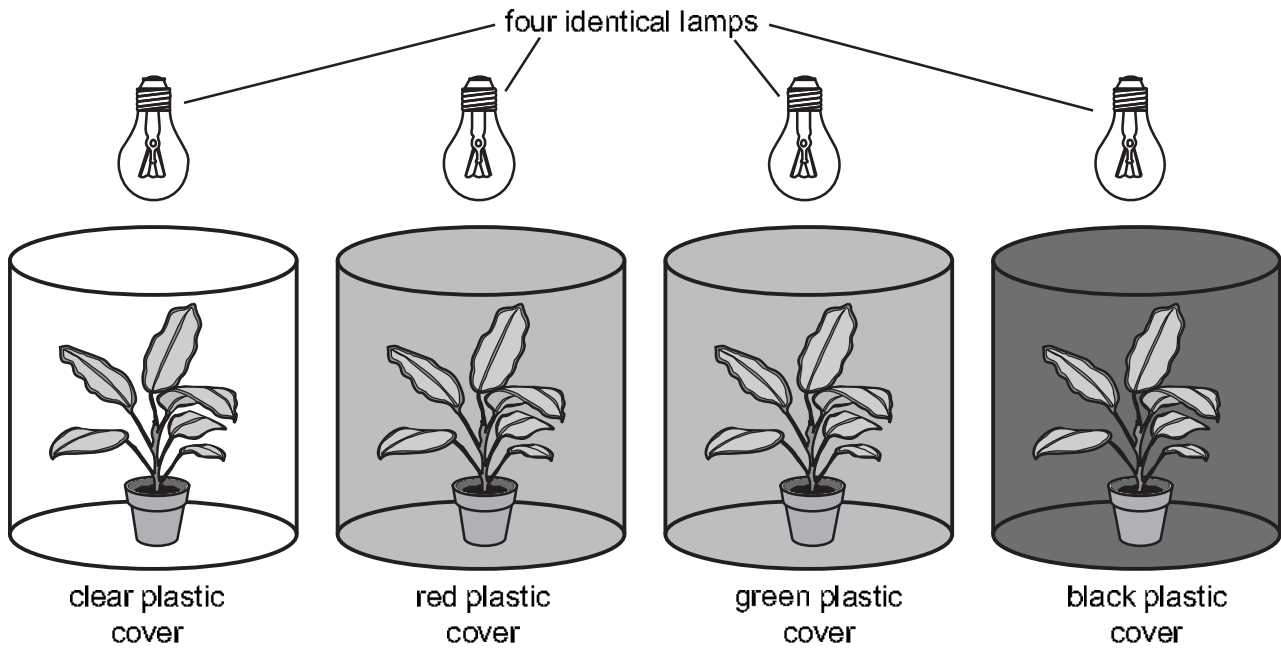
(b) Tick (✓) **two** other properties of most metals.

- | | |
|--------------------|--------------------------|
| brittle | <input type="checkbox"/> |
| ductile | <input type="checkbox"/> |
| heat insulators | <input type="checkbox"/> |
| high melting point | <input type="checkbox"/> |
| low boiling point | <input type="checkbox"/> |

[2]

5 Hassan and Jamila investigate how light affects plant growth.

The diagram shows the apparatus they use.



They

- use four identical plants
- put different coloured plastic covers over the plants
- switch on the lamps over the plants
- keep the plants here for two weeks.

(a) Hassan and Jamila use four identical plants and four identical lamps.

State one **other** variable they control to make their investigation a fair test.

..... [1]

(b) They want to measure the **growth** of each plant.

They count the number of new leaves that have grown on each plant in two weeks.

Suggest one **other** measurement they can make.

..... [1]

(c) Complete the following predictions.

The plant with most growth is under the plastic cover.

The plant with the least growth is under the plastic cover.

Explain your predictions.

.....

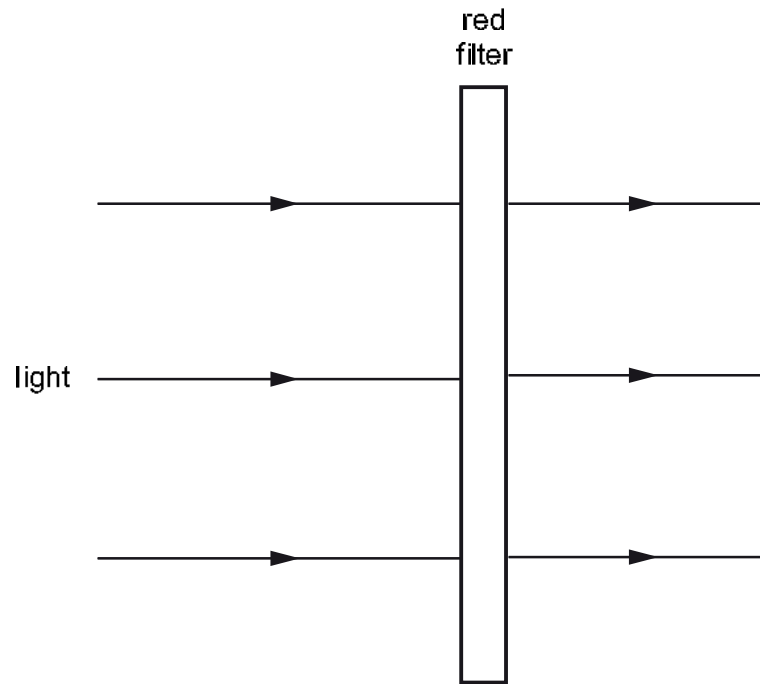
..... [2]

*For
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- 6 White light is made up of several colours including blue, green and red.

Ahmed investigates the use of a red filter.

Look at the apparatus he uses.



He shines different colours of light at the filter.

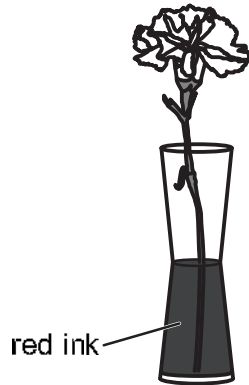
He observes the colour of light (if any) that comes through the filter.

Complete his results table.

colour of light he shines at the filter	colour of filter	colour of light, if any, that comes through the filter
red	red
green	red
white	red

[3]

7 Mike puts the stem of a white flower into red ink.



After some time the white flower turns red.

(a) The white flower turns red **faster** in warmer dry air.

Suggest why.

.....
 [1]

(b) The red ink travels through the water-carrying tissue of the stem.

The diagram shows part of this tissue.



(i) Name the tissue which carries water and minerals through the stem.

..... [1]

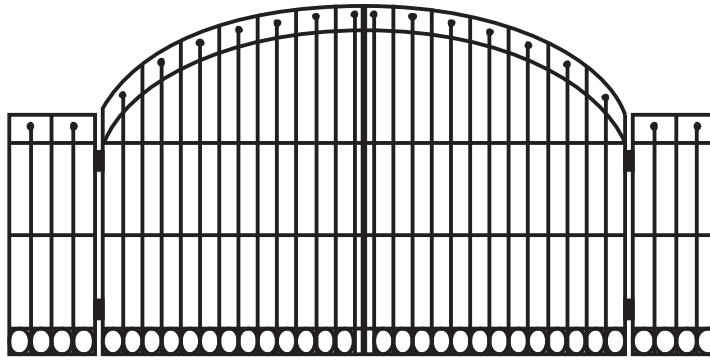
(ii) Write **two** ways that the structure of this tissue enables it to transport water.

1

2

[2]

8 The picture shows a gate made of iron.



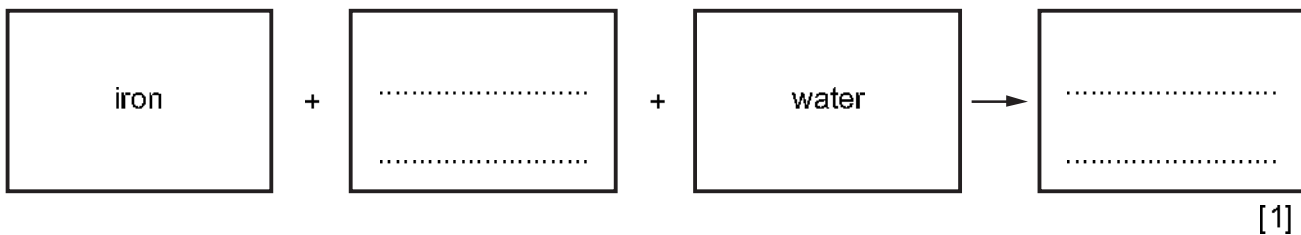
(a) Iron has to be painted to stop it rusting.

When iron rusts it forms hydrated iron oxide.

(i) Where does the oxygen in hydrated iron oxide come from?

.....[1]

(ii) Complete the word equation for rusting.



(iii) Iron oxide is one compound of iron.

Write down the name of **one other** compound of iron.

.....[1]

(b) Iron is made of tiny particles that are all the same.

Write down the name of these particles.

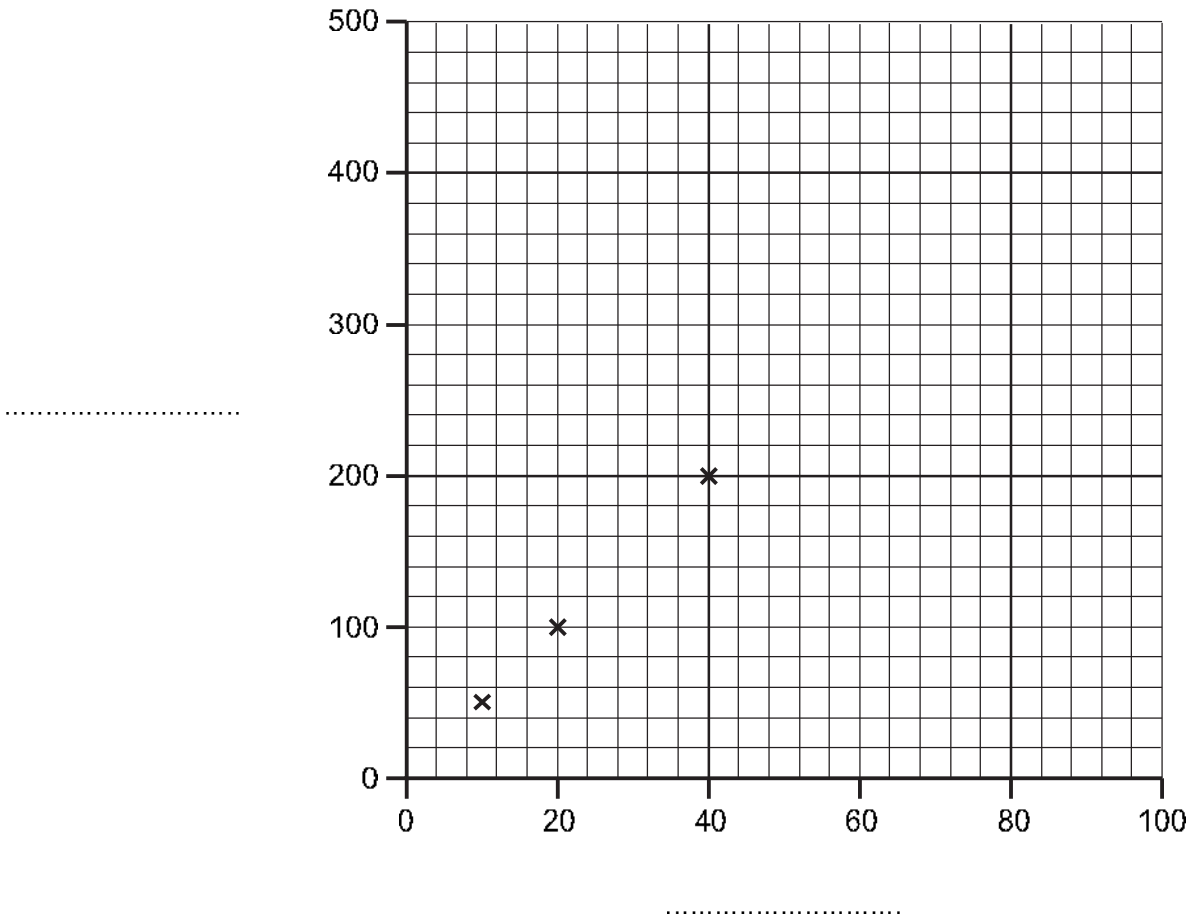
.....[1]

9 Youssef has some information about the distance a cyclist can travel in a given time.

time in seconds	distance in metres
10	50
20	100
40	200
60	300
100	500

(a) Complete the graph using the information in the table by

- labelling the axes including units
- plotting the last two points
- drawing a line of best fit.



[3]

(b) Calculate the speed of the cyclist.

.....

.....

speed m/s [2]

10 Yuri is exercising.

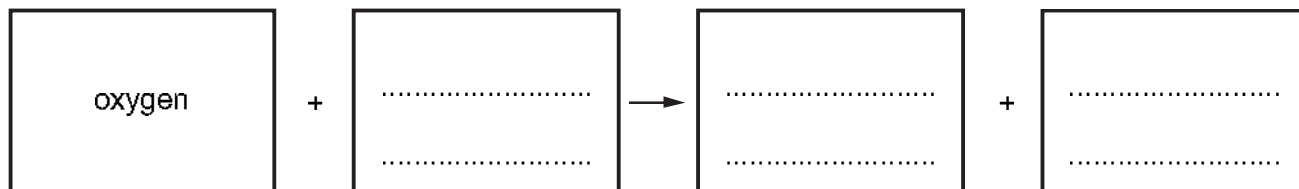
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Use

(a) Which process releases energy in Yuri's muscles when he exercises?

Circle the correct answer.

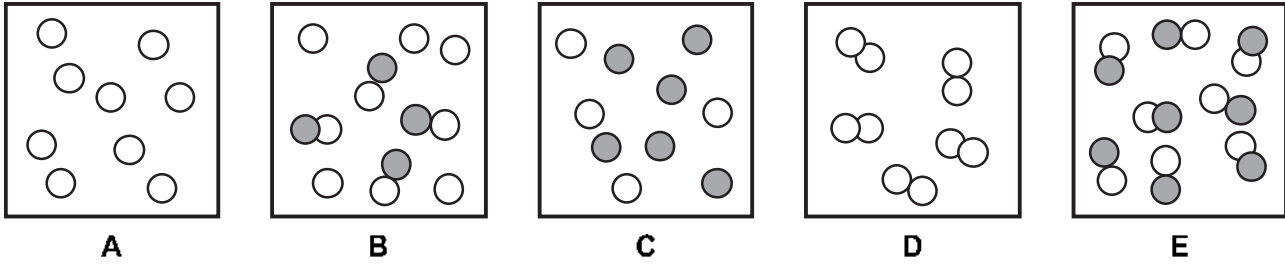
movement nutrition perspiration respiration [1]

(b) Complete the word equation for this process.



[3]

11 Look at the diagrams.



(a) Which diagram **A, B, C, D** or **E** shows:

- (i) One element made of single atoms? [1]
- (ii) One compound made of molecules? [1]
- (iii) A mixture of an element and a compound? [1]

(b) Complete the sentences to explain whether these substances are mixtures or compounds.

(i) Seawater is a because

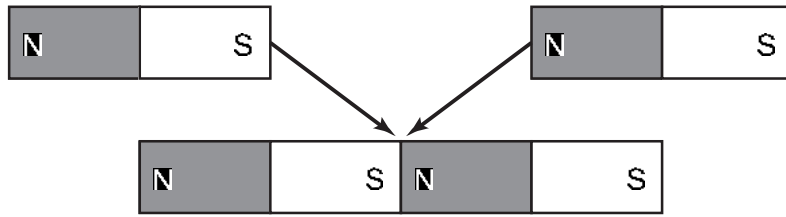
 [1]

(ii) Solid sodium chloride is a because

 [1]

12 Angelique puts two magnets near each other.

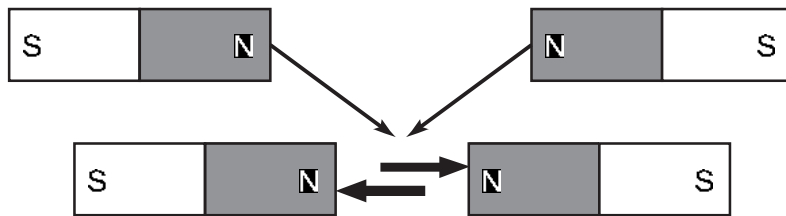
(a) Look at what happens.



Explain what is happening in this diagram.

.....
 [2]

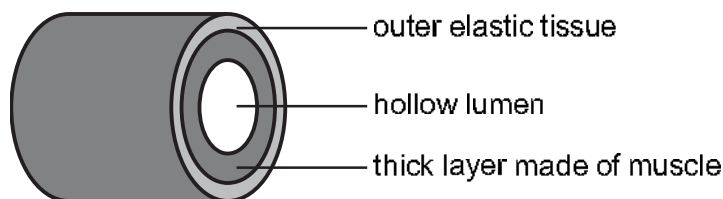
(b) Angelique puts the two magnets near each other again.



Explain what is happening in this diagram.

.....
 [2]

13 This question is about arteries.



The diagram shows the structure of a large artery.

The artery has a thick layer made of muscle surrounded by elastic tissue.

(a) Why do arteries need to have a thick layer made of muscle?

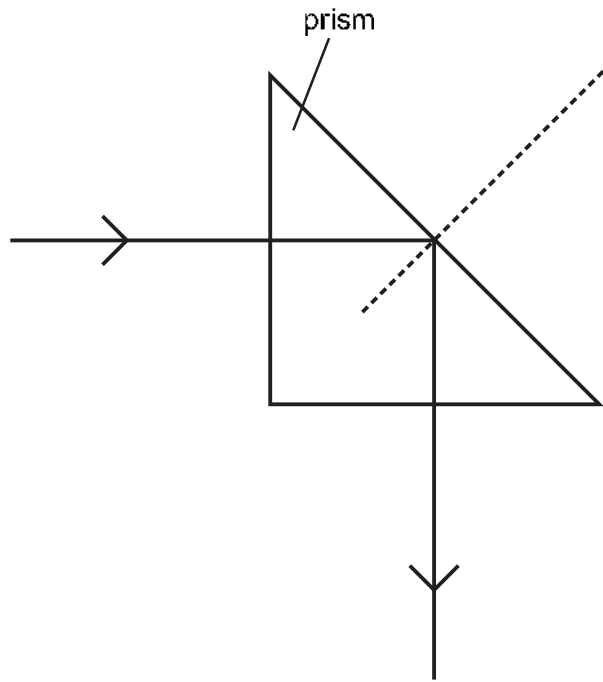
..... [1]

(b) Why are arteries surrounded by an outer layer of elastic tissue?

..... [1]

14 Prisms can be used to reflect light.

Write down the letter **R** on the diagram to show the angle of reflection.



[1]

