

CANDIDATE
NAME

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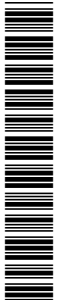
CENTRE
NUMBER

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CANDIDATE
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SCIENCE

1113/01

Paper 1

October 2017

45 minutes

Candidates answer on the Question Paper.

Additional Materials: Pen Calculator
 Pencil
 Ruler

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

You should show all your working in the booklet.

At the end of the examination, fasten all your work securely together.

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.

This document consists of **16** printed pages.

1 Chloroplasts are found in plant cells but not in animal cells.

Other structures are found in both plant and animal cells.

(a) Complete the table by putting ticks (✓) and crosses (✗) in the correct column.

Chloroplast has been done for you.

structure	found in plant cells	found in animal cells
cell membrane		
cell wall		
chloroplast	✓	✗
cytoplasm		
nucleus		
vacuole		

[2]

(b) Explain why plants need chloroplasts.

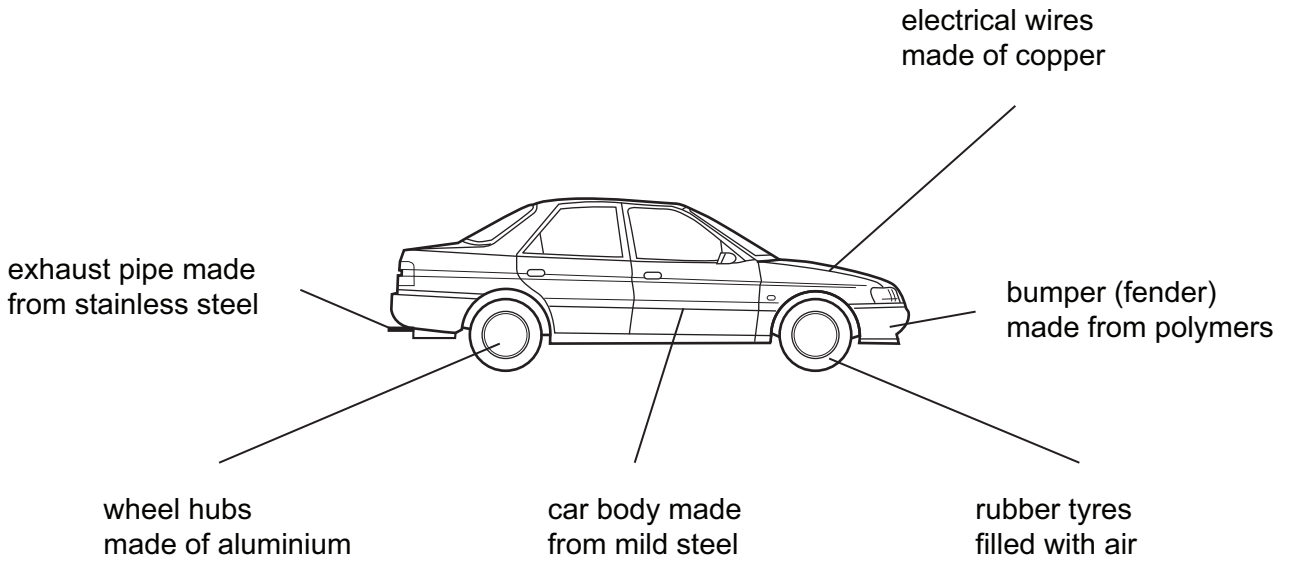
.....

.....

..... [2]

2 Look at the diagram.

It shows the materials that make up different parts of a car.



(a) Which **two** labelled parts of the car are made from non-metals?

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

(b) Which property of steel is useful for making the car body?

Circle the correct answer.

ductile **magnetic** **sonorous** **strong** [1]

(c) Which property of copper is useful for making the electrical wires?

Circle the correct answer.

ductile **magnetic** **sonorous** **strong** [1]

(d) What is an advantage of using stainless steel instead of iron?

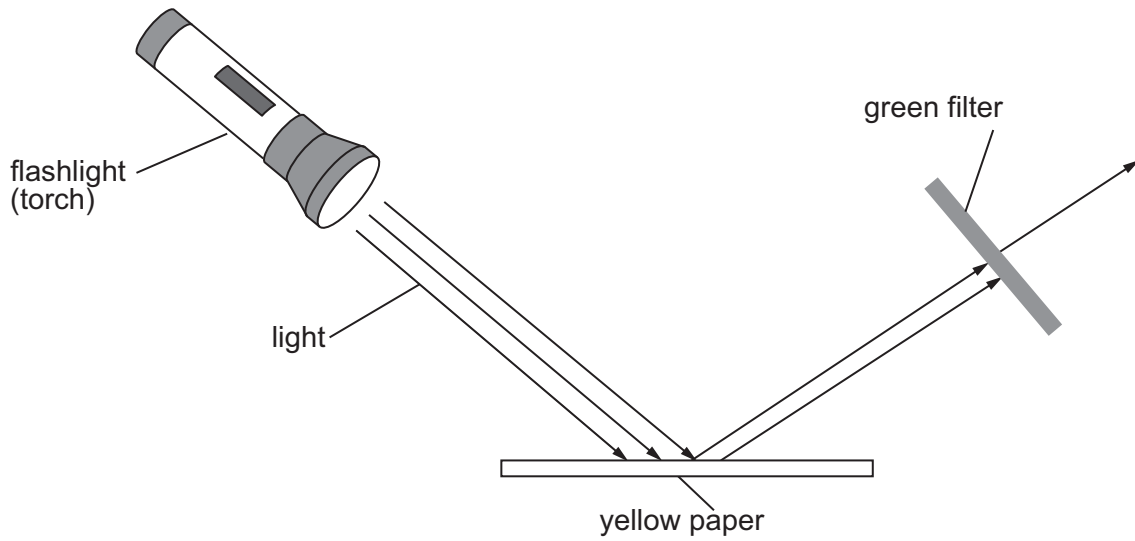
..... [1]

(e) The windows are made of glass because glass is transparent.

What is meant by the word **transparent**?

..... [1]

3 Yuri uses a flashlight.



Complete the sentences.

Choose from the following words.

You can use each word once, more than once, or not at all.

black **blue** **green** **red** **white**

The light from the flashlight contains three primary colours.

When these three primary colours are added together it makes light.

This light contains red light, green light and light.

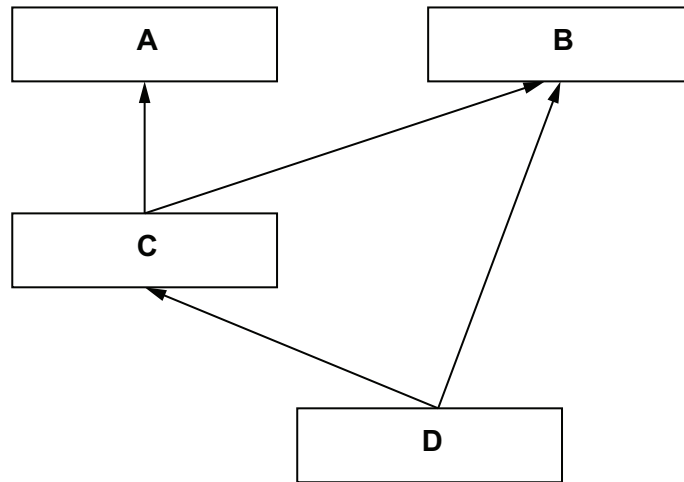
The yellow paper reflects the red light and light.

The green filter only transmits light.

[4]

4 The diagram shows a simple food web. It contains three food chains.

The letters **A**, **B**, **C** and **D** are the four different organisms making up these food chains.



(a) Which organism is a **producer**?

Choose from **A**, **B**, **C** or **D**. [1]

(b) Which organism is **both** a primary and a secondary **consumer**?

Choose from **A**, **B**, **C** or **D**. [1]

(c) What do the arrows in a food web show?

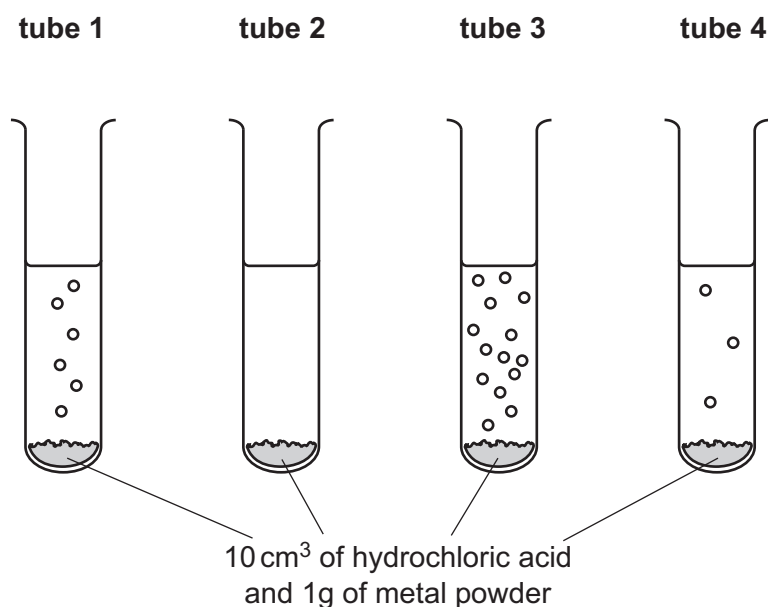
..... [1]

5 Chen investigates the reaction of acids with metals.

He puts hydrochloric acid into four test-tubes.

Chen then adds a different metal powder to each tube.

The diagram shows his results.



Chen counts the bubbles formed in the reaction and records his results in a table.

tube	name of metal
1	iron	6
2	copper	0
3	zinc
4	tin	3

(a) Chen has missed one of the headings in the table.

Complete the table by writing in the missing heading.

[1]

(b) Chen has not recorded the result for zinc.

Complete the table by writing in the result for zinc.

[1]

(c) Write down the metals in order of reactivity.

most reactive

.....

.....

least reactive

[1]

(d) The bubbles are made of a gas.

What is the name of the gas that forms when metals react with acids?

..... [1]

(e) Chen uses hydrochloric acid in his investigation.

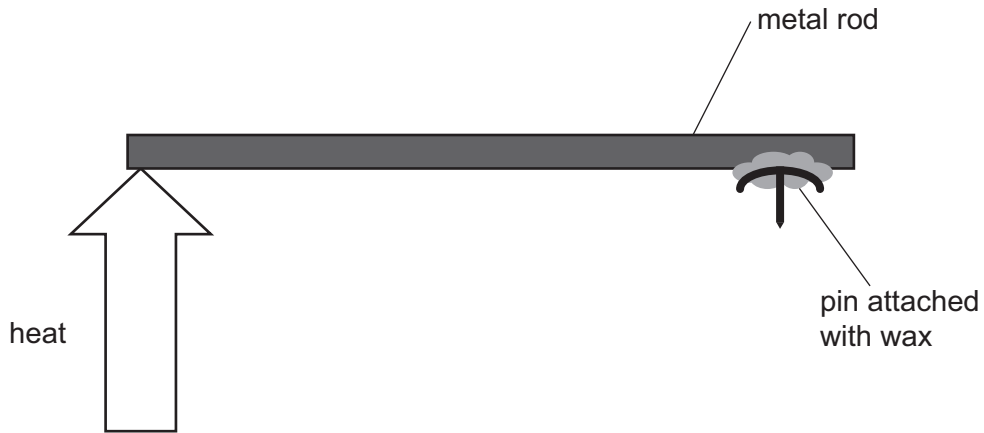
What is the name of the **salt** formed when zinc reacts with hydrochloric acid?

..... [1]

6 Angelique investigates heat transfer.

She heats a metal rod.

The metal rod has a pin attached with wax.



When the end of the metal rod is hot, the wax melts and the pin falls.

(a) What type of heat transfer is Angelique investigating?

..... [1]

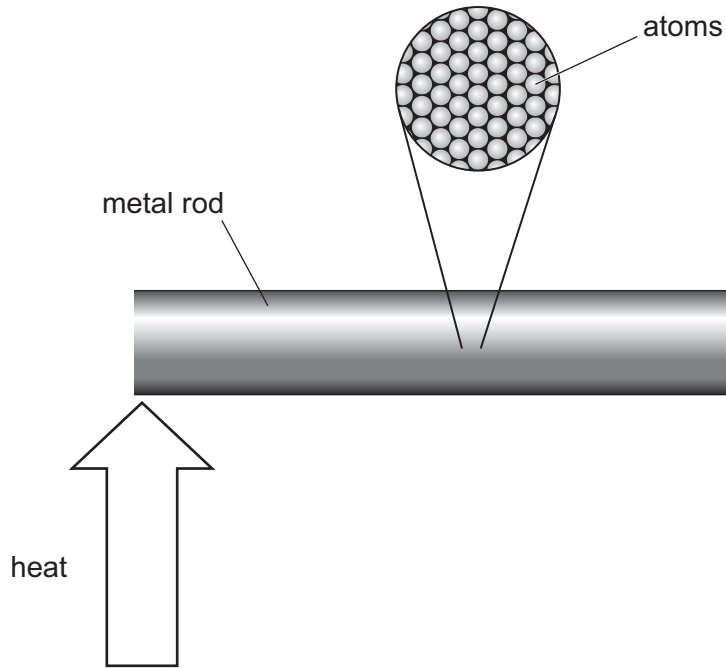
(b) Angelique repeats the investigation with rods made of different metals.

The pins fall after different amounts of time.

Why do the pins fall after different amounts of time?

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

(c) Angelique draws a picture of the atoms inside one of the metal rods.



Describe how the heat is transferred to the end of the metal rod.

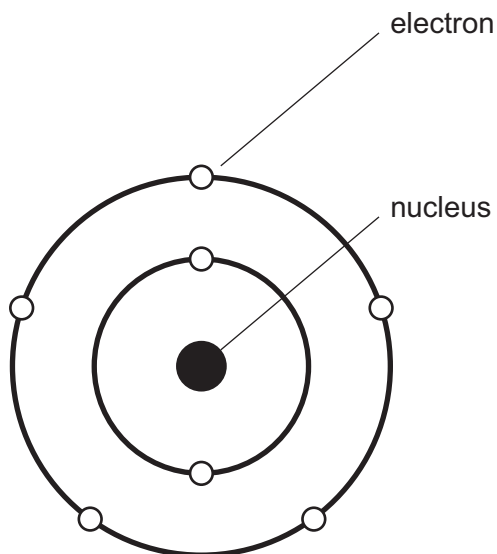
Use Angelique's drawing to help you.

.....

.....

..... [2]

7 Look at the diagram of a nitrogen atom.



(a) The protons are not shown on the diagram.

How many protons are in a nitrogen atom?

..... [1]

(b) Which group of the Periodic Table does nitrogen belong to?

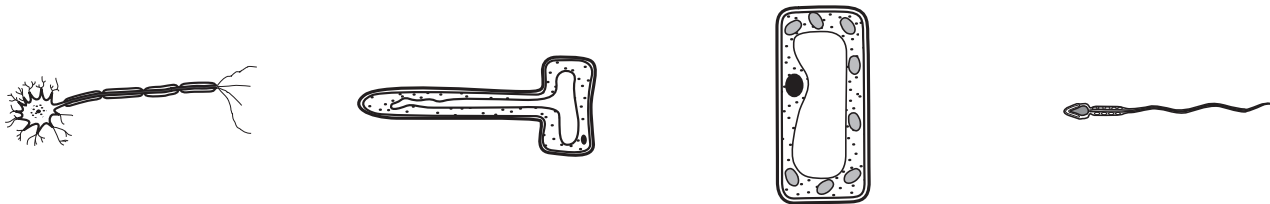
..... [1]

(c) Write down the chemical symbol for nitrogen.

..... [1]

8 Plants absorb mineral salts from the soil.

(a) Circle the cell that plants use to absorb mineral salts.

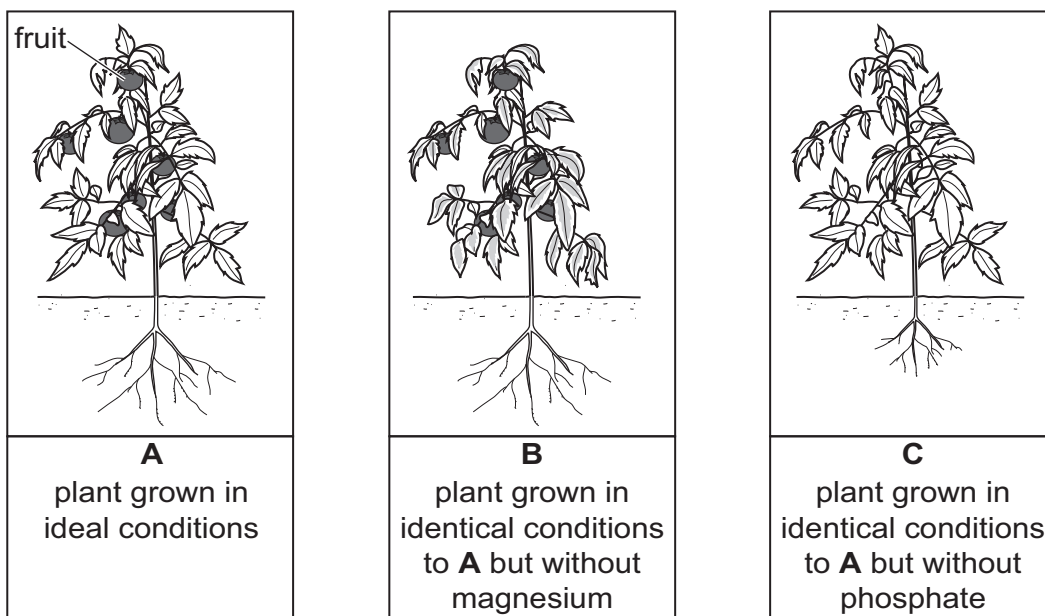


[1]

(b) Which other substance **must** plants absorb from the soil?

..... [1]

(c) Three identical plants **A**, **B** and **C** are grown in different conditions.



(i) Describe the effects of phosphate on plant growth.

.....

Explain how you can tell from the diagrams.

.....
 [3]

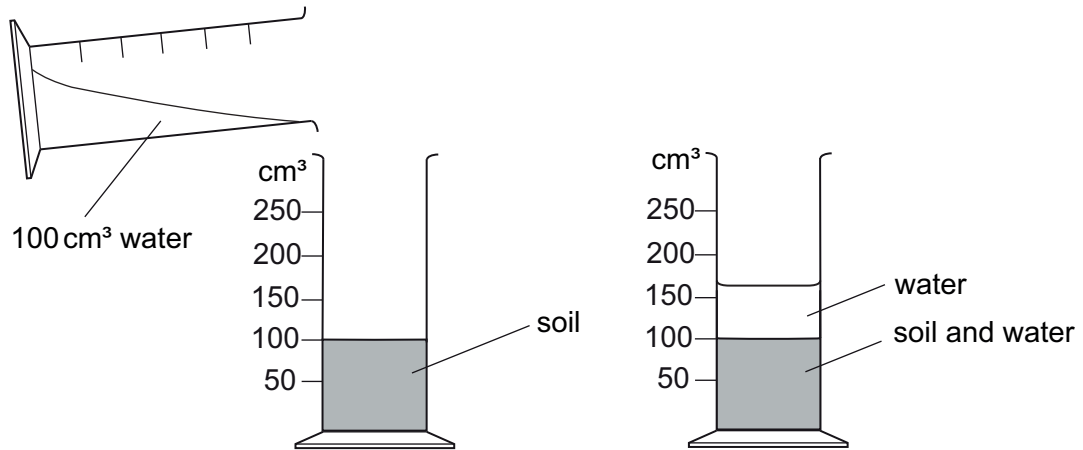
(ii) The plant grown without magnesium has yellow leaves.

Suggest why.

..... [1]

9 Gabriella investigates the air content of different soils.

The diagram shows the apparatus she uses.

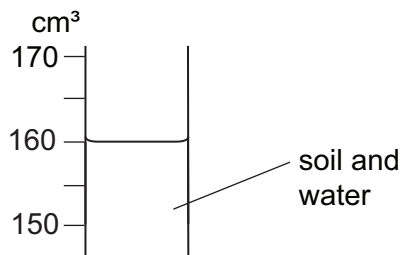


She puts 100 cm³ of soil into the measuring cylinder.

Gabriella then adds 100 cm³ of water to the soil.

She then records the total volume of soil and water in the measuring cylinder.

(a) The diagram below shows the total volume of soil and water for soil A.



Complete the table to show the total volume of soil and water for soil A.

soil	total volume of soil and water in cm ³
A
B	156
C	145
D	178

[1]

(b) The water fills the air spaces in the soil.

The more air spaces, the lower the total volume of soil and water.

(i) Which soil has the **most** air spaces?

Choose from **A, B, C, or D.**

..... [1]

(ii) Clay soils are made of closely packed particles.

The air spaces are very small.

Which soil is clay?

Choose from **A, B, C, or D.**

..... [1]

(c) Clay is one type of soil.

Circle **one** other type of soil.

fossils

igneous

peat

rocky

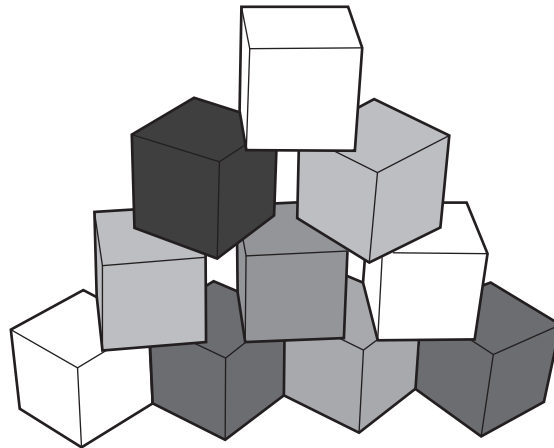
[1]

(d) Gabriella also wants to investigate the acidity of each soil.

Which scale is used to measure the acidity of soil?

..... [1]

10 Blessy has some cubes of material.



She wants to calculate the density of one of these cubes.

Blessy needs to measure **two** physical quantities.

One of these is the mass of the cube.

(a) Describe how she finds the **mass** of the cube.

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

(b) (i) What is the **other** physical quantity that Blessy needs to measure?

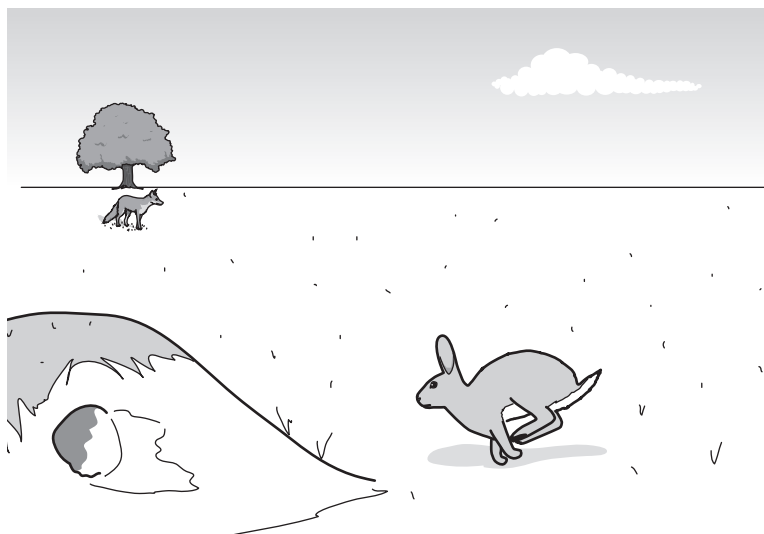
..... [1]

(ii) How does she find this physical quantity?

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

11 Rabbits are herbivores and are adapted to survive in their environment.

They live in grassy places and make nests in underground tunnels.



(a) Look at the diagram.

The rabbits are able to detect the presence of predators such as foxes.

Write down **one** way shown in the picture in which rabbits are good at **detecting** predators.

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

(b) Rabbits make their nests in underground tunnels.

Suggest **two** reasons why.

1
2 [2]

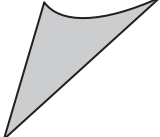
12 Class 9 have a quiz about current and voltage.

Their teacher gives them four questions.

Answer the questions on the quiz.

Quiz

1. What equipment is used to measure current?
.....
2. What equipment is used to measure voltage?
.....
3. What is the unit of current?
.....
4. What is the unit of voltage?
.....



[4]

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