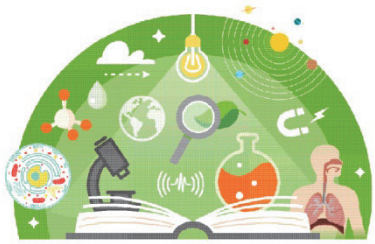
CAMBRIDGE
International Education



Science

Stage 8

Paper 2

2026

Cambridge Lower Secondary Progression Test

Name

Class

Date

45 minutes

No additional materials are needed.

INSTRUCTIONS
- Answer **all** questions.
- Write your answer to each question in the space provided.
- You should show all your working on the question paper.

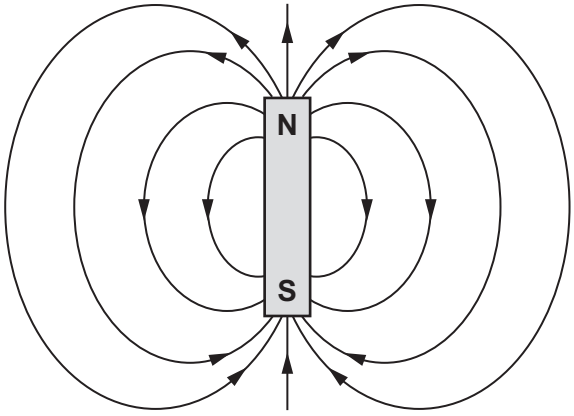
INFORMATION
- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [ ].

1 Draw a straight line from each **nutrient** to its correct **function**.

nutrient	function
carbohydrate	store of energy
iron	to make red blood cells
vitamin D	growth and repair
protein	healthy bones

[3]

2 Look at the diagram showing a magnet.



(a) Describe how the diagram shows there is a magnetic field.

.....

..... [1]

(b) Which objects experience a force when placed in a magnetic field?

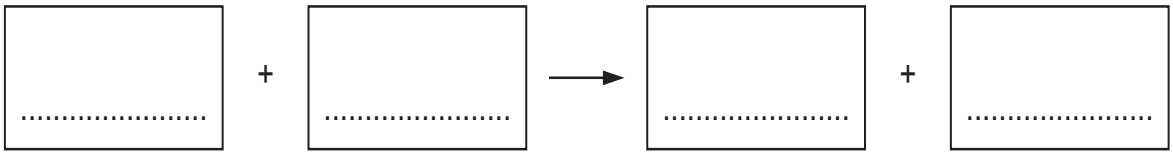
Circle **two** correct answers.

magnet **nickel coin** **plastic spoon** **wood handle**

[1]

3 Aerobic respiration occurs in plant cells and animal cells.

(a) Write down the **word** equation for aerobic respiration.



[2]

(b) (i) Where does aerobic respiration take place in a cell?

Circle the correct answer.

cell membrane **cell wall** **chloroplasts** **mitochondria** **nucleus**

[1]

(ii) The rate of respiration in muscle cells is higher than in other cells.

Suggest a reason why.

.....

..... [1]

4 Chen investigates the reaction of magnesium with dilute hydrochloric acid.

He does his experiment two times.

(a) The table shows his results.

starting temperature of acid in °C	final temperature of reaction mixture in °C	temperature change in °C
21	34	13
22	36	.....

(i) Complete the table. [1]

(ii) Is this reaction endothermic or exothermic?

Circle your answer.

endothermic **exothermic**

Explain your answer.

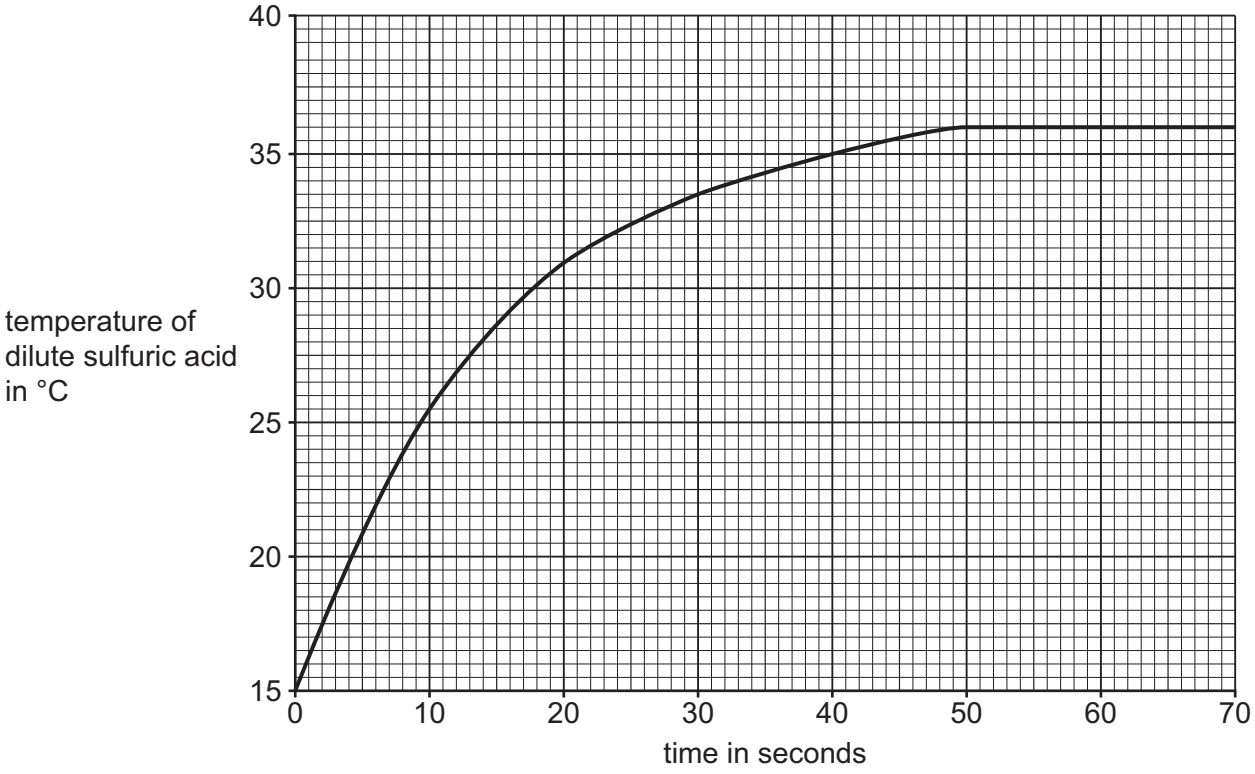
.....

.....

[1]

(b) Chen adds magnesium to dilute sulfuric acid.

He measures the temperature of the sulfuric acid every 10 seconds until the reaction stops.



The graph shows his results.

Describe, in detail, the trend in the temperature of dilute sulfuric acid as time increases.

.....

.....

.....

..... [2]

5 Asteroids are in the Solar System.

(a) Which statement describes an asteroid?

Tick (✓) the correct answer.

a piece of ice that is larger than a planet ☐

a piece of ice that is smaller than a planet ☐

a rock that is larger than a planet ☐

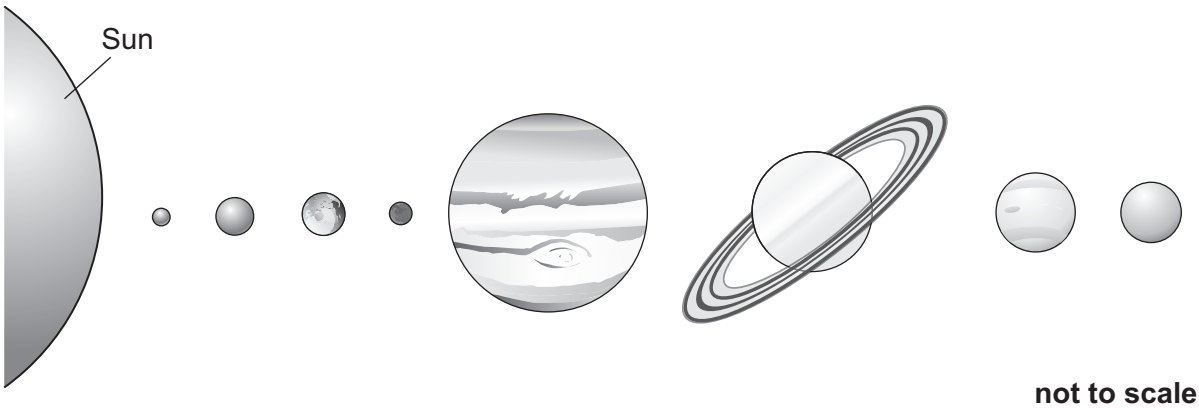
a rock that is smaller than a planet ☐

[1]

(b) Most asteroids are in a region of space between the orbits of **Jupiter** and **Mars**.

This region is called the asteroid belt.

(i) Draw the letter **X** on the diagram to show the position of the asteroid belt.



not to scale

[1]

(ii) Suggest why the asteroid belt is near planets.

.....

..... [1]

(c) When asteroids are first discovered they are given an identity.

The asteroid Europa has the identity **Europa1885C**.

The four numbers are the year of discovery.

The letter indicates the month and the date in the month of discovery.

Look at the table showing the letters for the months from January to March.

month	date range	letter
January	1 – 15	**A**
January	16 – 31	**B**
February	1 – 15	**C**
February	16 – 29	**D**
March	1 – 15	**E**
March	16 – 31	**F**

Europa1885C was discovered on 4 February in the year 1885.

(i) When was **Bamberga1892D** discovered?

Use the information in the table.

Tick (✓) the correct answer.

15 February in the year 1892 ☐

25 February in the year 1892 ☐

15 March in the year 1892 ☐

25 March in the year 1892 ☐

[1]

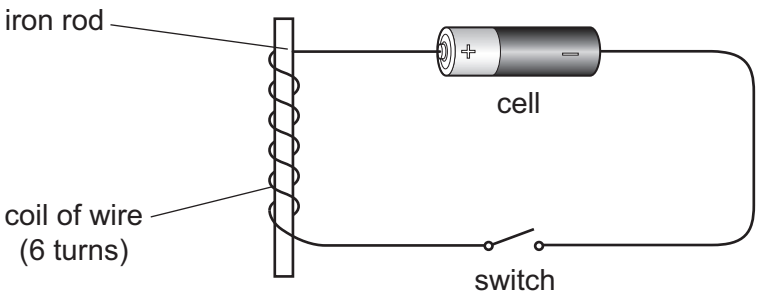
(ii) Write down the identity for Cybele discovered on 8 March in the year 1861.

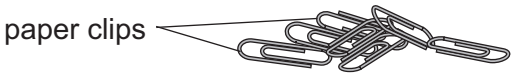
.....

[1]

6 Mia investigates the factors that change the strength of an electromagnet.

Look at the diagram showing the equipment she uses.





Mia closes the switch.

The electromagnet attracts **two** paper clips.

(a) Mia says,

'I predict the more turns I add to the coil of wire,
the greater the number of paper clips are attracted to the electromagnet.'

Explain why this prediction is testable.

.....

.....

.....

..... [2]

(b) Mia does the investigation.

Look at her results.

number of turns	number of paper clips attracted
6	2
7	4
8	6
9	6
10	6

Mia thinks her results support her prediction.

'I predict the more turns I add to the coil of wire,
the greater the number of paper clips are attracted to the electromagnet.'

Tick (✓) to show if Mia is correct.

yes ☐ no ☐

Explain your answer.

.....

.....

[1]

(c) The number of turns of wire in the coil changes the strength of an electromagnet.

Write down **two other** factors that change the strength of an electromagnet.

1 .....

2 .....

[2]

7 Carlos uses the internet to research the solubility of different salts.

(a) He writes down the solubility of four salts in water at 20 °C.

salt	solubility in grams of solute dissolved in 100 g of water
A	5
B	105
C	21
D	45

Which salt, **A**, **B**, **C** or **D**, is the least soluble?

..... [1]

(b) Carlos writes down the solubility of four other salts in water at different temperatures.

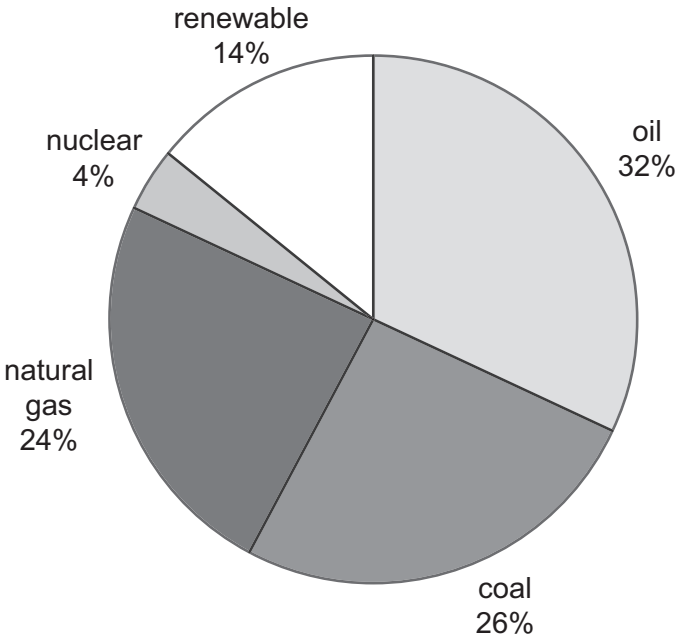
	solubility in grams of solute dissolved in 100 g of water		
salt	**20 °C**	**40 °C**	**80 °C**
E	7	12	35
F	75	107	127
G	36	57	120
H	2	3	20

State the temperature at which the salts have the greatest solubility.

Choose from the table.

..... °C [1]

8 Look at the pie chart that shows the use of world energy resources.



(a) Most of the world energy resources are non-renewable.

Explain how the pie chart shows this.

.....

..... [2]

(b) Solar power and geothermal energy are renewable.

(i) Write down the name of **one other** renewable energy resource.

..... [1]

(ii) Geothermal energy is heat energy from the Earth.

Cold water is pumped into the ground and very hot water is returned to the surface.

Suggest how humans use this hot water.

.....

..... [1]

9 Priya is a scientist who does blood tests.

Blood is hazardous because it may contain infectious harmful microorganisms.

Priya follows the advice given in a risk assessment.

(a) What is a risk assessment?

.....

..... [1]

(b) Priya tests samples of blood from four people.

She records the red blood cell count and white blood cell count in each sample.

Here are her results.

person	red blood cell count	white blood cell count
A	6.6	3.8
B	4.4	5.3
C	3.9	10.0
D	5.2	8.1
normal reading	4.2 to 6.3	4.0 to 10.0

The table also shows the normal readings for the red blood cell count and the white blood cell count.

One person suffers from tiredness.

Suggest which person suffers from tiredness.

Explain your answer using information from the table.

person .....

explanation .....

.....

.....

[2]

(c) Red blood cells and white blood cells are two components of blood.

Write down **one other** component of blood and its function.

component .....

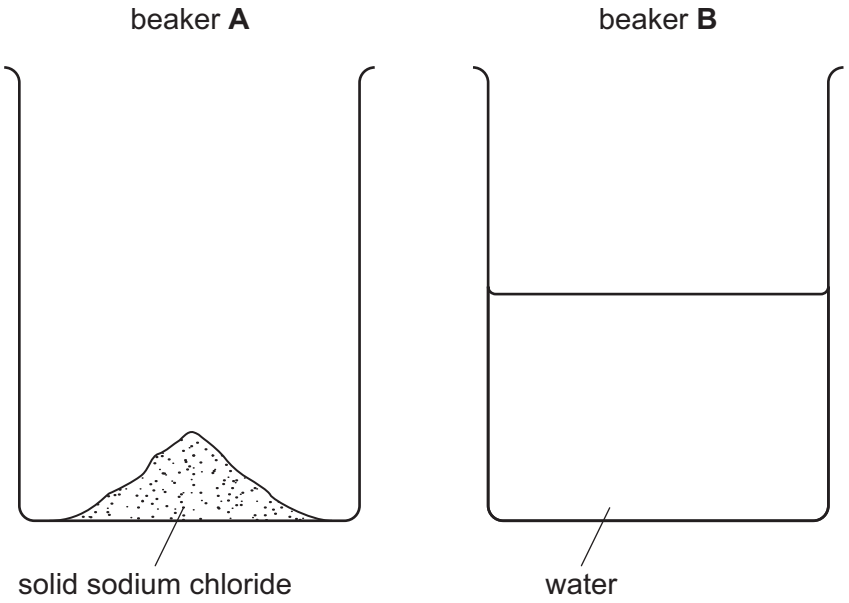
function .....

.....

[2]

10 Ahmed investigates solutions.

Look at the diagram of two beakers.



Ahmed adds the contents of beaker **A** to beaker **B** to make a colourless solution.

(a) Write down the name of the solvent in the solution.

..... [1]

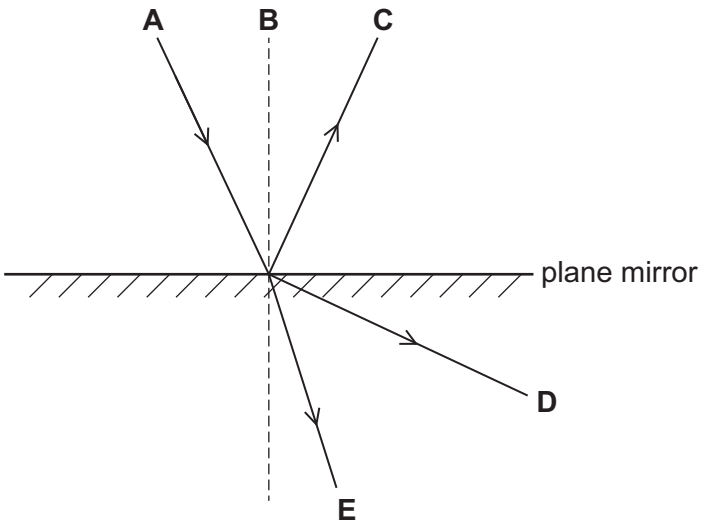
(b) The solid in beaker **A** is pure sodium chloride.

Explain why the solid is described as pure.

.....

..... [1]

11 Blessy draws a diagram to show what may happen during reflection.



(a) Which letters show the incident ray **and** the reflected ray?

Circle the correct answer.

A and B **A and C** **B and E** **C and D**

[1]

(b) Write down the law of reflection.

.....

.....

..... [1]

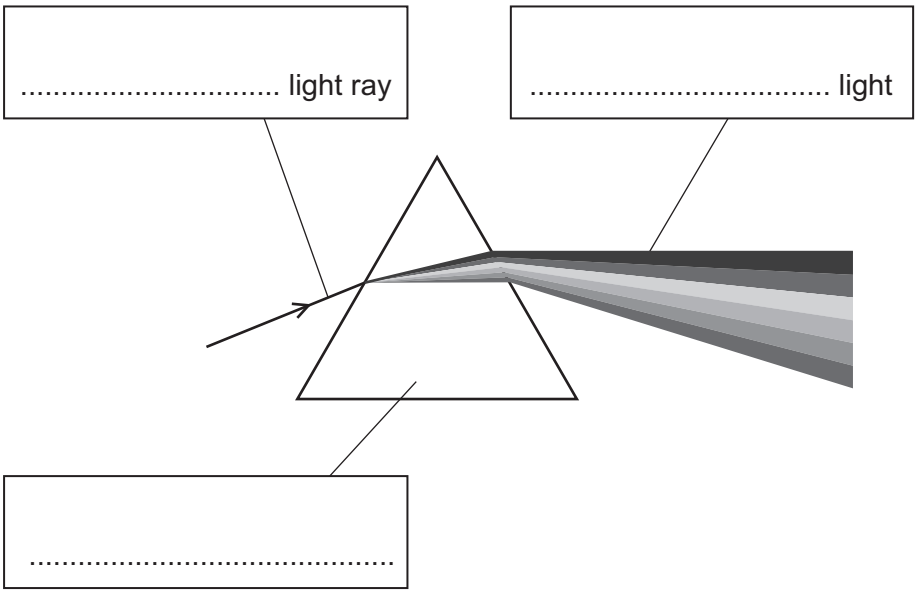
12 Explain how the nucleus holds the electrons in place in an atom.

.....

..... [1]

13 Pierre uses a light ray and a triangular piece of glass.

Look at the diagram.



Complete the **three** labels on the diagram.

Choose words from the list.

green	**lens**	**magnifying glass**	**mirror**
prism	**red**	**violet**	**white**

[2]

14 Anastasia and her class investigate how exercise affects breathing.

Each learner in the class:

- sits on a chair and counts the number of their breaths in one minute
- exercises for one minute
- counts the number of their breaths in one minute.

(a) What equipment do the learners use to measure one minute?

.....

[1]

(b) Here are the class results.

learner	breaths in one minute before exercise	breaths in one minute after exercise
Anastasia	16	20
Ahmed	18	21
Chen	15	20
Mia	16	18
Yuri	20	23

Write a conclusion for this investigation.

.....

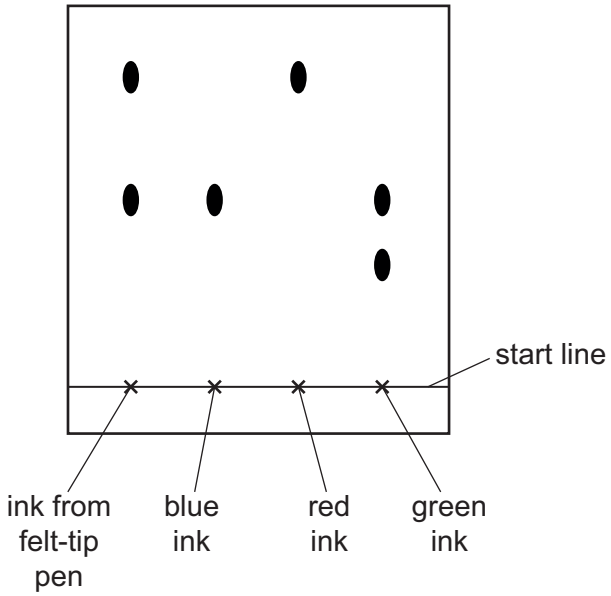
.....

[1]

15 This question is about paper chromatography.

(a) Jamila does a chromatography experiment to identify the coloured substances in ink from a felt-tip pen.

Look at the results of her experiment.



(i) Write down the names of **all** the colours in the ink from the felt-tip pen.

.....

[1]

(ii) How many coloured substances are in the green ink?

.....

[1]

(iii) Jamila uses a ruler to draw the start line.

What **other** piece of equipment does she use to draw the start line?

.....

[1]

(b) Suggest why it is difficult to separate colourless substances using paper chromatography.

.....

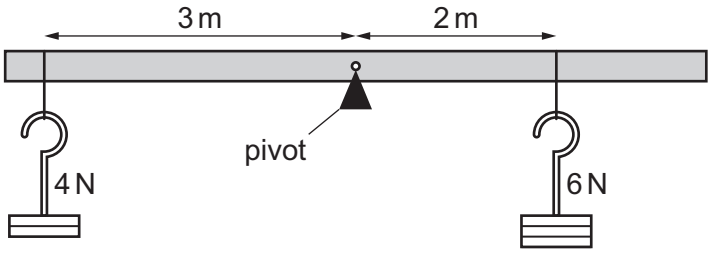
.....

[1]

[Turn over

16 Oliver draws diagrams and writes notes about different forces.

(a) Look at the diagram of a beam on a pivot.



Oliver says,

'The beam shown in this diagram will balance.'

Tick (✓) to show if Oliver is correct.

yes ☐ no ☐

Explain your answer.

.....

.....

[1]

(b) Look at the information about camel feet and horse feet.

camel

weight = 4000 N total area of feet = 2000 cm^2

horse

weight = 4000 N total area of feet = 400 cm^2

Oliver says,

'The pressure on the ground is the same from the camel feet and from the horse feet.'

Tick (✓) to show if Oliver is correct.

yes ☐ no ☐

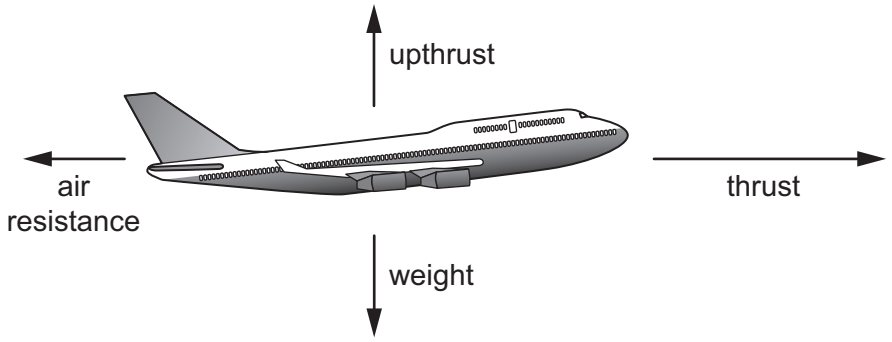
Explain your answer.

.....

.....

[1]

(c) Look at the force diagram.



Oliver says,

'The aeroplane moves forward at a constant speed.'

Tick (✓) to show if Oliver is correct.

yes ☐ no ☐

Explain your answer.

.....

.....

[1]

