

**Read the exam style question carefully, then fill in each section below.**

**Question:**

Aluminium metal is extracted from an ore called bauxite.

The information below summarises the main steps in the extraction of aluminium from bauxite.

1. Aluminium oxide is obtained from the aluminium ore
2. The aluminium oxide is purified
3. The aluminium oxide is mixed with cryolite
4. The mixture is heated to a high temperature (over  $950^{\circ}\text{C}$ ) in order to melt it.
5. Electrolysis is used to extract pure aluminium from the molten mixture.

Most aluminium is recycled.

To recycle aluminium, scrap metal is melted by heating it to over  $700^{\circ}\text{C}$ .

Suggest why most aluminium is recycled.

Use your knowledge and the information provided in your answer.

**(6)**

**Section 1: At first glance**

1. What **command words** are used in this question? Circle them clearly.
2. **Underline the key information** in the question above.
2. **How many marks** is this question worth?

**Section 2: Thinking ahead**

Read the question again.

What do you need to know in order to answer this question really well?

Can you split the question into two or more parts?

Are there any labelled diagrams that might help you to show your answer?



## Section 4: Space to plan

## Section 4: Answer the question

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Section 5: Check your answer

Points that a great answer might include:

- ☒ There are limited resources of aluminium oxide
- ☒ A higher temperature is needed to extract aluminium oxide from its ore than to recycle it
- ☒ A large amount of energy would be required to extract aluminium from its ore
- ☒ It is expensive to extract aluminium from its ore
- ☒ To extract aluminium from its ore, this would require mining or quarrying
- ☒ To extract aluminium from its ore, it would take longer (or it has more stages)
- ☒ To extract aluminium from its ore, it produces more carbon dioxide.
- ☒ Recycling saves resources
- ☒ It is cheaper to recycle
- ☒ Recycling uses less energy
- ☒ Recycling only requires the metal to be melted
- ☒ Less electricity needs to be used to recycle aluminium.
- ☒ Recycling has less on an effect on the environment
- ☒ Less habitats are destroyed when recycling is carried out
- ☒ Recycling means metals are less likely to end up in landfill
- ☒ Recycling is much more sustainable

**For 1-2 marks**, you might provide 1 or 2 of these points

**For 3-4 marks**, you have given some of these statements, written clearly, using scientific vocabulary.

**For 5-6 marks**, you should have provided several of the points above with a detailed explanation. You have used several examples of scientific vocabulary correctly.