AQA GCSE Chemistry | 8462

SPECIFICATION POINT 4.10.1.1

Using the Earth's resources and sustainable development

Past-paper questions

Tier	**Higher**
Question groups	**1**
Available paper years	**2007–2007**

Using this booklet

1. Answer the questions in order and show your working.
2. Original question numbers and marks are retained.
3. Print at actual size (100%) for measuring questions.
4. Use the companion answer booklet to check your work.

Name: _____ **Date:** _____

Whole questions are retained for context, so some parts assess other specification points. Current and legacy sources are labelled. Continue on extra paper if needed.

4.10.1.1 Using the Earth's resources and sustainable development

Question 01

January 2007 | CHY1H | Original Q3 | Legacy

3 Many everyday items are made from iron.

(a) Haematite is an *ore* of iron. Haematite contains iron oxide, Fe_2O_3.

(i) What is the meaning of the term *ore*?

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(1 mark)

(ii) Iron can be produced by reacting iron oxide with carbon in a blast furnace.

What type of reaction produces the iron?

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(1 mark)

(iii) The word equation for this reaction is:

iron oxide + carbon → iron + carbon dioxide

Complete and balance the symbol equation for this reaction.

.....Fe_2O_3 + ...C → ..... + ...

(2 marks)

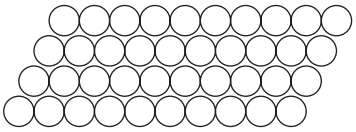
Question 3 continues on the next page

Question 01 · continued

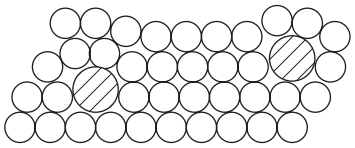
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(b) Pure iron is relatively soft and not very strong.

The iron from the blast furnace is very hard and brittle. It contains about 4 % carbon and is used as cast iron.



Pure iron



Cast iron

Explain the differences in the properties of pure iron and cast iron by referring to the diagrams.

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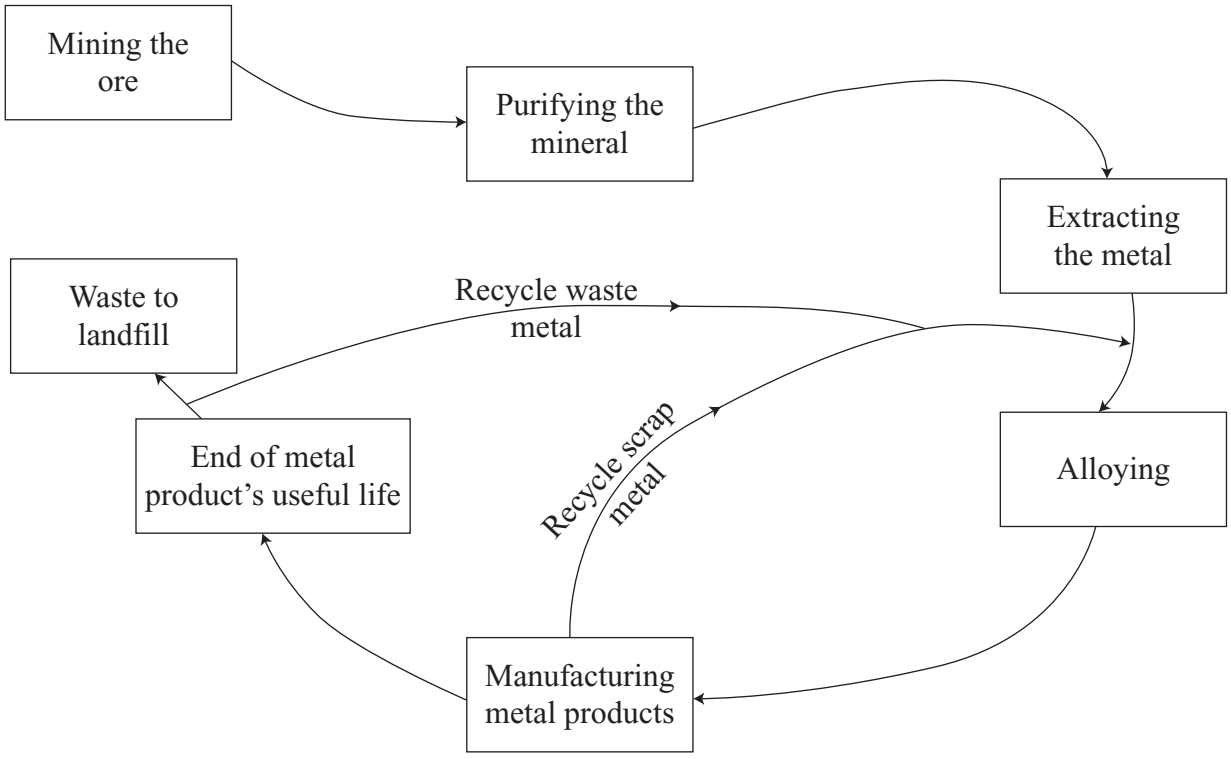
(3 marks)

4.10.1.1 Using the Earth's resources and sustainable development

Question 01 · continued

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(c) The diagram shows the way in which iron is extracted, used and recycled.



Explain why the recycling of iron is necessary for sustainable development.

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(3 marks)

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