

**AQA, OCR, Edexcel**

**GCSE Science**

# **GCSE Chemistry**

Materials

Answers

**M M E**

Mathsmadeeasy.co.uk

Total Marks: /30

Visit <http://www.mathsmadeeasy.co.uk/> for more fantastic resources.

Q1: Give the four examples whereby life cycle assessments (LCAs) are carried out to assess the environmental impacts of certain products.

1. Extracting and processing raw materials (1 mark)
2. Manufacturing and packaging (1 mark)
3. Use and operation during its lifetime (1 mark)
4. Disposal at the end of its useful life, including transport and distribution at each stage (1 mark)

(4 marks)

Q2: Describe some of the problems with LCAs.

A= Allocating numerical values to pollutant effects is not straightforward and requires value judgements (1 mark) LCA is not purely objective/ It is subjective/ based on opinion (1 mark)

(2 marks)

### ***Ways of reducing the use of resources***

Q4: Metals, glass, building materials, clay ceramics and most plastics are produced from limited raw materials. Explain how metals and glass can be recycled.

Metals

A= metals can be recycled by melting and recasting or reforming into different products (1 mark)

Glass

A= Glass bottles can be crushed and melted (1 mark) to make different glass products

(2 marks)

Q5: What is corrosion?

A= corrosion is the destruction of materials by chemical reactions with substances in the environment.

(1 mark)

Q6: Give an example of corrosion.

A= Rusting

(1 mark)

Visit <http://www.mathsmadeeasy.co.uk/> for more fantastic resources.

Q7: Give an example of how corrosion can be prevented.

A = Applying a coating that act as a barrier

(1 mark)

Q8:

Bronze is a metal alloy. What is it made up of?

A= copper and tin (2 marks)

Q9:

Brass is also a metal alloy. What is it made up of?

A= copper and zinc

(2 marks)

Q10: Gold alloy is used for jewellery along with which other metals?

A = Silver, copper and zinc

(3 marks)

Q11: The proportion of gold in the alloy is measured in carats. Match the carats with the percentage of gold.

24 carat —————> **100%** gold

18 carat —————> **75%** gold

(2 marks)

Q12: Complete the gaps in these sentences.

Steels are alloys of **iron (1 mark)** that contain specific amounts of **carbon (1 mark)** and other metals.

High **carbon (1 mark)** steel is strong but **brittle (1 mark)**. Low **carbon (1 mark)** steel is softer and more easily **shaped (1 mark)**.

Steels containing **chromium (1 mark)** and **nickel** (stainless steels) are hard and resistant to **corrosion (1 mark)**.

(9 marks)