



1.8 — Categorisation of Ferrous and Non-Ferrous Metals

Pearson Edexcel GCSE (9–1) Design and Technology

Answer Sheet — Multiple Choice Questions

Qualification: Pearson Edexcel GCSE (9–1) Design and Technology

Chapter: 1.8

Answers

Correct answers are highlighted in green with a tick (✓). Source references indicate the exact fact each question is based on.

Q1 What is the definition of a ferrous metal?

- A A metal that contains iron and is typically magnetic. ✓
- B A metal that contains iron but is not magnetic.
- C A metal that does not contain iron and is not magnetic.
- D A metal that does not contain iron but is magnetic.
- E I don't know.

Source: Key Terms — Ferrous Metal: A metal that contains iron (ferrite) and is typically magnetic.

Q2 What is ductility?

- A The ability of a material to deform by bending, twisting, or stretching without breaking. ✓
- B The ability of a material to be permanently deformed in all directions without fracture.
- C The ability of a material to resist scratching and indentation.
- D The ability of a material to resist penetration and deformation.
- E I don't know.

Source: 1.8.3 Properties — Ductility: The ability of a material to deform by bending, twisting, or stretching without breaking.

Q3 Which of the following describes a property of non-ferrous metals?

- A They are not magnetic and have a higher resistance to corrosion. ✓
- B They are magnetic and have a higher resistance to corrosion.
- C They contain iron and are not magnetic.
- D They contain iron and are magnetic.
- E I don't know.

Source: 1.8.2 Non-Ferrous Metals: Non-ferrous metals are not magnetic and have a higher resistance to rust and corrosion.

Answers (cont.)

Q4 What is malleability?

- A The ability of a material to be permanently deformed in all directions without fracture. ✓
- B The ability of a material to deform by bending, twisting, or stretching without breaking.
- C The ability of a material to resist scratching and wear.
- D The ability of a material to return to its original shape after force is removed.
- E I don't know.

Source: 1.8.3 Properties — Malleability: The ability of a material to be permanently deformed in all directions without fracture.

Q5 What is an alloy?

- A A mixture of two or more metals or elements designed to have improved properties. ✓
- B A pure metal that has been strengthened through heat treatment.
- C A metal that contains iron and is resistant to corrosion.
- D A metal that contains iron and is strengthened with carbon.
- E I don't know.

Source: Key Terms — Alloy: A mixture of two or more metals or elements designed to have improved properties and characteristics.

Q6 Which of the following is a property of mild steel?

- A It is tough, ductile, and malleable, but has poor resistance to corrosion. ✓
- B It is tough, ductile, and malleable, with excellent resistance to corrosion.
- C It is brittle and hard, with poor resistance to corrosion.
- D It is brittle and hard, with excellent resistance to corrosion.
- E I don't know.

Source: 1.8.1 Ferrous Metals — Mild Steel: Mild steel is tough, ductile, and malleable but has poor resistance to corrosion.

Q7 Which property makes copper particularly suitable for use in electrical wiring?

- A Copper is a good electrical conductor. ✓
- B Copper is a good thermal insulator.
- C Copper is highly magnetic.
- D Copper is extremely hard and brittle.
- E I don't know.

Source: 1.8.2 Non-Ferrous Metals — Copper: Copper is a good electrical and heat conductor.

Answers (cont.)

Q8 What is hardness?

- A The ability of a material to resist deformation, indentation, or scratching. ✓
- B The ability of a material to deform permanently in all directions without fracture.
- C The ability of a material to deform by bending or stretching without breaking.
- D A low resistance to impact, causing materials to break easily.
- E I don't know.

Source: 1.8.3 Properties — Hardness: The ability of a material to resist deformation, indentation, or scratching.

Q9 Which of the following is a distinctive property of aluminium?

- A It has an excellent strength-to-weight ratio. ✓
- B It has a very high density compared to other metals.
- C It is highly magnetic.
- D It is resistant to heat but a poor conductor of electricity.
- E I don't know.

Source: 1.8.2 Non-Ferrous Metals — Aluminium: Aluminium has an excellent strength-to-weight ratio.

Q10 Which of the following correctly describes cast iron?

- A It has a hard outer skin but a brittle, softer core. ✓
- B It has a soft outer skin but a hard, tough core.
- C It is lightweight and has high tensile strength.
- D It is lightweight and has low compressive strength.
- E I don't know.

Source: 1.8.1 Ferrous Metals — Cast Iron: Cast iron has a hard skin but a brittle, soft core.

Q11 Which of the following correctly describes the properties of stainless steel?

- A It is hard, tough, and resistant to corrosion. ✓
- B It is tough and malleable, but rusts easily without a protective coating.
- C It is lightweight with an excellent strength-to-weight ratio.
- D It has a hard outer skin but a brittle, softer inner core.
- E I don't know.

Source: 1.8.1 Ferrous Metals — Stainless Steel: Stainless steel is hard, tough, and resistant to corrosion. It is an alloy of carbon steel, chromium, nickel, and manganese.

Q12	Which of the following correctly describes brass?	
A	It is an alloy of copper and zinc, with good corrosion resistance and an attractive golden colour.	✓
B	It is an alloy of iron and carbon, known for being lightweight and strong.	
C	It is a pure non-ferrous metal with excellent electrical conductivity and a silver appearance.	
D	It is an alloy of aluminium and magnesium, commonly used in aircraft components.	
E	I don't know.	

Source: 1.8.2 Non-Ferrous Metals — Brass: Brass is an alloy of copper and zinc. It has good corrosion resistance and an attractive golden appearance. Common uses include decorative fittings, musical instruments, and door handles.