



1.8 — Ferrous and Non-Ferrous Metals

Answer Sheet — Teacher Copy

Qualification: Pearson Edexcel GCSE (9–1) Design and Technology | Chapter: 1.8

Section 1 — Material Properties: Answers

1. **Ductility**
2. **Malleability**
3. **Conductivity**
4. **Hardness**
5. **Tensile strength**
6. **Toughness**
7. **Corrosion resistance**
8. **Machinability**

Section 2 — Name the Material: Answers

1. **Mild Steel**
2. **Stainless Steel**
3. **Copper**
4. **Aluminium**
5. **Brass**
6. **Cast Iron**
7. **Cast Iron**
8. **Copper**

Section 3 — Connect the Pairs: Answer Key

A. Mild Steel	6. A ferrous metal with a small amount of carbon. Used for car body panels.
B. Stainless Steel	5. A ferrous metal with chromium added so it does not rust. Used for cutlery.
C. Cast Iron	2. A very hard and brittle ferrous metal used for manhole covers.
D. Aluminium	3. A very lightweight metal that does not rust and is used for aircraft.
E. Copper	4. A reddish-brown metal that is the best common conductor of electricity.
F. Brass	1. An alloy made from copper and zinc. Harder than pure copper.

Section 4 — Example Uses: Answers

1. **Copper** is used to make electrical wires because it conducts electricity very well.
2. **Cutlery, sinks and kitchenware** is what stainless steel is used for because it does not rust.
3. **Aluminium** is used for aircraft because it is very lightweight and does not rust.
4. **Car body panels, screws and nails** is what mild steel is used for because it is strong and easy to weld.
5. **Cast Iron** is used for brake discs because it is very hard.
6. **Plumbing fittings and locks** is what brass is used for because it is harder than pure copper and does not rust.
7. **Copper** is used for roofing and water pipes because it is a good conductor of heat.
8. **Manhole covers** is what cast iron is used for because it is very hard and durable.