02 Metals.

WORKSHEET 02 · TOPIC 02 · USE COURSE NOTES PAGES 9–11 TO HELP YOU

NAME | CLASS | DATE

TASK 1 Sort the metals

4 marks

Tick the family each metal belongs to. Then tick the last column if the metal is an **alloy**. You get 1 mark for every two rows that are fully correct.

METAL	FERROUS	NON-FERROUS	ALLOY?
Mild steel	☐	☐	☐
Copper	☐	☐	☐
Cast iron	☐	☐	☐
Brass	☐	☐	☐

METAL	FERROUS	NON-FERROUS	ALLOY?
Stainless steel	☐	☐	☐
Aluminium	☐	☐	☐
High-carbon steel	☐	☐	☐
Iron	☐	☐	☐

TASK 2 Right metal, right job

10 marks

Name the best metal from the course for each product, then state a property that makes it suitable. “Strong”, “cheap” or “easy” on their own score 0.

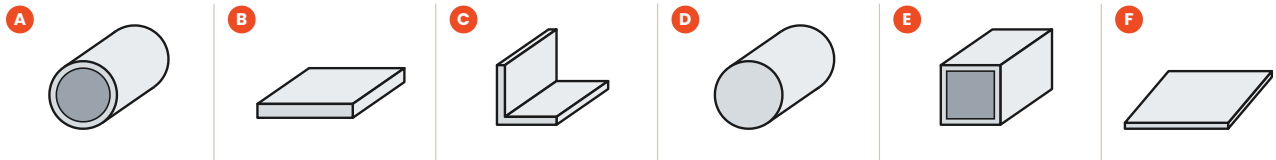
Useful words · ductile · wear resistant · hardened and tempered · heavy · lightweight · does not rust · hygienic · conducts electricity · suits casting

PRODUCT	METAL	PROPERTY THAT MAKES IT SUITABLE
Wood chisel blade		
Bench vice body		
Electrical wire		
Kitchen sink		
Lightweight step ladder		

TASK 3 Name the form of supply

3 marks

Name each form of supply A–F. You get 1 mark for every two correct.



A | B | C

D | E | F

TASK 4 Fill the gaps: rust

4 marks

Word bank · water · carbon · non-ferrous · tarnish · oxygen · alloy · dip coated · ferrous

Rust forms when iron or steel reacts with _____ and _____. Metals that contain no iron are called _____ metals, so they do not rust. To stop the NOOK side rail rusting, it is _____ black in the workshop.

TASK 5 Fix the weak answer

6 marks

Each answer below scored **0**. Say why it scored 0 (1 mark), then write an answer that would score (1 mark).

QUESTION AND WEAK ANSWER	WHY IT SCORED 0	BETTER ANSWER
State one reason brass suits a door handle. *"It is cheap."*		
Aluminium is strong. State one other reason it suits a bike frame. *"It is strong."*		
Name a finish for a mild steel bracket. *"Polish it."*		

TASK 6 NOOK: plan the metal parts

4 marks

The NOOK **side rail** is one 380 mm length of 25 × 3 flat bar, made from a ferrous metal that bends cold. Each of the four **feet** is a 20 mm length of Ø25 round bar, made from a lightweight, silver, non-ferrous metal. Complete the cutting list. All sizes in mm.

PART	MATERIAL	QUANTITY	LENGTH	BREADTH	THICKNESS
Side rail					
Foot				Ø25	Ø25

TASK 7 Exam practice

4 marks

A park bench has heavy, decorative **cast iron** ends and a **stainless steel** drinking-cup holder.

(a) State two reasons why cast iron suits the bench ends. 2

(b) Explain why stainless steel was chosen for the cup holder rather than mild steel. 2