03 Plastics.

WORKSHEET 03 · TOPIC 03 · USE COURSE NOTES PAGES 12–14 TO HELP YOU

NAME | CLASS | DATE

TASK 1 Which family?

6 marks

Tick one box for each plastic to show which family it belongs to.

PLASTIC	THERMOPLASTIC	THERMOSETTING
Polypropylene	☐	☐
Urea formaldehyde	☐	☐
Acrylic	☐	☐

PLASTIC	THERMOPLASTIC	THERMOSETTING
Melamine formaldehyde	☐	☐
ABS	☐	☐
Polystyrene	☐	☐

TASK 2 Match the plastic to the job

6 marks

Each product needs a different plastic. Write the best plastic from Task 1 in each box. Use each plastic once.

A · A cordless drill casing that must not crack if dropped

B · A wall socket that must stay safe if it gets warm

C · A lunch box with a lid that bends open every day

D · A clear shop display stand with polished edges

E · A kitchen worktop surface that resists hot pans and stains

F · A light, vacuum-formed tray inside a box of chocolates

TASK 3 Fill the gaps: plastic memory

4 marks

Use these words: **original · softens · thermosetting · cools**

When acrylic is heated on a strip heater it _____, so it can be bent. When it _____ it keeps its new shape. If it is heated again, it tries to go back to its _____ flat shape. This is called plastic memory. A _____ plastic, such as melamine formaldehyde, does not have plastic memory because it cannot be softened by heat.

TASK 4 Fix the weak answer

3 marks

Each answer below scored 0. Rewrite it so it would score the mark shown.

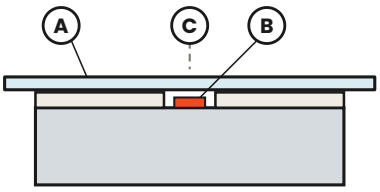
(a) "ABS, because it is strong." *(Why does ABS suit a drill casing?)* 1

(b) "Bend it on the strip heater." *(Describe how to form the bend.)* 1

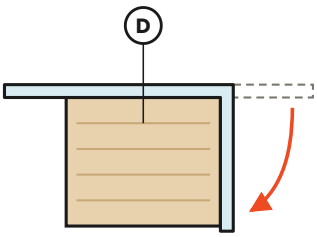
(c) "Sand the edges." *(Describe one stage in finishing acrylic edges.)* 1

TASK 5 Label the line bend

4 marks



Stage 1



Stage 2

Name the parts **A** to **D** used to line bend acrylic. **D** is made from wood.

A _____

B _____

C _____

D _____

TASK 6 Plan the NOOK tray

5 marks

NOOK's tray operations are in the wrong order. Number them **1–5** (2 marks), then fill the three empty **tools and equipment** boxes (3 marks).

STAGE	OPERATION	TOOLS AND EQUIPMENT
	Heat the two bend lines and bend to 90°	
	Mark the outline and finger notch on the protective film	Steel rule, fine marker, template
	Drill and countersink the two screw holes	
	Cut out the outline and the curved finger notch	
	Finish the edges to a high shine	Files, wet and dry paper, polish

TASK 7 Exam practice

7 marks

A garden table for children has a seat moulded in one piece.

(a) Choose the best plastic for the seat from: **acrylic · polypropylene · urea formaldehyde**. State one reason for your choice. 2

(b) The table top has a clear acrylic panel. Describe how its edges are given a high-quality finish. You must refer to tools. 3

(c) The plug on the table's lamp is made from urea formaldehyde. Explain why a thermoplastic would not be suitable. 2