

Name _____

Class _____

Date _____

By the end of this worksheet I can...

- ☐ identify flashing, ejector marks, draft angles and injection points
- ☐ explain how ribs and webs strengthen a moulded part
- ☐ identify split lines and shear marks
- ☐ explain the purpose of bosses, location pins, ribs and webs

I DO

Worked example Read how a full-mark answer is built

1 Describe how manufacturing features ensure accurate and efficient assembly of a product such as a hairdryer. (2 marks)

Full-mark answer each ✓ is one mark

Location pins line the two halves of the casing up exactly, so they fit first time ✓. Ribs hold internal parts such as the motor and circuit board in position, so no extra fixings are needed ✓.

Why marks are not awarded

X Naming the feature only

WE DO

Guided practice Use the starters and word bank to help you

A TV remote control casing is injection moulded in two parts.

2 Describe the purpose of a boss and of a rib on the inside of the casing. (2 marks)

Sentence starters

Boss: ...

Rib: ...

Word bank

rib · halves · without · fixing · boss · rigidity ·
strengthens · together

Tip: 2 marks = 2 separate, developed points.

YOU DO

On your own No notes. Check your answers afterwards.

3 Quick check: tick one box for each.

- a) Why are ribs added to the inside of a plastic casing?
☐ To make the casing heavier so it feels solid and expensive ☐ To give a better grip on the outside of the casing ☐ Add rigidity without thick walls and hold internal parts ☐ To use up any extra plastic left in the mould
- b) Location pins mainly help with...
☐ Accurate assembly ☐ Corrosion resistance ☐ Aesthetics ☐ Recycling
- c) What is the main purpose of a boss on an injection-moulded casing?
☐ To decorate the outside of the moulded casing ☐ To take a screw and strengthen the fixing point ☐ To let trapped air escape from inside the mould ☐ To show the recycling code where it can be seen
- d) Thin excess plastic along the edge of a moulded part is called...
☐ Draft ☐ Rib ☐ Ejector pin mark ☐ Flashing

4 Key terms: write the letter of the matching description next to each term.

1. Boss	_____	A Marks on edges cut by piercing or blanking.
2. Location pin	_____	B Positions mating parts accurately during assembly.
3. Ribs/webs	_____	C Add strength and rigidity, help material flow, locate internal parts.
4. Flashing	_____	D Raised cylinder to receive a screw; adds strength at the fixing.
5. Split line	_____	E Thin excess material where the two halves of a mould meet.
6. Shear marks	_____	F Line where two halves of a mould meet.

5 Describe two benefits of moulding clips and threads into a product. (2 marks)

6 Explain the purpose of location pins, bosses and ribs/webs. (4 marks)

Check and reflect

Mark your answers with the answer sheet. Go back to the checklist on the site and re-rate each “I can” statement above. Which one still needs work?
