

Name _____

Class _____

Date _____

By the end of this worksheet I can...

- ☐ read and draw a sectional view with a labelled cutting plane
- ☐ apply hatching correctly, leaving webs, shafts, nuts and bolts unhatched
- ☐ describe good and poor practice in an exploded view
- ☐ recognise full, half, part, revolved, removed and stepped sections and cut-aways

I DO

Worked example Read how a full-mark answer is built

An exploded pictorial of a desk lamp is shown.

1 Describe two features of good practice in an exploded view. (2 marks)

Points that earn marks from the marking instructions: one ✓ per point

- ✓ Parts are spaced so none overlap
- ✓ All parts can be seen

WE DO

Guided practice Use the starters and word bank to help you

A production drawing of a crank arm includes several types of sectional view.

2 State the name of two types of section other than a full section, and describe when each is used. (2 marks)

Sentence starters

Part section: ...

Revolved section: ...

Word bank

cutting · feature · cross-section · internal ·

Stepped section · Part section · rotated ·

Revolved section

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) Which is a feature of a good exploded view?

- ☐ Parts are aligned along assembly lines ☐ Parts overlap to save space on the page ☐ Parts are shown in any order that fits ☐ Hidden detail is shown on every part

b) Which of these is NOT hatched when cut lengthways?

- ☐ A casing ☐ A base plate ☐ A bolt ☐ A housing

c) A cross-section rotated 90° on the view itself is a...

- ☐ Part section ☐ Full section ☐ Revolved section ☐ Cut-away

d) Hatching lines are normally drawn at...

- ☐ 30° ☐ 90° ☐ 60° ☐ 45°

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

1. Hatching	_____	A Correct order, aligned, evenly spaced, no overlaps, all parts visible.
2. Which parts are not hatched?	_____	B Webs, ribs, shafts, nuts, bolts, screws, washers, pins and threads cut lengthways.
3. SECTION A-A	_____	C Thin 45° lines on cut surfaces of a sectional view.
4. Good exploded view	_____	D Cross-section rotated 90° and drawn on the view.
5. Revolved section	_____	E The label for the view taken at cutting plane A-A.

A sectional assembly of a pulley shows a casing, a shaft, a nut and bolt, and a strengthening web.

5 Explain which parts should be hatched and which should not. (3 marks)

6 Explain what is meant by 'Stepped section'. (2 marks)

7 Explain what is meant by 'Part section'. (2 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?
