

Name _____

Class _____

Date _____

By the end of this worksheet I can...

- ☐ explain how graphics are used to generate, explore, refine and communicate ideas
- ☐ choose a suitable graphic for a purpose: orthographic, sectional, exploded, pictorial, working drawing, render
- ☐ describe the advantages of manual and computer-generated graphics
- ☐ describe what a working drawing shows

I DO

Worked example Read how a full-mark answer is built

1 Outline two pieces of information shown on a working drawing. (2 marks)

Full-mark answer each ✓ is one mark

All the dimensions needed to make each part ✓. Orthographic views of every component with the material each is made from ✓.

Why marks are not awarded

"It shows what the product looks like and how it works."

0 marks: both responses were credited 0 in SQA marking.

WE DO

Guided practice Use the starters and word bank to help you

A designer presents a speaker as a computer-generated render.

2 Describe two benefits of using computer-generated graphics. (2 marks)

Sentence starters

One ... is ..., which means ...

Another ... is ..., so ...

Word bank

texture · client · proportion · colour · CAM ·
realistically · aesthetics · file

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 graphic best shows the inside of a product?
☐ Exploded view ☐ Mood board ☐ One-point perspective ☐ Sectional view
- b) Why would a designer show a client a rendered 3D illustration rather than an orthographic drawing?
☐ It includes all the dimensions needed ☐ Non-experts find it easier to understand ☐ It is quicker to produce than a sketch ☐ It is needed to set up the CNC machine
- c) Which is an advantage of CAD over manual drawing?
☐ No training needed ☐ Cheaper equipment ☐ Changes can be made without redrawing ☐ Better at very rough early ideas
- d) Which graphic communicates dimensions most clearly?
☐ Orthographic drawing ☐ Rendered illustration ☐ Mood board ☐ Lifestyle board

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

1. Sectional view	_____	A Quick and free early on; no training or investment.
2. Orthographic drawing	_____	B Shows how components fit together.
3. Exploded view	_____	C Gives the manufacturer all views, dimensions and technical details needed.
4. Working drawing	_____	D Shows the interior detail of a product.
5. Advantage of manual sketching	_____	E Shows dimensions and proportions in 2D views (elevation, end elevation, plan).
6. Advantage of CAD graphics	_____	F Easy to edit; many drawings from one model; links to CAM.

5 Describe how graphics can be used to communicate during the design process. (4 marks)

6 Discuss the graphic techniques used at different stages of the design process. You should give clear examples. (8 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?
