

Design & Technology

AQA GCSE

Communication of design ideas

Materials required for questions

- Pencil
- Rubber
- Calculator

Instructions

- Use black ink or ball-point pen
- Try answer all questions
- Use the space provided to answer questions
- Calculators can be used if necessary
- For the multiple choice questions, circle your answer

Advice

- Marks for each question are in brackets
- Read each question fully
- Try to answer every question
- Don't spend too much time on one question

Good luck!

Q1. What is the purpose of using *exploded diagrams* in design communication?

- A** To add colour and decoration
- B** To show internal wiring
- C** To show how components fit together and how a product is assembled

Q2. What is *3rd angle orthographic projection* used for?

- A** To show accurate, scaled views from multiple angles
- B** To illustrate electrical systems
- C** To produce photo-realistic graphics

Q3. Which of these techniques helps show 3D depth and realistic form?

- A** 2D technical drawing
- B** Freehand sketching in perspective
- C** Schematic diagrams

Q4. Why are *annotated drawings* valuable in design development?

- A** They improve the final prototype
- B** They explain thinking and justify design decisions
- C** They allow measurements to be precise

Q5. Explain **two** advantages of using audio and/or visual recordings when developing design ideas. **(4 marks)**

Q6. Exploded drawings show details of an object in a unique way. Explain where and why exploded drawings are used. Give examples in your answer. **(4 marks)**

Answers

Q1. C

Q2. A

Q3. B

Q4. B

Q5.

WE ARE NOT REWARDING SKETCHING OF IDEAS AS A VISUAL RECORDING.

Audio recordings

- Interviewing possible client's/end users to find out their needs and wants.
- Gain feedback on your design ideas and prototypes before moving forward.
- Keep a record of discussion/information for retrieval later.
- You might forget the details of a discussion after time.
- Evidence of ownership/intellectual rights etc.
- Very quick way of recording information e.g., using your smartphone to record.
- Teams/Zoom meeting

Visual recordings

- Make a recording of a client or user group working with a potential product e.g., nursery children at play with a prototype toy.
- Interaction of end users with a product.
- Evidence of ownership/intellectual rights etc.
- Recorded 3D simulation of a product in CAD software.
- A visual recording of a prototype being tested to see how it performs.
- Video recording to help show how to dismantle and put together products e.g., clips on social media and on websites to help customers really see how to do something rather than look in an instruction manual.
- A video recording can be slowed down to see gradually how a product performs incrementally e.g., design of new sports equipment like running shoes.
- Video recordings of destructive and non-destructive testing.
- Teams/Zoom meetings. Accept all other valid responses.

Q6.

Indicative content

The guidance provided is illustrative and not exhaustive. Credit any worthy points made in support of the band descriptors above.

Exploded drawings:

- are used to show how the parts of a product fit together
- show how parts are put together
- show detail that cannot be shown if a product is drawn assembled
- show more information about the product
- show how a product works
- show structural detail of joining methods
- are less confusing to some people who are not technically minded or cannot read hidden detail in orthographic drawings
- can be used rather than providing written instructions to customers in several languages.

Examples of use:

- instructions for assembled of products with many parts, eg Ikea furniture, Lego kits
- service manuals, eg car repair manuals
- schematic architectural drawings to show the way round, eg hospitals.
- Products such as: Vacuum cleaner manuals, Wind-up toys, Pen, Torch

Accept other valid responses.