

Design & Technology

AQA GCSE

Material properties

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. Which one of the following is a working property of a material?

- A** Absorbency
- B** Fusibility
- C** Malleability

Q2. A malleable material is one that

- A** Can be pressed into a shape or form
- B** Is able to withstand scratches and indents
- C** Is hard to break or snap

Q3. A tough material is described as one that can

- A** Bend and then return to its original shape
- B** Be shaped by pressing
- C** Withstand impacts without breaking

Q4. Aluminium is used in the manufacture of cooking pots because it has which property?

- A** Absorbency
- B** Electrical conductivity
- C** Thermal conductivity

Q5. A ductile material is commonly described as one that

- A** Can be drawn into a long length
- B** Does not scratch easily
- C** Resists corrosion and oxidation

Q6. A kitchen sink has been manufactured from stainless steel.

Provide **two** physical and **two** mechanical characteristics of the metal chosen for the kitchen sink, along with an explanation for why each property is appropriate for this product **(8 marks)**

Answers

Q1. C

Q2. A

Q3. C

Q4. C

Q5. A

Q6.

Mechanical Properties

- Due to its hardness (1) since its surface resists scratches from cutlery, dishes, washing, etc (1)
- Toughness (1) prevents it from breaking if a pan is dropped on it (1)
- Malleability (1) means it is press-formable into the sink's shape (1)

Physical properties

- Corrosion resistance (1) won't rust or deteriorate when in contact with water (1)
- Chemical resistance (1) prevents detergent degradation (1)