

Design & Technology
AQA GCSE

Natural and manufactured timbers

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 type of wood is made by gluing layers together with the grain directions alternating?

- A** Plywood
- B** MDF
- C** Oak

Q2. Which one of the following is a manufactured board??

- A** Ash
- B** Spruce
- C** Plywood

Q3. What is one factor that makes hardwoods more expensive than softwoods?

- A** Hardwoods need more care
- B** Hardwoods have higher density
- C** Hardwoods grow slower

Q4. What is the main advantage of manufactured boards over natural timbers?

- A** Much more aesthetic than natural timber
- B** Made in any shape/size/thickness
- C** Much stronger than natural timber

Q5a. Name one manufactured board **(1 marks)**

Q5b. Explain one advantage of using manufactured boards **(2 marks)**

Q6. MDF is going to be used to make a picture frame backing board.

Explain the environmental advantage of using MDF instead of pine to make a wall clock? **(2 marks)**

Answers

Q1. A

Q2. C

Q3. C

Q4. B

Q5a.

- Medium density fibreboard (MDF)
- High density fibreboard
- Plywood
- Chipboard
- Laminboard
- Blockboard
- Strawboard
- Glulam
- Hardboard

Q5b.

- To ensure that the whole of the tree is used and there is no waste e.g., knots, surface defects etc that have to be avoided.
- Produce large flat boards.
- Produce boards of a consistent thickness which are better for making accurate engineered products e.g., flat-pack furniture.
- Produce flat boards that are less likely to warp.
- Some manufactured boards have a smooth surface finish which can be painted to produce a highquality finish or have a laminate bonded to it to create a durable hard-wearing surface e.g., kitchen worktops.
- Better for the environment as the whole tree can be used e.g., chipboard.
- Use of recycled
- Create a timber with enhanced properties that is stronger and more suited to modern engineered buildings and structures e.g., glulam where long, consistent beams can be manufactured.

Q6.

- Because MDF is created with waste materials (1), there is no need for the leftovers to be disposed of or dumped in a landfill (1).
- Using MDF will reduce the amount of natural timber being cut down (1), therefore pine as a natural resource will last longer/be put to better use (1).