

**Design & Technology**  
**AQA GCSE**

# **Environmental, social and economic challenge**

## **Materials required for questions**

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- Pencil
- Rubber
- Calculator

## **Instructions**

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- 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**

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- 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 main environmental impact of deforestation?

- A**      Reduced urban development
- B**      15% of global CO<sub>2</sub> emissions
- C**      Increased use of plastic

**Q2.** How does deforestation affect design and manufacturing?

- A**      Makes 3D printing obsolete
- B**      Decreases availability of cheap, uncertified timber
- C**      Forces use of FSC-certified wood, raising costs

**Q3.** How could global warming impact product design?

- A**      Less need for heating systems in cold climates
- B**      More demand for energy-efficient products
- C**      Reduced use of biodegradable materials

**Q4.** What is the main goal of Fair Trade?

- A**      Ethical wages and safe working conditions
- B**      Faster production speeds
- C**      Cheaper raw materials

**Q5.** Explain how each of the following issues may be considered before designing and manufacturing new products **(4 marks)**

Fair trade

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Global warming

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## Answers

Q1. B

Q2. C

Q3. B

Q4. A

Q5.

### Fair trade

- Are people getting a fair price.
- Companies may want to improve their credentials as a fair-trade organisation when selling their new products.
- Promotes the company with more ethical credentials.
- Designers and manufacturers will want to know farmers can support their families.
- Workers' rights.
- Safe working conditions.
- Are farmers in the developing world getting a fair price for their produce?
- Designers and manufacturers will recognise that good PR can help sales if working conditions are good for farmers (and their families).
- Manufacturers now know that some customers actively buy based on whether a product is fair trade or not e.g., coffee or chocolate.
- Moral purpose to ensure farmers and their families are not being exploited.

### Global warming

- Don't want to heat up the planet.
- Don't want products that damage the planet.
- Don't want to add to conditions that create extreme weather/drought.
- Designers/manufacturers may want to cut CO2 emissions as they know it leads to global warming.
- Designers and manufacturers may employ strategies and techniques which don't contribute to global warming e.g. use fossil fuels to power factories.
- Designers/manufacturers may want to cut CO2 emissions as they know it leads to global warming. They won't want to be responsible for damaging the planet more.

- Manufacturers may choose to promote a product as 'climate friendly' because it has lower CO2 emissions and won't contribute to global warming e.g., car manufacturers, TV manufacturers.
- Designers and manufacturers may calculate the carbon footprint of their business or product and aim for a state of net-zero carbon dioxide emissions.