

Selecting Materials

Warm-Up

Draw circles to show whether the statements below are **true** or **false**.

Designers don't need to compromise when selecting materials — there is always a perfect material for a product or component to be made from. True / False

Animal products such as fur, ivory and leather are seen as unethical by many people. True / False

One aesthetic factor to consider when selecting materials is how easy the materials are to work with. True / False

1 Designers have a social responsibility.

a) What is meant by the term 'social responsibility'?

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[1 mark]

b) Suggest why might a company decide to make a design choice that is not socially responsible?

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[1 mark]

2 An outdoors company wants to sell a folding table to be used by campers.

a) The designers of the table are trying to select a material for the legs and table top. Give **two** functional considerations that they should bear in mind.

1.
.....
2.
.....
[2 marks]

b) Give **two** aesthetic factors the designers should consider.

1.
2.
[2 marks]

c) The company wants the table to be manufactured using materials in stock forms and sizes as they are widely available. Give **one** benefit of using widely available materials.

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[1 mark]

d) The company will buy the materials in bulk as they intend to mass produce the table. How might bulk buying the materials affect the price at which the table is sold at? Explain your answer.

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[2 marks]

3 A company is designing a bed. They want to limit the impact that the product will have on the environment. One way they can do this is to use ethically sourced materials.

a) What is meant by an ethically sourced material?

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[2 marks]

b) The designer selects timber labelled with the Forest Stewardship Council® (FSC®) logo for the horizontal wooden slats. If timber is labelled with the FSC® logo, what does this mean?

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[1 mark]

c) The bed frame will be made from metal. The designer is considering using recycled metals or re-used metals.

i) What is the main difference between recycled metal and re-used metal?

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[2 marks]

ii) Explain how using recycled or re-used metals to make the bed can help to limit the environmental impact of the product.

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[2 marks]

Score: / 16

