

Answers and marking guidance

Award one mark per correct, developed point unless stated. Other valid answers should be credited.

2 Discuss how designers use a variety of models during the design process. Link each to the stage, purpose and information gained.

- Sketch models (generate/explore): quick card/foam forms to explore shape and proportion
- Block models (refine): true form, test grip and ergonomics, show client
- Test models and rigs (test): strength, function, durability, safety
- Prototypes (final testing/communicate): user trials, flaws, marketing
- Scale models: proportion and assembly of large products
- Computer models and simulations: stress analysis, colour changes, link to rapid prototyping

3 Quick check

- a) Scale model
- b) Testing without risk to users or the environment
- c) They are quick and low cost to make and change
- d) Block model

4 Key terms

- 1 – E
- 2 – A
- 3 – D
- 4 – C
- 5 – B

5 Explain what is meant by ‘Simulation’.

- Computer testing of a design without risk to users or the environment.

6 Describe one drawback of rapid prototyping.

- High cost of equipment, software and training.