

Max's Magnificent Prototype Challenge

Learning objective: To understand the purpose of prototyping in Design and Technology and how it helps to refine ideas.

Max the monkey is busy building a new invention to help him reach high branches! Join him as he tests his ideas. Read each question carefully and circle the best answer.

Answer Key: 1. A (A test version), 2. True, 3. False (It helps us improve), 4. B (To test if it works), 5. True, 6. Feedback, 7. False (It is okay for a prototype to be messy), 8. A (Cardboard and tape), 9. True, 10. Improve.

Word bank: Prototype · Model · Refine · Function · Feedback · Design · Materials

1. 1. What is a prototype? A) A test version of an idea*, B) A finished product for sale, C) A shopping list, D) A completed building. (1 mark)

2. 2. True or False: Prototyping allows us to see if our design actually works before we build the real thing. (1 mark)

3. 3. True or False: A prototype must look perfect and expensive on the first try. (1 mark)

4. 4. Why might Max use a cheap material like cardboard for his first prototype? A) To save his pocket money (£5.00), B) To test the shape and function quickly*, C) Because he likes the colour brown, D) To make it look professional. (1 mark)

5. 5. True or False: If your prototype breaks, you have learned something important about how to make it stronger next time. (1 mark)

6. 6. What do we call the comments or suggestions someone gives you after they look at your prototype? (One word answer) (1 mark)

7. 7. True or False: You should never change your design once you have started your first prototype. (1 mark)

8. 8. Which of these is a great material for a quick prototype? A) Cardboard and masking tape*, B) Solid gold, C) Wet cement, D) A glass vase. (1 mark)

9. 9. True or False: Prototyping helps designers save time and money in the long run. (1 mark)

10. 10. After testing a prototype, do we 'discard' the idea or 'improve' it? (One word answer) (1 mark)

Draw: Draw a simple prototype of a new pencil case that could help Max organise his stationery. Label the materials you would use, such as 'cardboard' or 'string'.



Extension challenge: Imagine Max wants to sell his invention for £2.50. If he uses £0.50 worth of cardboard and £0.25 worth of tape, how much profit would he make on one invention? Show your working out.