

Design Technology: The Power of Prototyping with Kit the Fox

Learning objective: To understand the purpose of prototyping in the design process and how models help designers refine their ideas.

Read the information carefully and help Kit the Fox test his latest inventions. Answer all 10 questions to earn your Junior Inventor badge!

Answer Key: 1. A (A first version of a product); 2. True; 3. Feedback; 4. B (To identify and fix mistakes); 5. False; 6. Iteration; 7. C (Cardboard, tape, and glue); 8. True; 9. Function; 10. D (All of the above).

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

1. 1. What is a prototype? A) A first version of a product*, B) A finished store item, C) A finished painting, D) A computer game. (1 mark)

2. 2. True or False: Prototyping is a great way to test if your design actually works. (1 mark)

3. 3. What do we call the comments and advice we get from others after they test our prototype? (1 mark)

4. 4. Why do designers create prototypes? A) To spend money, B) To identify and fix mistakes*, C) To show off, D) To make it harder. (1 mark)

5. 5. True or False: You should never change your design after making a prototype. (1 mark)

6. 6. What word describes the process of repeating your design and making small improvements each time? (1 mark)

7. 7. Which of these are common materials for quick prototypes? A) Steel and glass, B) Pure gold, C) Cardboard, tape, and glue*, D) Concrete. (1 mark)

8. 8. True or False: A prototype can be a simple drawing or a 3D model. (1 mark)

9. 9. If your prototype is meant to hold weight, you are testing its _____. (Fill in the blank) (1 mark)

10. 10. Why is testing a prototype important? A) It saves time, B) It saves resources, C) It makes the end product better, D) All of the above*. (1 mark)

Draw: Kit the Fox is designing a new type of school pencil case that has a built-in sharpener. Draw a quick, rough prototype of what this might look like using simple shapes.



Extension challenge: Imagine you are designing a new chair for the classroom. If it cost £5.00 to make a prototype using recycled cardboard and £12.50 to make one using wood, explain why a designer might choose the cheaper material for the first version.