

Max's Design Technology: The Power of Prototyping

Learning objective: To understand the importance of prototyping in the design process and explain how to test and refine a product idea.

Max the monkey has a great idea for a new invention, but he knows that a good engineer never builds the final version first! Use this writing frame to describe your own product prototype. Think about your materials, the purpose of your invention, and what you might learn from testing it.

Before creating the final version of my invention, I need to build a prototype to test if my design truly works in the real world.

Word bank: furthermore · consequently · in addition to · functionality · prototype · modify · evaluate · durable · cost-effective · user feedback · on the other hand

1. What is the primary purpose of your invention, and who is the target user? Start by saying: 'The main goal of my invention is to...' (2 marks)

2. Which materials have you selected for your initial prototype, and why are they suitable for testing? Start by saying: 'For my prototype, I have chosen to use... because...' (3 marks)

3. Explain how you will test your prototype. What specific features are you looking for? Start by saying: 'To test my design, I will ask a user to...' (3 marks)

4. If the prototype fails or does not work as expected, what steps will you take to improve it? Start by saying: 'If I discover a fault, I intend to...' (2 marks)

5. How would you calculate the production cost for the final version if one unit costs £4.50 to make, and you want to make a profit? Start by saying: 'To ensure the product is affordable, I would...' (2 marks)

Extension challenge: Imagine your prototype was a success and is now ready for production. Write a brief 'pitch' to explain why a shop should stock your product, focusing on its unique features and benefits.