

Max's Invention Workshop: Prototyping Your Design

Learning objective: To understand the importance of prototyping by creating, testing, and refining a model for a specific user need.

Max the monkey believes every great invention starts with a prototype! Use this template to plan and evaluate your model. A prototype is a 'draft' of your invention that helps you test how it works before building the final version. Choose a problem you want to solve (like a new playground gadget or a sustainable school tool) and fill in the sections below.

Word bank: prototype · refinement · materials · evaluation · functionality · modifications · user-friendly · design brief

1. The Design Brief: What problem are you trying to solve, and who is your invention for? (2 marks)

2. Materials and Methods: List the simple materials you have chosen for your prototype. Why did you choose these specific items? (3 marks)

3. Refining the Design: Describe one challenge you faced while building your prototype. How did you modify your design to fix it? (3 marks)

4. Explain why it is important to test a prototype before building the finished product. What might happen if you skipped this step? (4 marks)

5. Justify your answer: If you had a budget of £10.00, how would you spend it to improve the quality of your prototype materials? (3 marks)

6. Compare and contrast your prototype with your original initial sketch. What is the biggest difference between the two? (3 marks)

Extension challenge: Design a 'Mark II' version of your invention. Write a short pitch explaining why your new design is more efficient or sustainable than your first prototype. If you were to sell this product for £5.50, calculate how much profit you would make if your materials cost you £2.75.