Max’s Masterclass: The Art of Prototyping

Learning objective: To understand the importance of prototyping in the design process and explain how iterative testing leads to successful final products.

Use this writing frame to document your design journey. Max the monkey believes that every great invention starts with a 'rough draft'—your prototype. Use the prompts below to describe your creation process, focusing on how you tested, evaluated, and improved your design.

Before crafting the final version of my product, I constructed a functional prototype to test whether my initial design concept was truly fit for purpose.

Word bank: Iterative process · Functionality · Ergonomics · Refinement · Modification · Concurrently · Subsequent · Feasibility · Robust · Evaluation

1. Identify the primary purpose of your prototype and explain why you selected specific materials to construct it: I chose these materials because... (3 marks)

2. Describe the testing phase. What specific criteria did you use to judge the success of your prototype? To test the efficiency of my design, I... (3 marks)

3. Explain why 'failure' during the prototyping phase is actually a crucial step in the design process. I believe that encountering errors is beneficial because... (4 marks)

4. Justify the modifications you made after your initial test. Compare your original design with your updated version: After the first trial, I decided to alter... (4 marks)

5. What might happen if a designer skipped the prototyping stage entirely and went straight to manufacturing? If a designer bypassed the prototyping phase, the final product might... (3 marks)

6. Critically evaluate the ergonomics of your prototype. How does the shape or size affect the user experience? The design accommodates the user by... (3 marks)

Extension challenge: Imagine your prototype is being pitched to a panel of experts. Write a 100-word 'elevator pitch' that justifies why your product deserves further funding, highlighting the evidence you gathered during your testing phase.