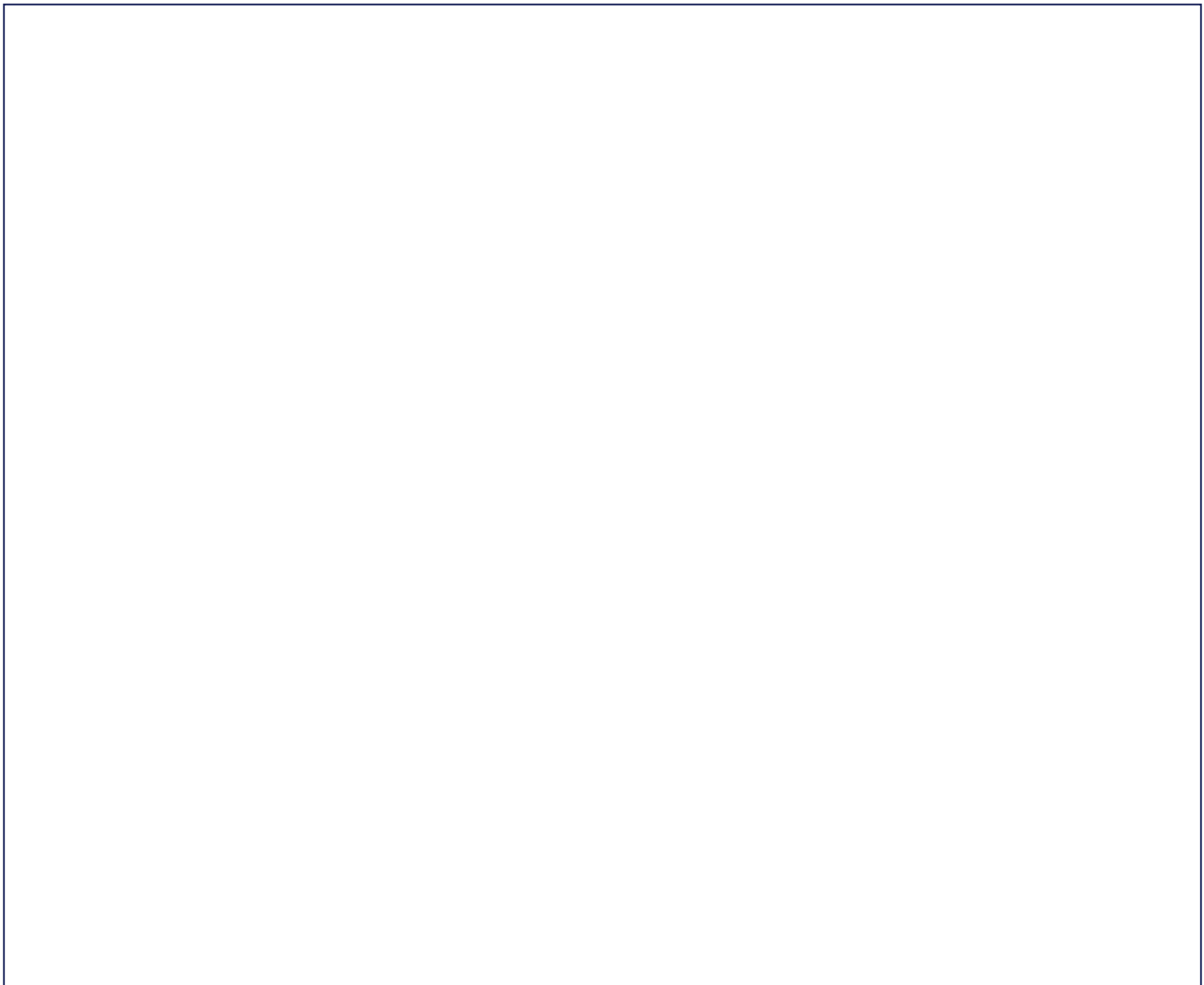


Design Technology: The Art of Prototyping with Max the Monkey

Learning objective: To understand the purpose of a prototype in the design process and demonstrate how to communicate complex ideas through annotated sketches.

Max the Monkey is designing a 'Mechanical Nut-Cracker' to help his friends in the jungle. He needs a prototype to test if his mechanism works before building the final version. Use the space provided to sketch your own prototype of a tool that solves a daily problem. Ensure your drawing is annotated with clear labels.

Draw: Draw a detailed, technical-style sketch of a mechanical device. The style should be clear and precise, resembling an engineer's design sheet. Include multiple views (e.g., a front view and a side view). Ensure you draw clear arrows pointing to key components and write short, descriptive notes (annotations) next to each part to explain how it functions. Use a ruler for straight lines.



Label words: Mechanism · Pivot point · Sustainable material · Annotation · Scale · Functionality · Ergonomic handle

Steps:

1. Explain why Max should build a prototype using inexpensive materials (like cardboard) before using expensive metal.

2. Label your drawing to show where the 'pivot point' of your mechanism is located.
3. Justify your choice of materials for your prototype. Why are these materials suitable for testing?
4. What might happen if a designer skips the prototyping stage and goes straight to the final product?
5. Compare and contrast your prototype with a 'final product'. How does their purpose differ?
6. If your prototype fails its first test, why is this considered a positive result in the design process?