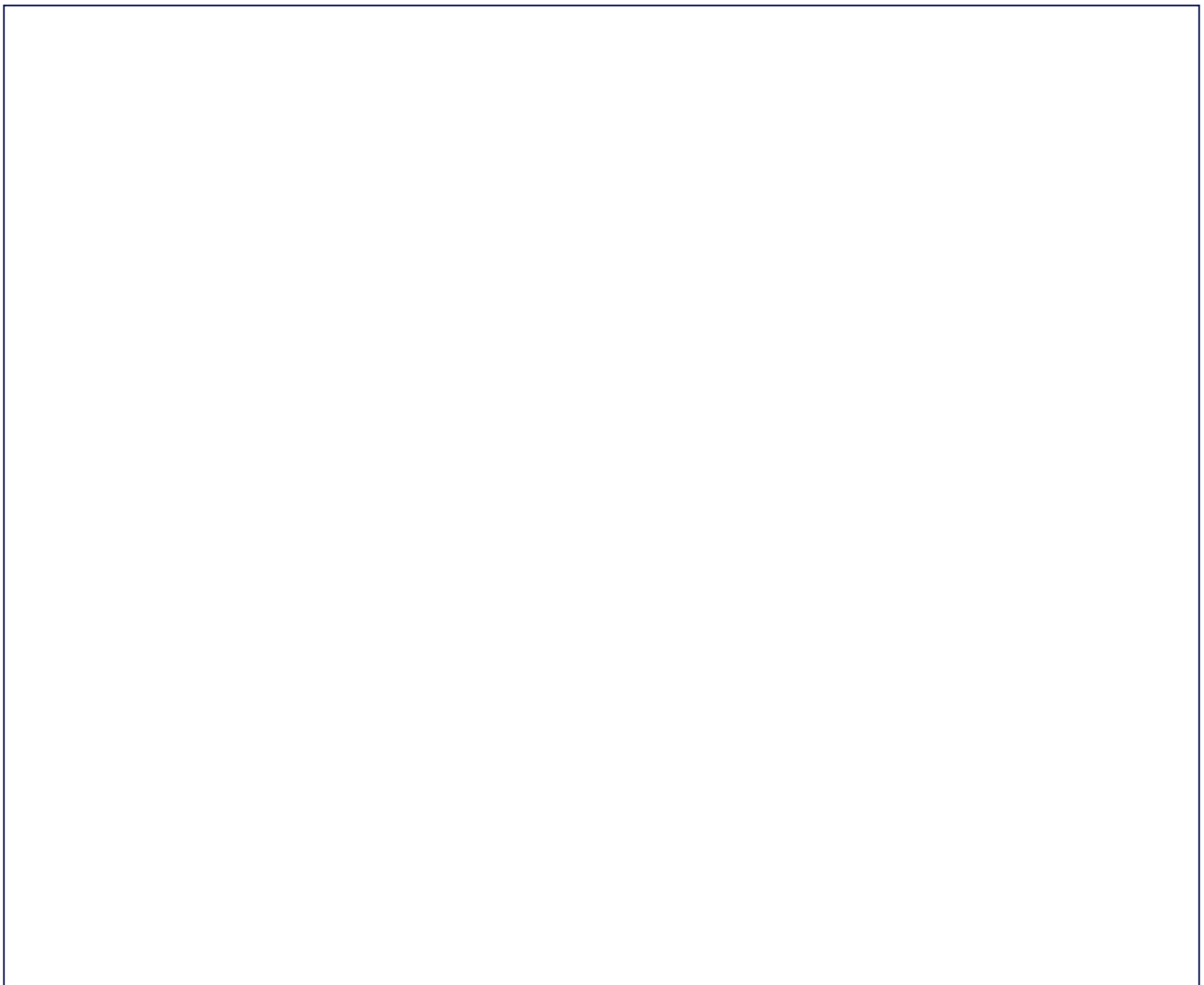


Kit's Circuit Design Challenge

Learning objective: To design a functional electronic system and identify key components required for a simple circuit.

Use the drawing space below to sketch an electronic device that could help one of your BookFlik friends. Ensure you include a power source, a switch, and a component that performs an action (like a bulb, buzzer, or motor). Label your diagram clearly using the provided word bank.

Draw: Draw a clear, technical-style diagram showing your electronic invention. Use a ruler for straight lines to represent wires. Use standard symbols or clear sketches to show the battery, the switch, and your chosen output component. Annotate your drawing with arrows pointing to each component, using the terms from the word bank.



Label words: Cell/Battery · Switch · Conductor · Insulator · Output Component · Wire · Circuit

Steps:

1. Identify the power source in your design and explain why this specific component is necessary for the circuit to function.
2. What is the function of the switch in your circuit? Describe what happens to the flow of electricity when the switch is 'open' versus 'closed'.
3. Explain why it is important to use an insulator around the wires in your design.

4. If you wanted to add a second output component (such as another bulb) to your circuit, how would you change your design to ensure both still function?
5. Justify your choice of output component. Why is this component the most suitable for helping your chosen BookFlik friend?
6. What might happen if you replaced the copper wire in your circuit with a piece of string? Justify your answer using your knowledge of materials.