

Max's Circuit Lab: Experiment Record

Learning objective: To identify and name the basic parts of a circuit and explain how changing components affects the brightness of a bulb or the speed of a motor.

Help Max the monkey solve his electrical puzzles! Use this record sheet to document your experiment. First, draw your circuit diagram, then use scientific vocabulary to describe what happened when you changed the components in your loop.

Word bank: circuit · cell · battery · bulb · buzzer · motor · switch · conductor · insulator · voltage · bright · dim · resistance

1. The Equipment: List the components you are using in your circuit and describe the function of each one. (3 marks)

2. Prediction: If you add a second bulb to your series circuit, what do you think will happen to the brightness of the bulbs? Why? (2 marks)

3. Observation: Describe what happened when you closed the switch. Did the component work as expected? (2 marks)

4. Scientific Explanation: Explain why the bulb might become dimmer if you replace the battery with one that has a lower voltage. (3 marks)

5. Conclusion: If the circuit is broken, why does the component stop working? Use the word 'loop' in your answer. (2 marks)

Extension challenge: Challenge: Max has found a collection of mystery objects. Design a test to determine if these objects are electrical conductors or insulators and record your findings in a table.