

Year 4 Science Assessment: Electricity

Learning objective: To identify common appliances that run on electricity, construct simple series circuits, and understand how components affect the flow of an electrical current.

Read each question carefully. Ensure your answers are clear and use scientific vocabulary where appropriate. You have 45 minutes to complete this paper.

Nova the owl is busy setting up a light in her hollow tree to help her read her star charts at night. She has a battery, some wires, and a small bulb. She needs to make sure everything is connected properly so the light will shine.

Word bank: battery · bulb · circuit · component · conductor · insulator · switch · cell · current · pathway

1. Nova needs to build a simple series circuit. Name two components she must include to make the bulb light up, other than the wires. (2 marks)

2. What is the purpose of a switch in an electrical circuit? (2 marks)

3. Explain why Nova's bulb might not light up even if she has connected all the wires. Give two possible reasons. (2 marks)

4. Max the monkey is testing different materials to see if they allow electricity to flow. He tests a plastic ruler, a metal paperclip, a wooden pencil, and a copper coin. Which of these are conductors? Explain how you know. (4 marks)

5. If Max adds a second battery to his circuit, what will happen to the brightness of the bulb? Explain your answer using the word 'current'. (3 marks)

6. Why is it important to never touch electrical sockets or wires with wet hands? Consider the safety rules we have discussed in class. (3 marks)

7. Imagine you are designing a toy that needs to use electricity. Describe your toy, explain which components you would need (like batteries, motors, or buzzers), and explain how you would ensure the circuit is complete so the toy works. Use scientific vocabulary. (9 marks)

Draw: Draw a diagram of a simple series circuit. Include a battery, a switch, and a bulb. Use arrows to show the path the electricity takes.



Extension challenge: Total: /25