

Nova's Electrifying Science Quiz

Learning objective: To identify, name, and understand the components of electrical circuits and their functions, as per the Grade 4 Science curriculum.

Help Nova the owl test her knowledge of circuits! Read each question carefully and write your answers clearly.

Answer Key: 1. A (Cell); 2. True; 3. Conductor; 4. B (To break the circuit); 5. False (It stops the flow); 6. Bulb; 7. C (Copper); 8. True; 9. Battery; 10. False (It needs a complete loop).

Word bank: Circuit · Cell · Conductor · Insulator · Component · Switch · Voltage · Bulb

1. 1. What is the source of power in a simple circuit? A) Cell* B) Wire C) Bulb D) Switch (1 mark)

2. 2. True or False: A complete circuit is needed for a light bulb to glow. (1 mark)

3. 3. What do we call a material that allows electricity to flow through it easily? (1 mark)

4. 4. What is the main purpose of a switch? A) To make the bulb brighter B) To break the circuit* C) To store energy D) To change the color of the light (1 mark)

5. 5. True or False: An insulator is a material that lets electricity pass through it very quickly. (1 mark)

6. 6. If a circuit is complete, which component will light up? (1 mark)

7. 7. Which of these is a good conductor of electricity? A) Plastic B) Wood C) Copper* D) Eraser (1 mark)

8. 8. True or False: Metals are generally good conductors of electricity. (1 mark)

9. 9. What is a collection of cells joined together called? (1 mark)

10. 10. True or False: If there is a gap in the wires, the electricity will jump across to reach the bulb. (1 mark)

Draw: Draw a simple circuit diagram containing a cell, a switch, and a bulb connected by wires. Make sure the switch is in the 'off' position.



Extension challenge: Nova wants to build a circuit with two bulbs. Design a circuit diagram where adding a second bulb makes them both dimmer. Can you explain why this happens using the word 'resistance'?