

Nova's Electrifying Science Quiz

Learning objective: To assess understanding of electrical circuits, symbols, and the effects of voltage in Year 6 science.

Help Nova the owl explore the world of electricity! Answer the 10 questions below to test your knowledge of how circuits work. Read each question carefully before choosing your answer.

Answer Key: 1. A (Cell); 2. True; 3. B (A break in the circuit); 4. False (It is an insulator); 5. C (Brighter); 6. 1-word: Conductor; 7. True; 8. B (Closed); 9. 1-word: Buzzer; 10. False (The motor would spin slower).

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

1. Which of these is the correct scientific name for a single battery in a circuit? A) Cell* B) Power box C) Lightning bolt D) Energy pack (1 mark)

2. True or False: Electricity can only flow if there is a complete, unbroken loop. (1 mark)

3. What happens if a wire in a simple circuit becomes disconnected? A) The bulb gets brighter B) A break in the circuit* C) The bulb stays lit D) The battery charges (1 mark)

4. True or False: Plastic is a brilliant conductor of electricity. (1 mark)

5. If you add an extra cell to a circuit with one bulb, what will happen to the bulb? A) It will go out B) It will stay the same C) Brighter* D) Dimmer (1 mark)

6. What is the name for a material that allows electricity to flow through it easily? (1 mark)

7. True or False: A switch can be used to open and close a circuit. (1 mark)

8. For a bulb to light up, the circuit must be: A) Open B) Closed* C) Broken D) Short (1 mark)

9. Name one output component, other than a bulb, that you might find in a simple circuit. (1 mark)

10. 10. True or False: If you add more bulbs to a circuit with the same amount of voltage, the bulbs will get brighter. (1 mark)

Draw: Draw a circuit diagram featuring a cell, a switch, and a bulb. Make sure the switch is in the 'closed' position so that the bulb is glowing brightly!



Extension challenge: Max the monkey wants to build a circuit with two bulbs and two cells. Draw what this would look like and predict if the bulbs will be brighter or dimmer than a circuit with only one cell. Explain your reasoning using the word 'voltage'.