

Kit's Clever Circuits Quiz

Learning objective: To understand the basic components of a simple electrical circuit and how to represent them using standard symbols.

Help Kit the fox fix his gadgets! Read each question carefully and circle the best answer. Remember: a circuit must be complete for the electricity to flow.

Answer Key: 1.C, 2.True, 3.False, 4.Cell, 5.B, 6.True, 7.Insulator, 8.A, 9.False, 10.B. A circuit is a complete loop that allows electricity to flow. Components like bulbs change electrical energy into light, while buzzers change it into sound. A switch is a control component that can break or complete the path.

Word bank: Cell · Switch · Bulb · Buzzer · Conductor · Insulator · Circuit · Current

1. 1. Which of these is the correct symbol for a light bulb in a circuit diagram? A) A straight line, B) A triangle, C) A circle with a cross inside*, D) A zig-zag line (1 mark)

2. 2. True or False: If a circuit has a gap in the wires, the electricity will not flow. (1 mark)

3. 3. True or False: Plastic is a great material to use as a conductor in a circuit. (1 mark)

4. 4. What is the name of the component that provides the energy (the 'push') for the circuit? (1 word) (1 mark)

5. 5. What is the purpose of a switch? A) To store energy, B) To open and close the circuit*, C) To make the bulb brighter, D) To measure the voltage (1 mark)

6. 6. True or False: A buzzer turns electrical energy into sound energy. (1 mark)

7. 7. What do we call a material that does not allow electricity to pass through it easily? (1 word) (1 mark)

8. 8. Which material is commonly used for wires because it is a good conductor? A) Copper*, B) Rubber, C) Wood, D) Plastic (1 mark)

9. 9. True or False: Adding more bulbs to a simple circuit with one cell will make them shine brighter. (1 mark)

10. 10. If Kit buys a pack of 5 small bulbs for £2.50, how much does each bulb cost? A) 40p, B) 50p*, C) 60p, D) 25p (1 mark)

Draw: Draw a simple circuit consisting of one cell, one switch, and one bulb. Label the parts using the correct scientific names.



Extension challenge: Kit wants to build a torch! Write a short paragraph explaining why he should choose metal for the internal contact points but rubber for the outer handle casing.