

Y6 Electricity Circuits

KS2 Y6 Science · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Draw a circuit diagram for a torch: one cell, a switch and a lamp.

Step 1 · Draw a rectangle with a ruler

The wires: straight lines with square corners

Step 2 · Put the cell symbol on one side

Long thin line and short thick line

Step 3 · Add the switch and lamp symbols on other sides

Switch: a gap with a lever. Lamp: a circle with a cross

Step 4 · Check the loop

No gaps except at the switch

Answer: A rectangular loop with a cell, a switch and a lamp, all in series.

Check: Components can go anywhere round a series loop. The circuit works the same.

2. Now try one with the steps

Why do scientists use symbols rather than drawings of real components?

Step 1 · Speed

Step 2 · Clarity

Step 3 · Everyone understands

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. What is a circuit diagram?

2. Describe the symbol for a lamp.

3. Describe the symbol for a cell.

4. In a cell symbol, which line shows the positive side?

5. What is a battery in science?

6. Describe the symbol for a motor.

7. In an open switch symbol, is the circuit complete?

8. Why should you draw wires with a ruler?

9. Why are circuit symbols the same all over the world?

10. A diagram shows a cell, a lamp and a closed switch in a loop. Does the lamp light?

11. A diagram shows a lamp and a closed switch in a loop, but no cell. Does the lamp light? Why?

12. How many cells are shown by a battery symbol with three pairs of lines?

13. Why is a circuit with only wire joining the two ends of a cell dangerous?

14. Does moving the switch to a different place in a series loop change what it controls?

4. Before you hand it in

Drawing pictures of bulbs and batteries instead of symbols.

Use the standard symbols, with straight ruled wires.

Leaving gaps between wires and symbols.

Join every symbol to the wire on both sides.

Mixing up the cell's lines: drawing both the same length.

One long thin line (+) and one short thick line (–).

Calling one AA cell 'a battery' in a science answer.

Say 'cell' for one, 'battery' for two or more.