

11.2 Simple Circuits

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS circuit 电路 • battery 电池 • series 串联 • resistance 电阻

Objective

Build the skills to answer exam questions on **simple circuits**.

You must be able to:

- identify the parts of a **circuit** 电路 — source, wires, resistor, switch — and their symbols
- describe how a **battery** 电池 maintains a potential difference that drives the current
- trace a complete conducting loop and explain why a break stops the current

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ Circuit parts

A simple circuit has a **source** (cell or battery), **wires**, a **resistor** or bulb, and often a **switch** — each with its own symbol.

■ What the battery does

The battery maintains a **potential difference** across the circuit, which drives the current around the loop.

■ A complete loop

Current flows only around an **unbroken** conducting loop. An open switch (a break) stops the current everywhere.

2 Practice

2.1 Name the component that drives the current around a circuit. [1]

2.2 State what happens to the current when the switch is opened. [1]

2.3 Describe a simple series circuit containing a battery, a switch, and a resistor. [2]

3 Exam-style questions

3.1 A battery in a circuit provides [1]

A	B
C	D

A resistance

B a potential difference

C a store of current

D a magnetic field

3.2 Current flows in a circuit only when the loop is [1]

A	B
C	D

A broken

B complete

C very long

D at high temperature

3.3 A torch contains a cell, a switch, and a bulb.

(a) State what the cell does in the circuit. [1]

(b) Explain why the bulb goes out when the switch is opened. [2]