

GRADE 4 LEARNING PACK

Electricity: Complete Circuits, Switches & Conductors

Build and reason about simple low-voltage circuits while applying strict electrical safety boundaries.

LEARN • PRACTISE • CREATE • REFLECT

Original BrightPencil Kids resource - adult-led where appropriate

A4 edition • 12 purposeful pages • review copy

Print. Learn. Grow.

Grown-up guide

Learning objective

Build and reason about simple low-voltage circuits while applying strict electrical safety boundaries.

Use this pack well

- Model the first example aloud, then let the learner try.
- Ask “How do you know?” more often than “Are you finished?”.
- Use real objects, talk, movement or observation when the activity suggests it.
- Stop or shorten the session if attention or enjoyment drops.
- Open-ended pages can have many successful answers.

Quality note

This resource was written originally for BrightPencil Kids. Curriculum sources informed scope and progression only; no third-party worksheet or story text is reproduced.

Learn the idea

1 A complete circuit needs a continuous conducting path.

2 Switches open or close a circuit.

3 Materials differ in electrical conductivity; mains electricity is never used for child experiments.

Talk about it

Explain one idea in your own words. Give an example from real life, a drawing or an object if that helps.

Diagnose why a battery-bulb circuit with a gap will not work.

Draw open and closed switch diagrams.

Predict and test approved materials as conductors/insulators using low-voltage equipment.

Compare one-cell and two-cell observations without exceeding kit guidance.

Write three non-negotiable mains-electricity safety rules.

Try it beyond the page

Real-world / hands-on connection

Use only adult/teacher-approved low-voltage kits in a dry workspace; never test wall sockets, mains leads or household appliances.

Before you finish

What did you notice?

What evidence, object or example helped you?

What would you change if you tried again?

Create something

Your project

Design a simple circuit for a model reading light with labelled cell, wires, switch and lamp.

Use this space for planning, drawing, mapping, designing or notes.

CHALLENGE

Think deeper

1. What does a switch do?

2. Can wall sockets be used for this activity?

3. Why test materials one at a time?

Quick review

1. In one sentence, explain the big idea of “Electricity: Complete Circuits, Switches & Conductors”.

2. Draw or write one example that shows you understand.

3. Choose one activity from this pack and explain the strategy you used.

4. Write one question you still have.

Answer & discussion notes

Use these as guidance, not scripts. Open questions can have different successful responses when the reasoning is sensible and evidence-based.

1. Suggested response

It opens or closes the circuit.

2. Suggested response

No.

3. Suggested response

To make the comparison clear.

Review before publication

Check age fit, factual accuracy, clarity, accessibility, rights provenance and whether the activity works in practice. This file remains a review copy until those checks are signed off.

FINISH

My learning reflection

I finished this BrightPencil learning pack.

One thing I understand better now:

A strategy that helped me:

Something I created or noticed:

My next small question or goal:

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