

# Tools & Simple Machines Around Us

Notice how tools can change the size, direction or convenience of a force without implying they create free energy.

**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

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## Learning objective

Notice how tools can change the size, direction or convenience of a force without implying they create free energy.

## 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

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**1** Tools are designed for particular tasks.

**2** Levers, wheels/axles, ramps and pulleys can make tasks easier in different ways.

**3** Safe tool use depends on the tool, user and adult guidance.

## Talk about it

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

Match scissors, ramp, wheelbarrow and pulley picture descriptions to their jobs.

Explain how a ramp changes how an object is raised.

Identify the pivot in a simple seesaw diagram.

Choose the right tool for a fictional task and explain.

Spot an unsafe tool scenario that should be handled by an adult.

# Try it beyond the page

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## Real-world / hands-on connection

Explore only child-safe classroom tools with adult guidance, such as a ruler, toy wheel or cardboard ramp.

## Before you finish

What did you notice?

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What evidence, object or example helped you?

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What would you change if you tried again?

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# Create something

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## Your project

**Design a simple machine for moving a lightweight pretend parcel and label the force/action.**

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

CHALLENGE

# Think deeper

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1. Do simple machines remove the need for work/energy?

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2. What is a lever pivot called?

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3. Why does the “best tool” depend on the task?

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# Quick review

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1. In one sentence, explain the big idea of “Tools & Simple Machines Around Us”.

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

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

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4. Write one question you still have.

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# Answer & discussion notes

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

## 1. Suggested response

No; they can change how force is applied.

## 2. Suggested response

A fulcrum/pivot.

## 3. Suggested response

Tools have different designs and constraints.

## 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

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**I finished this BrightPencil learning pack.**

**One thing I understand better now:**

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**A strategy that helped me:**

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**Something I created or noticed:**

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**My next small question or goal:**

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