

GRADE 5 LEARNING PACK

Technology Systems: Inputs, Processes & Outputs

Model everyday technologies as systems with inputs, processes, outputs, feedback and constraints.

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

Model everyday technologies as systems with inputs, processes, outputs, feedback and constraints.

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 Systems transform inputs through processes into outputs.

2 Feedback can change future system behaviour.

3 A model is useful when it simplifies without hiding the feature being studied.

Talk about it

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

Build a clear model or organiser that shows: Systems transform inputs through processes into outputs.

Use supplied evidence to test this idea: Feedback can change future system behaviour.

Compare two cases and explain where this principle matters: A model is useful when it simplifies without hiding the feature being studied.

Find one weak claim or assumption and revise it so it matches the evidence.

Write a short conclusion that states evidence, limitation and next question.

Try it beyond the page

Real-world / hands-on connection

Choose one safe household technology with an adult and identify visible inputs and outputs without opening it.

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

Create a diagram for a fictional smart greenhouse with sensors, rules, outputs and manual override.

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

CHALLENGE

Think deeper

1. What is feedback in a system?

2. Is a model identical to the real system?

3. Why include constraints?

Quick review

1. In one sentence, explain the big idea of “Technology Systems: Inputs, Processes & Outputs”.

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

Information about output/state used to adjust future action.

2. Suggested response

No.

3. Suggested response

Systems operate within limits such as energy, rules or materials.

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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