

GRADE 5 LEARNING PACK

Deduction Grid: Multi-Step Constraints

Solve and create multi-step logic-grid problems using systematic elimination.

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

Solve and create multi-step logic-grid problems using systematic elimination.

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 Each clue removes possibilities or confirms relationships.

2 A deduction should follow from the clues, not from guessing.

3 A clear grid or table reduces memory load and reveals contradictions.

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: Each clue removes possibilities or confirms relationships.

Use supplied evidence to test this idea: A deduction should follow from the clues, not from guessing.

Compare two cases and explain where this principle matters: A clear grid or table reduces memory load and reveals contradictions.

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

Solve a supplied fictional four-person/four-item grid puzzle.

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 smaller three-by-three grid puzzle and verify it has one solution.

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

Think deeper

1. What makes a deduction valid?

2. Why mark impossible options?

3. What must a puzzle designer verify?

Quick review

1. In one sentence, explain the big idea of “Deduction Grid: Multi-Step Constraints”.

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 follows necessarily from the clues.

2. Suggested response

To reduce possibilities systematically.

3. Suggested response

That the clues are consistent and lead to the intended unique solution.

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:

Print. Learn. Grow.