GRADE 4 LEARNING PACK

Multi-step Number Reasoning

Solve number problems by representing relationships, choosing operations and checking whether the final answer fits the context.

LEARN • PRACTISE • CREATE • REFLECT

Original BrightPencil Kids resource - adult-led where appropriate

A4 edition • 12 purposeful pages • review copy

Print. Learn. Grow.

FOR PARENTS & TEACHERS

Grown-up guide

Learning objective

Solve number problems by representing relationships, choosing operations and checking whether the final answer fits the context.

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.

STUDY

Learn the idea

1 **A multi-step problem contains more than one relationship.**

2 **Diagrams, bar models or tables can reduce working-memory load.**

3 **Estimation can reveal unreasonable answers.**

Talk about it

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

PRACTISE

Guided practice

Challenge 1

Underline quantities and relationships in five word problems.

Challenge 2

Draw a bar model for a two-step comparison.

PRACTISE

Build the skill

Challenge 3

Choose operation order and explain why.

Challenge 4

Estimate before calculating exact values.

PRACTISE

Independent thinking

Challenge 5

Diagnose an answer that is numerically correct but answers the wrong question.

APPLY

Try it beyond the page

Real-world / hands-on connection

Make up a two-step problem from a real but non-private context such as books, craft pieces or game points.

Before you finish

What did you notice?

What evidence, object or example helped you?

What would you change if you tried again?

CREATE

Create something

Your project

Create a four-panel “problem solver” showing represent, plan, calculate, check.

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

CHALLENGE

Think deeper

1. Why estimate first?

2. Can a calculation be correct but the answer still be wrong?

3. What does a representation help show?

REVIEW

Quick review

1. **In one sentence, explain the big idea of “Multi-step Number Reasoning”.**

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.**

FOR GROWN-UPS

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 helps check reasonableness.

2. Suggested response

Yes, if it answers a different question or uses the wrong relationship.

3. Suggested response

The structure/relationships in the problem.

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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