

GRADE 4 LEARNING PACK

Scheduling with Constraints

Build a timetable that satisfies time, order, resource and availability 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

Build a timetable that satisfies time, order, resource and availability 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 Constraints limit possible schedules.

2 Some tasks must happen before others.

3 A feasible schedule satisfies all required constraints, not just most of them.

Talk about it

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

Schedule four activities into five slots with two restrictions.

Add a “must happen before” rule.

Identify an impossible timetable and explain the conflict.

Find two different valid schedules.

Optimise for one preference after satisfying all required constraints.

Try it beyond the page

Real-world / hands-on connection

Plan a fictional 60-minute project session with setup, work, cleanup and reflection constraints.

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 scheduling puzzle with five activities and at least four clues, plus one valid solution.

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

CHALLENGE

Think deeper

1. What is a constraint?

2. Can there be more than one valid schedule?

3. What comes before preferences?

Quick review

1. In one sentence, explain the big idea of “Scheduling with 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

A rule or limit the solution must satisfy.

2. Suggested response

Yes.

3. Suggested response

Required 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

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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