

GRADE 5 LEARNING PACK

Scheduling & Constraint Satisfaction

Build a schedule that satisfies several constraints and justify why no rule is broken.

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 schedule that satisfies several constraints and justify why no rule is broken.

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 allowed placements.

2 Some constraints interact, creating forced choices.

3 A valid solution should be checked against every rule.

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: Constraints limit allowed placements.

Use supplied evidence to test this idea: Some constraints interact, creating forced choices.

Compare two cases and explain where this principle matters: A valid solution should be checked against every rule.

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 fictional club timetable with rooms, times and incompatibilities.

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 mini scheduling puzzle with five constraints and a verified solution.

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

CHALLENGE

Think deeper

1. What is a constraint?

2. Why check every rule after finishing?

3. What is a forced choice?

Quick review

1. In one sentence, explain the big idea of “Scheduling & Constraint Satisfaction”.

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

A schedule can look plausible while breaking one constraint.

3. Suggested response

A placement required because alternatives are eliminated.

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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