

SIX EXPERIENCES / SUGGESTED SIX-WEEK PATHWAY

Skills to use, explain and grow

Compare alternatives using explicit evidence and criteria.

About 50 minutes per experience. Use one experience each week, or split it into shorter sessions. Grade labels are flexible starting points.

Your course map

1. Create a reproducible workspace - page 2
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3. Compare changes using the starting value - page 4
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A useful learning routine

Read the goal and example. Follow the four steps. Try the three questions. Make the project, explain your choices and reflect. Spend roughly half the session making and explaining.

Review levels: with support / independently / applied to a new task. Accept spoken or drawn evidence when it demonstrates the skill. A practice score or self-review is not a certificate.

Print A4 portrait at 100% or Actual size. These are paper workbooks, not fillable forms. Learner questions and teacher answers are in separate documents. Version: 12 October 2026.

EXPERIENCE 1 / DIGITAL CONFIDENCE

Create a reproducible workspace

Organise inputs, outputs and a method another person can follow. | About 50 minutes

Answers and reasons

1. B. A README with inputs and steps

A method note links the source files to the result.

2. C. Preserve original inputs and explain or demonstrate it

Show the actual work or action described by the lesson criterion. An adult or partner can review it.

3. D → C → B → A: Separate → Document → Generate → Repeat

The example follows: Separate → Document → Generate → Repeat. Explain what each step does.

Project evidence

Build a fictional data-project folder plan and README. Have a partner identify inputs, outputs and repeatable steps.

- ☐ Preserve original inputs
- ☐ Explain dependencies and steps
- ☐ Record the repeat attempt

Teaching guidance

A repeatability claim needs an actual repeat attempt or an explicit untested label.

Model one step, invite the learner to try the next, then ask for an explanation. Give feedback on the evidence rather than speed.

Transfer challenge

Add a known limitation to your README.

Review: with support / independently / transfer

EXPERIENCE 2 / CREATE AND COMMUNICATE

Build an evidence-based argument

Connect a claim, evidence, reasoning and limitation. | About 50 minutes

Answers and reasons

1. A. Limits and possible alternative explanations

One trial cannot establish an always claim.

2. B. Make a bounded claim and explain or demonstrate it

Show the actual work or action described by the lesson criterion. An adult or partner can review it.

3. D → C → B → A: Claim → Evidence → Reason → Limit

The example follows: Claim → Evidence → Reason → Limit. Explain what each step does.

Project evidence

Write a short recommendation from the fictional trial. Include an alternative explanation.

- ☐ Make a bounded claim
- ☐ Connect reasoning to evidence
- ☐ Name a limitation

Teaching guidance

Assess the logic rather than agreement with the recommendation.

Model one step, invite the learner to try the next, then ask for an explanation. Give feedback on the evidence rather than speed.

Transfer challenge

Suggest a comparison that would strengthen the argument.

Review: with support / independently / transfer

EXPERIENCE 3 / DATA AND DECISIONS

Compare changes using the starting value

Distinguish absolute change from percentage change. | About 50 minutes

Answers and reasons

1. B. 25

Use the given numbers: the answer is 25. Explain your counting or calculation.

2. A. Use the supplied values accurately and explain or demonstrate it

Show the actual work or action described by the lesson criterion. An adult or partner can review it.

3. D → C → B → A: Read → Represent → Calculate → Interpret

The example follows: Read → Represent → Calculate → Interpret. Explain what each step does.

Project evidence

Show absolute and percentage change for 40 to 50 and for 80 to 90. Explain the difference.

- ☐ Use the supplied values accurately
- ☐ Show a calculation or count with its meaning
- ☐ State a fair comparison or limitation

Teaching guidance

Ask the learner to show intermediate work. Use fictional data; no real pupil records are needed.

Model one step, invite the learner to try the next, then ask for an explanation. Give feedback on the evidence rather than speed.

Transfer challenge

Describe why a percentage increase from a zero starting value is undefined with this formula.

Review: with support / independently / transfer

EXPERIENCE 4 / COMPUTATIONAL THINKING

Test boundaries in a decision

Choose tests on both sides of a threshold. | About 50 minutes

Answers and reasons

1. B. 6

The rule includes 6 because it uses greater than or equal to.

2. C. State validation and decision separately and explain or demonstrate it

Show the actual work or action described by the lesson criterion. An adult or partner can review it.

3. D $\rightarrow$ C $\rightarrow$ B $\rightarrow$ A: Rule $\rightarrow$ Below $\rightarrow$ Boundary $\rightarrow$ Above

The example follows: Rule $\rightarrow$ Below $\rightarrow$ Boundary $\rightarrow$ Above. Explain what each step does.

Project evidence

Write expected outputs for -1, 0, 5, 6, 7, 10 and 11. Separate invalid from valid-but-failing input.

☐ State validation and decision separately

☐ Test exact boundaries

☐ Compare actual and expected behavior

Teaching guidance

Trace before testing. These are learning models and pseudocode, not instructions to run arbitrary downloaded code.

Model one step, invite the learner to try the next, then ask for an explanation. Give feedback on the evidence rather than speed.

Transfer challenge

Find a test that distinguishes $>$ from $\geq$.

Review: with support / independently / transfer

EXPERIENCE 5 / RESPONSIBLE TECHNOLOGY

Distinguish AI help from evidence

Check generated claims against suitable sources. | About 50 minutes

Answers and reasons

1. A. Mark it unverified and seek suitable evidence

A plausible-looking citation is not verification.

2. B. Separate suggestion from evidence and explain or demonstrate it

Show the actual work or action described by the lesson criterion. An adult or partner can review it.

3. D → C → B → A: Claim → Trace → Verify → Disclose

The example follows: Claim → Trace → Verify → Disclose. Explain what each step does.

Project evidence

Audit a fictional AI answer containing one calculation and one invented citation. Document each check.

☐ Separate suggestion from evidence

☐ Verify the source and its relevance

☐ Disclose unverified claims

Teaching guidance

Use supplied fictional responses, avoiding new accounts or personal prompts.

Model one step, invite the learner to try the next, then ask for an explanation. Give feedback on the evidence rather than speed.

Transfer challenge

Describe a task where AI brainstorming could help without being treated as evidence.

Review: with support / independently / transfer

EXPERIENCE 6 / DESIGN AND LIFE SKILLS

Budget for a small pilot

Separate fixed and per-item costs in a model. | About 50 minutes

Answers and reasons

1. C. 50

$$30 + 4 \times 5 = 50.$$

2. A. Separate fixed and variable parts and explain or demonstrate it

Show the actual work or action described by the lesson criterion. An adult or partner can review it.

3. D → C → B → A: Define → Model → Calculate → Challenge

The example follows: Define → Model → Calculate → Challenge. Explain what each step does.

Project evidence

Compare costs for 5 and 10 kits using pretend prices. State two assumptions and a pilot limit.

☐ Separate fixed and variable parts

☐ Calculate from the same model

☐ Disclose omitted factors

Teaching guidance

Use pretend currency; no spending or real financial advice is involved.

Model one step, invite the learner to try the next, then ask for an explanation. Give feedback on the evidence rather than speed.

Transfer challenge

Explain why average cost per kit can change with quantity.

Review: with support / independently / transfer

KEEP THE LEARNING GOING

Explain your next step

Choose one work sample. Explain an improvement you made, the evidence you used and where you could use the skill next.

Support and safe practice

Use fictional examples and approved tools. Ask an adult for help with instructions and classroom materials. No public posting, live AI account, purchase or personal information is needed.

Online companion

<https://www.heliolearn.com/skills/grade-9/>

Use the web pages for controllable animations and automatic exercise feedback. New practice-space notes stay in the browser and do not sync to school accounts. Download notes before changing devices. Help: <https://www.heliolearn.com/skills/help/>

Curriculum context

Original enrichment activities with an editorial grade progression. These are not a complete examination-board syllabus or formally endorsed by the organisations below.

ISTE student standards: broad digital-learning context

<https://iste.org/standards/students>

UNICEF: transferable skills across childhood and adolescence

<https://www.unicef.org/lac/en/transferable-skills-development>

UNESCO: student AI competencies

<https://www.unesco.org/en/articles/ai-competency-framework-students>