

SIX EXPERIENCES / SUGGESTED SIX-WEEK PATHWAY

Skills to use, explain and grow

Test edge cases and explain the limits of your conclusion.

About 45 minutes per experience. Use one experience each week, or split it into shorter sessions. Grade labels are flexible starting points.

Your course map

1. Troubleshoot one variable at a time - page 2
2. Disagree using reasons - page 4
3. Inspect a percentage claim - page 6
4. Accumulate a list total - page 8
5. Minimise data in a form - page 10
6. Choose between competing designs - page 12

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.

Name or classroom nickname: _____ Start date: _____

Learning partner: _____

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

Troubleshoot one variable at a time

Diagnose a simple file problem using a test log. | About 45 minutes

A symptom is what you observe; a cause is an explanation to test. Change one factor and compare results before making the next change.

Worked example: A report opens in one app but not another. Check the file type, try the approved compatible app, and record the result before changing the file.

Follow the steps

1. Observe: Write the exact symptom.
2. Hypothesise: List a possible cause without calling it proven.
3. Test: Try one reversible, approved change.
4. Record: Keep the result and choose the next test.

Try these exercises

1. Why change one factor at a time?

A. It avoids recording results | B. It makes causes easier to identify | C. It guarantees success

Answer: _____

2. Which evidence would best show this skill?

A. Separate symptom from cause and explain or demonstrate it | B. Say it is finished without checking | C. Copy an unrelated answer

Answer: _____

3. Put the worked-example steps in order.

Write the letters in order. A. Record | B. Test | C. Hypothesise | D. Observe

Answer: _____

EXPERIENCE 1 / CREATE, EXPLAIN AND REFLECT

Troubleshoot one variable at a time

Investigate a fictional file-opening problem. Create a symptom, hypothesis, test and result table.

Worked example reference - explain it, then try your own project

STEP 1

Observe

STEP 2

Hypothesise

STEP 3

Test

STEP 4

Record

My notes, drawing or dictated explanation (attach another sheet if needed):

Review your evidence

☐ Separate symptom from cause

☐ Change one factor per test

☐ Record unsuccessful tests honestly

What did I learn, change or need help with?

Next challenge: Use the same method for a formatting problem.

These ticks are a self-review. Ask an adult or partner to review what you can show.

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EXPERIENCE 2 / CREATE AND COMMUNICATE

Disagree using reasons

Compare a proposal fairly and respond to its evidence. | About 45 minutes

Constructive disagreement addresses a claim and reasons, not the person. Restating another view can reveal misunderstandings.

Worked example: One team favours a reading corner; another wants a game shelf. Both compare space, cost and access instead of judging each other.

Follow the steps

1. Listen: Restate the other proposal fairly.
2. Compare: Name shared criteria such as space and access.
3. Reason: Give evidence for your preferred option.
4. Revise: Change your view if stronger evidence appears.

Try these exercises

1. Which response supports a useful discussion?

A. Your idea is silly | B. Let us compare space and access for both options | C. Only my view matters

Answer: _____

2. Which evidence would best show this skill?

A. Say it is finished without checking | B. Copy an unrelated answer | C. Represent the other view fairly and explain or demonstrate it

Answer: _____

3. Put the worked-example steps in order.

Write the letters in order. A. Revise | B. Reason | C. Compare | D. Listen

Answer: _____

EXPERIENCE 2 / CREATE, EXPLAIN AND REFLECT

Disagree using reasons

Hold a role-play discussion about two classroom improvements. Record an agreed criterion and a revised idea.

Worked example reference - explain it, then try your own project

STEP 1

Listen

STEP 2

Compare

STEP 3

Reason

STEP 4

Revise

My notes, drawing or dictated explanation (attach another sheet if needed):

Review your evidence

- ☐ Represent the other view fairly
- ☐ Use relevant evidence
- ☐ Avoid personal attacks

What did I learn, change or need help with?

Next challenge: Find a compromise that meets the shared goal.

These ticks are a self-review. Ask an adult or partner to review what you can show.

EXPERIENCE 3 / DATA AND DECISIONS

Inspect a percentage claim

Check both numerator and denominator. | About 45 minutes

A percentage is a part divided by the whole, multiplied by 100. A large percentage can still come from a small sample.

Worked example: In a fictional trial, 12 of 20 tasks succeeded. Success rate = $12 / 20 \times 100 = 60\%$.

Follow the steps

1. Read: Read the labels and values: Succeeded: 12, Other: 8.
2. Represent: Compare the bars on a scale that starts at zero.
3. Calculate: Work through the calculation in the example; result: 60.
4. Interpret: Explain what the result means and what it does not establish.

Try these exercises

1. What percentage succeeded?

A. 62 | B. 59 | C. 60

Answer: _____

2. Which evidence would best show this skill?

A. Copy an unrelated answer | B. Use the supplied values accurately and explain or demonstrate it | C. Say it is finished without checking

Answer: _____

3. Put the worked-example steps in order.

Write the letters in order. A. Interpret | B. Calculate | C. Represent | D. Read

Answer: _____

EXPERIENCE 3 / CREATE, EXPLAIN AND REFLECT

Inspect a percentage claim

Represent the 12 successes and 8 other outcomes. Write the percentage and sample size together.

Worked example reference - explain it, then try your own project

Succeeded		12
Other		8

Equal scale starts at 0; maximum 15. Fictional values.

My notes, drawing or dictated explanation (attach another sheet if needed):

Review your evidence

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

What did I learn, change or need help with?

Next challenge: Compare 3 of 5 with 12 of 20 without claiming equal certainty.

These ticks are a self-review. Ask an adult or partner to review what you can show.

EXPERIENCE 4 / COMPUTATIONAL THINKING

Accumulate a list total

Trace a loop that updates an accumulator. | About 45 minutes

An accumulator stores a running result. Initialise it before the loop, then update it once per item.

Worked example: Start total = 0. For values 2, 4, 6, add each once: totals 0, 2, 6, 12.

Follow the steps

1. Initialise: total = 0.
2. Item 1: Add 2; total = 2.
3. Item 2: Add 4; total = 6.
4. Item 3: Add 6; total = 12.

Try these exercises

1. What is the final total?

A. 24 | B. 6 | C. 12

Answer: _____

2. Which evidence would best show this skill?

A. Initialise the accumulator and explain or demonstrate it | B. Say it is finished without checking | C. Copy an unrelated answer

Answer: _____

3. Put the worked-example steps in order.

Write the letters in order. A. Item 3 | B. Item 2 | C. Item 1 | D. Initialise

Answer: _____

EXPERIENCE 4 / CREATE, EXPLAIN AND REFLECT

Accumulate a list total

Make a trace table for the list and for an empty list. Explain the initial value.

Worked example reference - explain it, then try your own project

STEP 1
Initialise

STEP 2
Item 1

STEP 3
Item 2

STEP 4
Item 3

My notes, drawing or dictated explanation (attach another sheet if needed):

Review your evidence

- ☐ Initialise the accumulator
- ☐ Update once per item
- ☐ Test an empty input

What did I learn, change or need help with?

Next challenge: Adapt the trace to count only values above 3.

These ticks are a self-review. Ask an adult or partner to review what you can show.

EXPERIENCE 5 / RESPONSIBLE TECHNOLOGY

Minimise data in a form

Collect only information needed for a stated purpose. | About 45 minutes

A form should have a clear purpose. More data is not automatically better; unnecessary personal information creates avoidable exposure.

Worked example: A fictional classroom activity poll needs an activity choice. It does not need a home address or a personal photograph.

Follow the steps

1. Purpose: Choose an activity for the class.
2. Review: Inspect proposed fields: choice, address, photo.
3. Minimise: Keep the choice; remove unnecessary private fields.
4. Explain: State who uses the responses and for how long.

Try these exercises

1. Which field is unnecessary for an anonymous activity vote?

A. Activity choice | B. Home address | C. An optional activity suggestion

Answer: _____

2. Which evidence would best show this skill?

A. Say it is finished without checking | B. Copy an unrelated answer | C. Match fields to purpose and explain or demonstrate it

Answer: _____

3. Put the worked-example steps in order.

Write the letters in order. A. Explain | B. Minimise | C. Review | D. Purpose

Answer: _____

EXPERIENCE 5 / CREATE, EXPLAIN AND REFLECT

Minimise data in a form

Redesign a fictional poll and write a purpose, access and deletion plan. Do not collect real responses.

Worked example reference - explain it, then try your own project

STEP 1

Purpose

STEP 2

Review

STEP 3

Minimise

STEP 4

Explain

My notes, drawing or dictated explanation (attach another sheet if needed):

Review your evidence

- ☐ Match fields to purpose
- ☐ Remove unnecessary personal data
- ☐ Explain access and retention

What did I learn, change or need help with?

Next challenge: Consider whether even optional free text could reveal private details.

These ticks are a self-review. Ask an adult or partner to review what you can show.

EXPERIENCE 6 / DESIGN AND LIFE SKILLS

Choose between competing designs

Compare alternatives against explicit criteria. | About 45 minutes

A design can be strong on one criterion and weak on another. A decision needs reasons and may involve trade-offs.

Worked example: A folded stand is stable but uses more paper. A flat sign uses less paper but needs support. Compare both for the intended use.

Follow the steps

1. List: Choose two plausible designs.
2. Criteria: Agree stability, readability and material use.
3. Compare: Record evidence for each design.
4. Choose: Explain the trade-off and a next test.

Try these exercises

1. What makes the comparison fairer?

A. Applying the same relevant criteria | B. Hiding a weakness | C. Using different rules for each option

Answer: _____

2. Which evidence would best show this skill?

A. Copy an unrelated answer | B. Apply the same criteria and explain or demonstrate it | C. Say it is finished without checking

Answer: _____

3. Put the worked-example steps in order.

Write the letters in order. A. Choose | B. Compare | C. Criteria | D. List

Answer: _____

EXPERIENCE 6 / CREATE, EXPLAIN AND REFLECT

Choose between competing designs

Create a comparison table for two paper sign designs, then choose one for a stated setting.

Worked example reference - explain it, then try your own project

STEP 1

List

STEP 2

Criteria

STEP 3

Compare

STEP 4

Choose

My notes, drawing or dictated explanation (attach another sheet if needed):

Review your evidence

☐ Apply the same criteria

☐ Use observations rather than preference alone

☐ Explain a trade-off

What did I learn, change or need help with?

Next challenge: Change the setting and reconsider the choice.

These ticks are a self-review. Ask an adult or partner to review what you can show.

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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-8/>

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>