

PRACTICE LAB

Fact checking AI

Practice four checks before relying on an AI output: locate the source, compare the quotation, examine the claim, and recalculate the result.

How to use this lab

Allow about 15–20 minutes. Read the supplied evidence and write your decision before turning to the worked answers on pages 3–4. All records, quotations, data, and AI outputs are simulated teaching materials, not real studies.

Exercise 1 A plausible citation

An AI answer claims that a study proves later library hours increase grades. It gives this citation: Chen, M., & Ortiz, L. (2026). Evening library access improves academic achievement. *Journal of Campus Learning*, 9(2), 40–52.

The only original record supplied

Maya Chen (2025). Evening library use: a three-night observation. *Campus Learning Notes*, 4(1), 12–15. Abstract: seat counts were recorded at one library on three evenings. Grades were not measured.

- Which details fail to match the original record?
- Does this original record support the claim about grades?
- What would you do before including the AI citation in your work?

Your decision and reason: _____

Exercise 2 A misleading quotation

Original passage

“Among volunteers, attendance rose during the pilot. We cannot tell whether the workshop caused the increase.”

AI output: The report concluded that “the workshop caused the increase.”

- Compare the quotation with the complete original passage. What meaning was lost?
- Write one accurate sentence that preserves the uncertainty.

Your corrected sentence: _____

Exercise 3 A claim beyond the evidence

Original study summary

Sixty students volunteered for a study-skills workshop. Their mean quiz score was 52 before the workshop and 61 afterward. There was no comparison group, and students were not randomly assigned.

AI output: “The workshop caused a nine-point improvement for all students and will produce the same result in every course.”

- Which part of this statement describes the supplied numbers accurately?
- Which claims about cause, population, and future results are unsupported?
- Write a more defensible conclusion using only the evidence given.

Your conclusion: _____

Exercise 4 Percent or percentage points

Original counts

Before a lesson, 12 of 40 students correctly located an original source. Afterward, 16 of 40 did so. The same group completed both checks. No comparison group was used.

AI output: “Success rose from 30% to 40%, which is a 10% relative increase. The lesson definitely caused the improvement.”

- Recalculate each percentage from its numerator and denominator.
- Find the percentage-point change and the relative percentage increase.
- Explain what the counts do and do not establish about the lesson.

Your calculations and conclusion: _____

Before you read the answers

For each exercise, identify the exact words or numbers that support your decision. Confidence in the AI output is not a substitute for that evidence.

Worked answers for exercises 1 and 2

1 Treat an unverified citation as unverified

The authors, year, title, publication, volume, issue, and pages differ. The supplied original describes library seat counts and does not measure grades. It cannot support the AI claim about academic achievement.

In a real assignment, search the exact title through your library catalog, the claimed publisher, or a scholarly index. Open the original and match its bibliographic details. Check that it addresses the claim and that any identifier resolves to that same work.

A careful decision

“I cannot verify this citation from the supplied evidence, so I will not use it. The record I can inspect concerns seat counts, not grades.”

Do not relabel the supplied record as the AI’s citation or invent missing details. An unsuccessful search alone does not prove that a source does not exist. Ask a librarian or instructor when needed; remove unsupported claims before submission.

2 Preserve the meaning of the whole passage

The AI removed “We cannot tell whether,” converting uncertainty about causation into a confident conclusion. Matching a few words is not enough; the quotation must preserve the source’s meaning.

One accurate revision

“Attendance rose among volunteers during the pilot, but the report states that it cannot determine whether the workshop caused the increase.”

You could also quote the complete second sentence. Keep the population and uncertainty visible. In a real paper, cite the original passage and the location required by your citation style.

The transferable check

Record the original source, exact location, what the AI claimed, what the source actually supports, and your decision to retain, revise, or reject the claim.

Worked answers for exercises 3 and 4

3 Separate an observed change from a cause

The mean increased by $61 - 52 = 9$ points among these volunteers. The summary does not establish that the workshop caused the change. Other influences and repeat testing could matter. A self-selected group in one setting does not establish an effect for every student or course.

One defensible conclusion

“Among 60 volunteers, the mean quiz score rose from 52 to 61 after the workshop. Without a comparison group, this result does not establish that the workshop caused the increase or that other groups would show the same change.”

4 Keep the units straight

Calculation	Result
Before	$12 \div 40 \times 100 = 30\%$
After	$16 \div 40 \times 100 = 40\%$
Percentage-point change	$40\% - 30\% = 10$ percentage points
Relative increase	$(40 - 30) \div 30 \times 100 \approx 33.3\%$

The AI’s starting percentages are correct, but it confuses a percentage-point difference with a relative percentage increase. Four additional students succeeded. The counts show a change; without stronger evidence, they do not establish that the lesson definitely caused it.

Use this check on your own work

- Source: can I locate and inspect the original?
- Meaning: did I preserve the context and uncertainty?
- Scope: am I claiming only what the evidence supports?
- Math: did I check inputs, units, denominator, and rounding?

If a claim still cannot be verified, remove it or narrow it to what you can support. Be ready to explain the check without the AI tool open.