# Check Before You Trust

A 20-minute routine for checking an explanation that an AI tool wrote for the week's competency, from a sample action research in Grade 10 Science. In the sample, 6 sessions over three weeks, twice a week, raised learners' ability to tell correct explanations from wrong ones by 0.69 in $d'$ (invented data). Learners use no AI tool: they judge the teacher's printed copies.

## The five steps

| Step | Time | What learners do |
|---|---|---|
| **1. Read** | 2 min | Read the explanation once, without marking it. |
| **2. Flag** | 3 min | Underline in red any of the four flags below. |
| **3. Triangulate** | 8 min | Compare each claim with two other sources: the reference notes and the lesson's own activity or diagram. Fill the grid: where the sources agree, where they conflict, what the explanation leaves out. |
| **4. Decide and fix** | 4 min | Mark it correct or "has an error". For an error, underline the sentence and write the corrected sentence with the page of the notes that supports it. |
| **5. Debrief** | 3 min | The teacher shows the key. The class names which flags led to an error and which led nowhere. The teacher checks one claim aloud. |

## The four flags

Wording that claims something without showing it. Written in our own words from the content signs on the WikiProject AI Cleanup page "Signs of AI writing" (Wikipedia, revision of February 20, 2026).

| Flag | What it is | Examples |
|---|---|---|
| **Importance** | A claim that something is important, with no fact that shows it | plays a crucial role, is a testament to, underscores the significance of |
| **A tail** | A tail that sounds like analysis but adds no step of cause and effect | ..., highlighting the balance of nature; ..., ensuring stability |
| **An authority** | An authority with no name | scientists agree, studies show, experts say |
| **A general word** | A general word where a specific fact belongs | a substance, an organ, certain conditions, many factors |

**A flag tells you where to check. It does not tell you the answer.**

## What you need

- Two explanations a session, each 80 to 100 words, printed and labeled as written by an AI tool and checked by the teacher (page 4).
- Reference notes for the competencies, one page each, written by the teacher, in which every error can be corrected.
- A checking sheet for each learner (page 2) and a red pen.

The third step follows DepEd's Triangulation pedagogy card for Key Stage 3, in which learners compare three short sources in a grid of what they agree on, where they conflict and what they leave out.

Routine kit from a sample action research with invented data, NASH Reviewer (nash.com.ph/blog/action-research-ai-science).
Free to print and use in your classes.

# Checking sheet

Name: _____ Section: _____ Date: _____ Explanation no.: _____

Paste or copy the explanation here. Read it once. Then underline the flags in red.

### Triangulate: the explanation, the reference notes, and the lesson's activity or diagram

| The sources agree on | The sources conflict on | The explanation leaves out |
|---|---|---|
| | | |

### Decide and fix

☐ Correct ☐ Has an error

The wrong sentence (underline it above). The corrected sentence:

Page of the notes that supports it: _____

Why I decided: ☐ I found it in the notes ☐ The wording made me doubt it ☐ It sounded right (or wrong) to me ☐ I guessed

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# Four sample explanations

Written for this kit in the style of a chatbot's answer, on Term 1 competencies of Grade 10 Science. Two are correct and two have one error; two are in flagged wording and two in plain. In class, use explanations made as page 4 describes, each labeled "Written by an AI tool, then checked and edited by your teacher."

### Explanation 1: Why the ash weighs less than the paper

Scientists agree that burning is a chemical reaction we see every day. When a sheet of paper burns completely, the ash that remains weighs less than the paper did. This is because some of the atoms in the paper are destroyed by the fire. This reaction plays a crucial role in everyday life, highlighting the power of chemical change.

Competency: Explain that chemical equations demonstrate a rearrangement of atoms but the total mass of the system remains the same during a chemical reaction.

### Explanation 2: Why cold food spoils more slowly

Temperature plays a vital role in food preservation, underscoring the importance of chemistry in the kitchen. At a lower temperature, particles move more slowly, so they collide less often and with less energy. Fewer collisions have enough energy to react, so the reactions that spoil food happen more slowly. Studies show that this is why fish kept on ice stays fresh longer than fish left in the sun.

Competency: Explain the factors affecting the rates of chemical reactions as applied in food preservation and materials production, control of fire, pollution, and corrosion.

### Explanation 3: How the body keeps blood glucose steady

Blood glucose is kept within a narrow range by negative feedback. After a meal, blood glucose rises, and the pancreas releases insulin, which helps cells take in glucose and the liver store it as glycogen, so blood glucose falls. When blood glucose falls too low, the pancreas releases more insulin, which raises it again. In both cases the response reverses the change, which is what makes it negative feedback.

Competency: Explain how homeostasis is maintained through various feedback mechanisms, both positive and negative.

### Explanation 4: Exothermic and endothermic reactions

A reaction that releases energy to its surroundings, usually as heat, is exothermic, so the surroundings get warmer. The burning of charcoal is exothermic: it releases heat and light. A reaction that takes in energy from its surroundings is endothermic. Photosynthesis is endothermic, because plants take in energy from sunlight to make glucose.

Competency: Identify that chemical reactions may be exothermic or endothermic.

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# Keys, and making your own set

1. **Explanation 1.** Has an error: sentence 3. Fix: No atoms are destroyed. Most of the paper's atoms leave as carbon dioxide and water vapor, which escape into the air, so the products, gases included, have the same total mass as the paper and the oxygen that reacted. Flags: "Scientists agree" (an authority with no name); "plays a crucial role" (importance with no fact); "highlighting the power of chemical change" (a tail that adds nothing). Note: Conservation of mass: in a chemical reaction atoms are rearranged, not created or destroyed, so the total mass stays the same. The error sits in a plain sentence; the flags around it point elsewhere.
2. **Explanation 2.** Correct. Flags: "plays a vital role" (importance with no fact); "underscoring the importance of chemistry in the kitchen" (a tail that adds nothing); "Studies show" (an authority with no name). Note: Rates of reaction: a lower temperature means fewer and weaker collisions between particles, so a reaction slows. Three flags, and every claim checks out. A flag says where to look, not what you will find.
3. **Explanation 3.** Has an error: sentence 3. Fix: When blood glucose falls too low, the pancreas releases glucagon, which signals the liver to break down glycogen and release glucose, so blood glucose rises. Flags: none. Note: Feedback and homeostasis: insulin lowers blood glucose; glucagon raises it. No flag at all, and still wrong. Plain wording earns no trust either.
4. **Explanation 4.** Correct. Flags: none. Note: Exothermic reactions release energy to the surroundings; endothermic reactions take energy in. Plain and correct. Checking it still takes a look at the notes.

## Making a set of explanations

1. For each competency, ask an AI tool for an explanation for a Grade 10 learner in 80 to 100 words. Keep the prompt and the chat link. Never type a learner's name, work or other personal information into the tool.
2. Check every line against the reference notes and the curriculum. Where the tool already made an error, keep it as that explanation's one error or correct it.
3. Give half the explanations one error, by editing one sentence: a wrong term or value, a cause and effect reversed, mass or atoms created or destroyed, or a rule stretched past where it holds. Every error must be correctable from the notes.
4. Write half in flagged wording, adding two or three flag phrases and leaving the science the same. **Balance the set:** as many flagged correct explanations as flagged wrong ones. In the sample's first cycle, five of the six flagged explanations had an error, and learners learned to reject flagged wording: their false alarms on flagged correct explanations rose. The balanced set of the second cycle did not do this.
5. Label every sheet "Written by an AI tool, then checked and edited by your teacher", and declare the AI use in your lesson plan.

## Telling parents

At the start of the school year, DepEd asks teachers to inform parents of the specific AI tools used in instruction, their risks and the safeguards (DepEd Order No. 003, s. 2026, Sec. VI.2.5). A short notice can say: which tool the teacher uses, and that only the teacher uses it, to prepare materials; that learners do not use it in these lessons; that no learner information is entered into it; and that every explanation is checked by the teacher before learners see it.

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