

Many of the PLT activities in this guide challenge students to make scientific arguments with a writing strategy called Claim–Evidence–Reasoning (or CER).

CER starts with any question about a phenomenon or real-world event. Whether it comes from the teacher or students, a good question should resonate with students’ innate curiosity about how the world works. CER provides a structure for objectively exploring scientific questions through the following elements:

- **Claim**
This is the student’s answer to the question. It is usually just one sentence long and doesn’t include any evidence or explanation.
- **Evidence**
This is the data that supports the student’s claim. It may include a chart or graph and can be quantitative or qualitative, depending on the question. It should only include data that support the student’s claim.
- **Reasoning**
This is supported by the evidence and explains how and why the evidence supports the student’s claim. Where appropriate, it should include an explanation of the underlying concept or method that produced the evidence.

The diagram illustrates the CER (Claim–Evidence–Reasoning) structure. It consists of three boxes arranged in a triangle. The top box is labeled 'CLAIM' and contains the text 'I think' followed by three horizontal lines. The bottom-left box is labeled 'EVIDENCE' and contains three prompts: 'I found', 'My evidence is', and 'My proof is', each followed by horizontal lines. The bottom-right box is labeled 'REASONING' and contains three prompts: 'I know this is true because', 'This happened because', and 'The reason for this is', each followed by horizontal lines. Arrows indicate the relationships: a curved arrow labeled 'supports' points from Evidence to Claim; a curved arrow labeled 'supports' points from Reasoning to Claim; and a straight arrow labeled 'supports' points from Evidence to Reasoning.

To help give students practice in CER, you may use a standardized form such as the example above. For younger students, focus on just the Claim and Evidence portions. Encourage older students to apply scientific principles to their analysis.