**Making a Cogent Scientific Argument**

Adapted from *The Argumentation Toolkit* – Learning Design Group, The Lawrence Hall of Science (UC Berkeley)

Start with a **question** about the natural world

Make a **claim** (a proposed answer to the question)

Show your **reasoning** based on **evidence**.

***Evidence***

*(observations/data used to support the claim)*

***Question about the natural world***

***Claim***

*(the proposed answer to the question)*

**Levels of Scientific Argument**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **LEVEL 1**  Basic components are in place for the argument | **LEVEL 2**  Efforts are made to create a clear, logical, cohesive, and convincing argument | **LEVEL 3**  The argument is clear, focused, logical, cohesive, and convincing |
| **CLAIM**  (an answer to the question) | A claim that addresses the question can be inferred | The claim at least partially answers the question | The claim is clearly stated and answers all aspects of the question |
| **EVIDENCE**  (observations or collected data) | Some kind of evidence is given to try to support the claim | A least some high-quality evidence is included; the claim is partially supported | High-quality evidence is given that completely supports the claim  (and only the relevant evidence is included) |
| **CLARITY OF REASONING**  (connections drawn between the evidence and the claim) | Connections between the evidence and the claim can be inferred | Connections between the evidence and the claim are partially explained | A thorough explanation is made of how or why the evidence provided supports the claim; all or most of the relevant connections are included. |