2-ESS1-1 Earth's Place in the Universe

Students who demonstrate understanding can:

2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly. [Clarification Statement: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.] [Assessment Boundary: Assessment does not include quantitative measurements of timescales.]

The performance expectation above was developed using the following elements from the NRC document A Framework for K–12 Science Education:

**Science and Engineering Practices**

**Constructing Explanations and Designing Solutions**
Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.
- Make observations from several sources to construct an evidence-based account for natural phenomena.

**Disciplinary Core Ideas**

**ESS1.C: The History of Planet Earth**
- Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.

**Crosscutting Concepts**

**Stability and Change**
- Things may change slowly or rapidly.

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**Observable features of the student performance by the end of the grade:**

1. **Articulating the explanation of phenomena**
   - a. Students articulate a statement that relates the given phenomenon to a scientific idea, including that Earth events can occur very quickly or very slowly.
   - b. Students use evidence and reasoning to construct an evidence-based account of the phenomenon.

2. **Evidence**
   - a. Students describe* the evidence from observations (firsthand or from media; e.g., books, videos, pictures, historical photos), including:
     - i. That some Earth events occur quickly (e.g., the occurrence of flood, severe storm, volcanic eruption, earthquake, landslides, erosion of soil).
     - ii. That some Earth events occur slowly.
     - iii. Some results of Earth events that occur quickly.
     - iv. Some results of Earth events that occur very slowly (e.g., erosion of rocks, weathering of rocks).
     - v. The relative amount of time it takes for the given Earth events to occur (e.g., slowly, quickly, hours, days, years).
   - b. Students make observations using at least three sources

3. **Reasoning**
   - a. Students use reasoning to logically connect the evidence to construct an evidence-based account. Students describe* their reasoning, including:
     - i. In some cases, Earth events and the resulting changes can be directly observed; therefore those events must occur rapidly.
     - ii. In other cases, the resulting changes of Earth events can be observed only after long periods of time; therefore these Earth events occur slowly, and change happens over a time period that is much longer than one can observe.