

Reading: Relevant-Supporting Evidence
Earthquake 2

Mr. Sanchez asks his students to write an argument answering the following question: **What is related to the strength of earthquakes?**

Sarah used the data table below to write her argument:

Location of Earthquake	Wind Speed when Earthquake started	Strength at Earth's surface (MMI Scale: 0 to 12)	Time Shaking Lasted
Port-au-Prince	7 mph	9	Long
Loma Prieta	3 mph	8	Medium
Ceyhan	12 mph	8	Medium
Seguenay	2 mph	7	Short
Coalinga	9 mph	6	Short

Sarah's Argument:

(S1) = Sentence 1, (S2) = Sentence 2, (S3) = Sentence 3

(S1) Earthquakes that shake the Earth's surface for a short time tend to be weaker. (S2) The Coalinga Earthquake lasted a short amount of time and had a strength of 6 at the Earth's surface, and the Port-au-Prince Earthquake lasted a long amount of time and had a strength of 9. (S3) The Port-au-Prince Earthquake was stronger and the shaking lasted longer because a longer section of the fault slipped, and the slipping of the fault is what causes the Earth to shake.

Q1. Sarah is thinking of adding more evidence to her argument. Which piece of evidence best supports her claim?

- The 2004 Sumatra Earthquake lasted about 500 seconds and is thought to be the longest lasting earthquake ever recorded in history.
- The 1906 San Francisco Earthquake had a strength of 8 at the Earth's surface and caused many fires.
- The 1971 San Fernando Earthquake shook the ground for a short amount of time and had a strength of 11 at the Earth's surface.
- The 1920 Haiyuan Earthquake had a strength of 12 at the Earth's surface and lasted a long time.

Q2. Sarah claims that earthquakes that shake the Earth's surface for a short time tend to be weaker. She wants to add the following piece of evidence:

The largest recorded earthquake in the United States was in Alaska in 1964 and had a strength of 11 at the Earth's surface.

Should Sarah use this piece of evidence in her argument?

- No because it does not support Sarah's claim.
- No because it supports the opposite of Sarah's claim.
- Yes because it supports a different claim than Sarah's.
- Yes because it supports Sarah's claim.

Teddy is also in Mr. Sanchez's class. Mr. Sanchez asked Sarah and Teddy to compare arguments to see who used stronger evidence.

Sarah's Argument:

Earthquakes that shake the Earth's surface for a short time tend to be weaker. The Coalinga Earthquake lasted a short amount of time and had a strength of 6 at the Earth's surface, and the Port-au-Prince Earthquake lasted a long amount of time and had a strength of 9. The Port-au-Prince Earthquake was stronger and the shaking lasted longer because a longer section of the fault slipped, and the slipping of the fault is what causes the Earth to shake.

Teddy's Argument:

Earthquakes that shake the Earth's surface for a short time tend to be weaker. The 1989 Newcastle Earthquake shook the Earth's surface for a short amount of time and had a strength of 8 at the Earth's surface. This shows how an earthquake that shook the Earth's surface for a short amount of time was really strong because even a short amount of shaking could have caused a longer section of the fault to slip, and the slipping of the fault is what causes the Earth to shake.

Q3. Which student, Sarah or Teddy, better supports his or her argument? Why?
Please write your answer in the box below.
