5th Grade Informative Writing Prompt

PROMPT

Did you know that scientists can aid in predicting natural disasters? Read the articles. Compare and contrast how scientists may be helpful in predicting volcanoes and earthquakes. Your essay must be based on ideas and information from the passage set.

TARGETED STANDARDS CONNECTION

Content Standards

Science Standard 5.2.2d: Cite examples of how technology is used to predict volcanoes and earthquakes.

Writing Standards
W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

- W.5.2.a Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- W.5.2.b Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- W.5.2.c Link ideas within and across categories of information using words, phrases, and clauses (e.g., i*n contrast, especially*).
- W.5.2.d Use precise language and domain-specific vocabulary to inform about or explain the topic.
- W.5.2.e Provide a concluding statement or section related to the information or explanation presented.

W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

For those typing their responses: **W.5.6** With some guidance and support from adults, Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single setting.

LEARNING EXPERIENCE

Materials:
"Can We Predict Earthquakes?" *Planet-Science.com.* Tinopolis Interactive. Web. 23 Feb. 2016.
URL http://www.planet-science.com/categories/over-11s/natural-world/2011/03/can-we-predict-earthquakes.aspx

Cochran, Molly. "Can Ants Predict When an Earthquake Will Strike?" *AccuWeather.com.* AccuWeather, Inc. 16 April, 2013. Web. 23 Feb. 2016.
URL http://www.accuweather.com/en/weather-news/can-ants-predict-when-an-earth/10211815

"Can We Predict When a Volcano is going to Erupt?" *CBBC.co.uk.* BBC. 22 June 2011. Web. 23 Feb. 2016.
URL http://www.bbc.co.uk/newsround/13880748

Instructional Sequence:

1. Teacher hands out the typed up prompt and text.
2. The teacher introduces the writing prompt, and explains that students will be reading/listening to three texts, and using those texts to answer the prompt.
3. The teacher reads aloud "Can We Predict Earthquakes?," "Can Ants Predict When an Earthquake Will Strike?," and "Can We Predict When a Volcano is going to Erupt?," to the students. As the teacher reads, students may be underlining or highlighting information that they may find useful for responding to the prompt.
4. Upon finishing the read aloud, students will be provided with paper to respond to the prompt.

Did you know that scientists can aid in predicting natural disasters? Read the articles. Compare and contrast how scientists may be helpful in predicting volcanoes and earthquakes. Your essay must be based on ideas and information from the passage set.

Can We Predict Earthquakes?
www.Planet-Science.com

Can we predict earthquakes?
Seismologists are working on it.

In 2011 a large earthquake rocked Japan

At magnitude 9.0 on the Richter scale it is the largest earthquake Japan has ever suffered. The earthquake triggered a tsunami which caused huge devastation on the northeast coast of Japan.

Thankfully, earthquakes of such huge magnitude are incredibly rare. However, predicting earthquakes accurately would save many lives.

Can we predict earthquakes?

Scientists have tried lots of different ways of predicting earthquakes, but none have been successful. They have a pretty good idea of **where** an earthquake is most likely to hit, but they still can't tell exactly **when** it will happen.

However, the **probability** of a future earthquake can be calculated, based on scientific data. Scientists at the US Geological Society (USGS) estimate that the probability of a major earthquake occurring in the San Francisco Bay area over the next 30 years is 67%.

It's good to know if earthquakes are probable, so that residents can prepare. It would be better to predict **exactly** when earthquakes will occur.

Why can't we predict earthquakes?

So far, scientists haven't been able to find a signal for earthquakes - there is no obvious sign to say that an earthquake is coming very soon. Vibrations can be detected just before an earthquake occurs, but this doesn't give enough time for people to escape.

The processes that cause earthquakes mostly occur far below the Earth's surface. There are many tectonic plates - sections of the Earth's crust that rub together and cause earthquakes - and their interactions are complex. This makes earthquakes very hard to study.

Will we ever be able to predict earthquakes?

Scientists at USGS and other organizations are working hard to developing methods which will predict earthquakes. Hopefully, scientists will eventually find a way to predict earthquakes precisely, which will save many lives

Source Citation (MLA 7th Edition)
"Can We Predict Earthquakes?" *Planet-Science.com.* Tinopolis Interactive. Web. 23 Feb. 2016.

Can Ants Predict When an Earthquake Will Strike?

A new study done by the University Duisburg-Essen in Germany suggests that red wood ants can sense when an earthquake is about to strike.

The study done by Gabriele Berberich from the university in Germany found that the behavior of ants changes in preparation of an earthquake and doesn't go back to normal until a day or two after the quake.

Findings from the study suggested that ants can either detect the change in the electromagnetic field or the change in gas emissions due to particular cells that the red wood ants have.

The study also found that ants build their colonies along major fault lines. After Berberich and her colleagues followed the ants for three years, from 2009 to 2012, they learned that the ants only react in preparation for earthquakes of magnitudes of 2.0 or greater.

In the hours before an earthquake the ants muddled around the outside of their mound instead of going about their normal activities, which include going out during the day and coming back in at night.

Source Citation (MLA 7th Edition)
"Can Ants Predict When an Earthquake Will Strike?" *AccuWeather.com.* AccuWeather, Inc. 16 April, 2013. Web. 23 Feb. 2016.

Can We Predict When a Volcano is going to Erupt?

Yes and no.

Scientists who specialize in volcanoes are called volcanologists. They are growing more and more confident at predicting when volcanoes will erupt in the short-term.

If a volcano was going to erupt in one hour they'd have a good idea it was going to happen. If it was going to blow in a week they'd be less sure, and in six months even less so.

The further a volcano is from erupting, the harder it is to predict. Working out if a volcano will erupt in future years is still impossible.

Volcanologists combine several techniques to predict what will happen.

They use monitors to detect movement in the rocks that make up the volcano and in the earth's crust. They also measure the gases that come out of the volcanic mountains, and even the angle of the slopes.

If an eruption is likely to happen very soon the behavior of animals in the area can be a clue.

Animals often seem to be able to 'detect' when an eruption is coming, and they become agitated and worried.

And volcanologists are always trying to find new ways to detect eruptions. Some are now using satellites to try to understand how and when they may blow.

Source Citation (MLA 7th Edition)
"Can We Predict When a Volcano is going to Erupt?" *CBBC.co.uk*. BBC. 22 June 2011. Web. 23 Feb. 2016.