My NASA Data - Interactive Models

Volcanic Eruptions StoryMap

Grade Band

- 6-8
- 9-12

Time

- 50 minutes

Directions

1. Using an internet accessible device, students open the link to the Volcanic Eruptions StoryMap Lesson to begin their exploration of this phenomenon.
2. Distribute the Volcanic Eruptions StoryMap Student Sheet. Have students navigate on their own through the Engage, Explore, Explain, Elaborate, and Evaluate tabs of the StoryMap to answer the questions and complete the activities on their student sheet.

Teacher Note

A volcano is an opening on the surface of Earth that allows material warmer than its surroundings to escape from its interior. When this material escapes, it causes an eruption. An eruption can be explosive, sending material high into the sky, or it can be calmer, with gentle flows of material. Volcanoes can be active, dormant, or extinct. Active volcanoes are volcanoes that have had recent eruptions or are expected to have eruptions in the near future. Dormant volcanoes no longer produce eruptions, but might again sometime in the future. Extinct volcanoes will likely never erupt again. Volcanoes occur when material significantly warmer than its surroundings is erupted onto the surface of a planet or moon from its interior. On Earth, the erupted material can be liquid rock ("lava" when it's on the surface, "magma" when it's underground), ash, cinders, and/or gas.

To learn more, visit:

- The Volcanic Eruptions Phenomena page for background information

Teachers who are interested in receiving the answer key, please complete the Teacher Key Request

and Verification Form. We verify that requestors are teachers prior to sending access to the answer keys as we've had many students try to pass as teachers to gain access.

NGSS Three Dimensional Learning

NGSS Disciplinary Core Ideas

- ESS2A: Earth Materials and Systems
- ESS3B: Natural Hazards

Crosscutting Concepts

- Patterns
- Systems and System Models
- Stability and Change

Science and Engineering Practices

- Developing and Using Models
- Analyzing and Interpreting Data

Learning Objectives

- Students will analyze maps and time series data to understand changes from volcanic eruptions.
- Students will construct data-based explanations and conclusions.
- Students will compare multiple variables as they analyze aerosol data from volcanoes.
- Students will consider the impact of volcanoes on the human ecosystem.

Essential Questions

1. How do volcanoes influence changes in the atmosphere?
2. How do aerosols and ash produced from volcanoes influence the human ecosystem?
3. How are volcanoes formed?

Document Resources

- Student Sheets

Google Docs Interactive Files

Student Sheets (All E's)