

VOLCANOLOGY AND GEOLOGY WITH PROFESSOR STEVE SELF

TALKING POINTS

1. How much of the Earth's surface is of volcanic origin? (See *Introduction to the article*)
2. Approximately how much lava did the flood-basalt eruption in the Columbia River Basalt Group produce? (See *Introduction to the article*)
3. It was once thought that super-eruptions occurred every 100,000 years or so, but a recent study put the likelihood at something more frequent. What was the revised figure? (See *When did the last super-eruption occur?*)
4. How many known super-volcanoes are on Earth? (See 'Box out' about Toba and Yellowstone)
5. As far as we know, when did the last super-eruption occur? (See *When did the last super-eruption occur?*)
6. Which ancient super-volcano did some scientists believe caused a severe ice age? (See 'Box out' about Toba and Yellowstone)
7. What is the work of a volcanologist studying super-eruptions ultimately centred on? (See *How do you study super-eruptions?*)

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

- The USGS Volcano Hazards Program is a tremendous resource for those interested in volcanoes. It monitors and studies active and potentially active volcanoes. You can pore over the entire website at your leisure, but take a look at the page dedicated to Yellowstone. It really does help to show how large this super-volcano is.

<https://volcanoes.usgs.gov/index.html>

- The Geological Society has a mass of resources for those wanting to learn about geology and volcanology. This web page is dedicated to flood basalts, mantle plumes and mass extinctions:

https://www.geolsoc.org.uk/flood_basalts_1

Steve actually helped write this page, so you can certainly trust what you read! Also check out: <https://www.geolsoc.org.uk/SuperEruptions>

- The Volcano Island game positions you as the major of a volcano island. It's your job to decide when you think the volcano is going to erupt and when people should evacuate.

https://www.cfa.harvard.edu/earthscope/volcano_island/

- Iceland is home to many volcanoes. This website from the University of Iceland's Institute of Earth Sciences catalogues all of them and allows you to explore them in detail: <http://futurevolc.vedur.is/>

BE A VOLCANOLOGIST AND MONITOR TAAL VOLCANO

On Sunday 12 January 2020, Taal volcano in the Philippines emitted a giant plume of ash. By Monday, in the early hours, lava began to seep out and 8,000 people were evacuated from their homes. Scientists say Taal could trigger a volcanic explosion of 7 on the Volcanic Explosivity Index, which is very close to being a super-eruption. Listen to the BBC's Science in Action podcast, which explains why Taal produces so much ash and lightning: <https://www.bbc.co.uk/programmes/w3csym2z>

You can also monitor Taal's daily activity by checking out Volcano Discovery: <https://www.volcanodiscovery.com/taal/news.html>