GEOLOGY WITH DR MICHAEL EDDY

TALKING POINTS

KNOWLEDGE:
1. Where did the most powerful volcanic eruption so far recorded in the 21st century occur?
2. What makes rhyolite magma so viscous?

COMPREHENSION:
3. What is the difference between substances with high and low viscosity? Give an example of each.
4. What is the difference between magma and lava?

APPLICATION:
5. What measures could be put in place if a volcanic eruption was predicted to be imminent?
6. If you were studying a fossilised magma chamber, how would you determine whether crystal settling or compaction had occurred?

ANALYSIS:
7. Why do you think Michael and his team are repeating their study in a different area?
8. What are some of the challenges that come with studying fossilised magma chambers?

SYNTHESIS:
9. What other tools or techniques do you think geologists might have for predicting volcanic eruptions?
10. Geology can help us predict volcanic eruptions. What other practical applications does geology have?

EVALUATION:
10. If a volcano is predicted to erupt, countermeasures can be put in place to try and protect nearby people and infrastructure. How effective do you think these measures can be? Can you think of any problems that might make these measures less effective? How might these problems be overcome?

ACTIVITIES

VOLCANO CULTURES

Throughout history, humans have been fascinated by the power of volcanoes; there are countless myths and legends about them from cultures all over the world.

Research these stories and consider how volcanoes have influenced people's lives and perspectives.

You can choose a myth from the examples below or research your own:
- The legend of Mount Bromo
- Enceladus' burial under Mount Etna
- Heracles and Mount Vesuvius
- Pele, the goddess of Hawaiian volcanoes

EXPLORING DIFFERENT TYPES OF VOLCANIC ERUPTION

There are generally considered to be five types of magmatic eruption. Research each type and complete the table below.

MORE RESOURCES

- Explore Michael's research in more detail here: **www.michaelpeddy.com/magma-chambers**
- The United States Geological Survey provides a great range of educational resources: **www.usgs.gov/educational-resources/natural-hazards-education**
- Explore the British Geological Survey's website to learn more about volcanoes and the practical applications of geology: **www.bgs.ac.uk/geology-projects/volcanoes**
- The British Geological Survey also has lots of practical resources and activities that you can explore: **www.bgs.ac.uk/discovering-geology/maps-and-resources**

TYPE OF ERUPTION	VOLCANIC EXPLOSIVITY INDEX RANKING	PLUME HEIGHT (KM)	FREQUENCY	VISCOSITY OF LAVA	EXAMPLE
HAWAIIAN					
STROMBOLIAN					
VULCANIAN					
PELEAN					
PLINIAN					