

Enquiry Question Can we stop a volcano from erupting?

Prior Learning Knowledge	Prior Learning Skills	Prior Knowledge Vocabulary	Reading Links	
<p>Year 1/2- continents and oceans (location) Year 3- Tectonic plates and mountain formation (The Alps, Scafell Pike)</p>	<ul style="list-style-type: none"> ▪ Recognise that contours show height and slope. ▪ Use a wider range of maps (including digital), atlases and globes to locate countries and features studied. ▪ Describe and understand key aspects of: physical geography, including: rivers, mountains human geography, including: economic activity ▪ Express opinions and personal views about what they like and don't like about specific geographical features and situations e.g. a proposed local wind farm. ▪ Use the eight points of a compass. ▪ Make comparisons with their own lives and their own situation. ▪ Show increasing empathy and describe similarities as well as differences. ▪ Make use of geography in the news – online reports & websites. ▪ 4 figure grid references 	<p>Mountain contours tectonic plates</p>	<p>Escape from Pompei By Christina Balit Can you stop a volcano from erupting? (Non Fiction)</p>	
<p>Year 4 Essential knowledge end point (substantive)</p>	<p>Year 4 Disciplinary Knowledge: (Working, Talking, Writing like a Geographer)</p>	<p>Equality Diversity & Justice</p>	<p>Vocabulary</p>	<p>Writing opportunities</p>
<p>Describe and understand key aspects of physical geography including volcanoes. Types of volcano- shield, composite and cinder cone. Locate and name some volcanoes across the world. Mount Vesuvius and a volcano recently erupted. Know the meaning of active, dormant and extinct volcanoes. What a volcano is and areas where volcanoes are more likely (why). Ring of Fire. The impact of volcanoes (positive and negative). Read Escape from Pompei to introduce the impact.</p>	<ul style="list-style-type: none"> ▪ Identify the position Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn (Ring of Fire) ▪ Use a wider range of maps (including digital), atlases and globes to locate countries and features studied. ▪ Use maps at more than one scale. ▪ Recognise that larger scale maps cover less area. ▪ Use the index and contents page of atlases. ▪ Ask more searching questions including, 'how?' and, 'why?' as well as, 'where?' and 'what?' when investigating places and processes ▪ Identify and describe geographical features, Use geographical language relating to the physical and human processes detailed in the PoS e.g. vent when describing how magma escapes from a volcano ▪ Express opinions and personal views about what they like and don't like about specific geographical features and situations ▪ Use the zoom facility on digital maps to locate places at different scales. 		<p>Ring of Fire, Tropic of Cancer and Capricorn, volcano, eruption, crater, magma, lava, active, dormant, extinct, tsunami, shield, composite, cinder cone, monitoring, evacuation,</p>	<p>Generating questions Short explanation of how volcanoes are formed or what happens in an eruption</p>

Enquiry question: Can we stop a volcano from erupting?

<p>Learning objective</p>	<p>Essential knowledge end point and Disciplinary Knowledge: (Working, Talking, Writing like a Geographer)</p>	<p>Activities</p>
----------------------------------	---	--------------------------

<p>Lesson 1- To explore how volcanoes are formed and identify the main parts of a volcano</p>	<p>Essential knowledge end point (substantive): What a volcano is and how it is formed</p> <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):</p> <ul style="list-style-type: none"> • Ask more searching questions: <i>how, why, where, what.</i> • Identify and describe geographical features. • Use geographical language (e.g. magma, vent, crater). <p>Dramatic Volcanic Eruption in Stunning High-Quality Nature RAW Footage ICELAND VOLCANO REAL SOUND! CLOSE APPROACH NEAR THE CRATER EDGE IN FULL ERUPTION MODE! Aug 18, 2021 🔥 Massive Volcano Eruption Caught on Camera 🌋 jwalamukhi#volcano #eruption #nature #dangerous#shorts</p>	<p>Starter- Meta minutes Begin by recapping and revisiting mountain formation and tectonic plates (use specific meta minutes for this) Volcano Curiosity Questions Activity: Think, Pair, Share</p> <ul style="list-style-type: none"> • Show a dramatic image or short video of a volcanic eruption. • Ask pupils to generate questions using “how?”, “why?”, “where?”, and “what?”. <ul style="list-style-type: none"> ◦ E.g. <i>Why does lava come out? How does a volcano form? Where do volcanoes happen?</i> • Record questions on the board to revisit later. <p>Volcano Anatomy Task: Pupils label a diagram of a volcano with key parts:</p> <ul style="list-style-type: none"> • Magma chamber • Main vent • Crater • Lava flow • Ash cloud • Secondary vents <p>Discussion: Use geographical language to describe how magma escapes through the vent and forms lava.</p>
<p>Lesson 2- To know where volcanoes are found</p>	<p>Essential knowledge end point (substantive): Locate and name some volcanoes across the world. Know where the Ring of Fire is.</p> <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):</p> <ul style="list-style-type: none"> ▪ Identify the position Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn (Ring of Fire) ▪ Use a wider range of maps (including digital), atlases and globes to locate countries and features studied. ▪ Use 4 figure grid references 	<p>Starter- meta minutes Tectonic plates jigsaw? Show a short video or image slideshow of famous volcanoes erupting. Ask: “<i>What do you notice?</i>” and “<i>Where do you think volcanoes are found?</i>” Introduce the idea that volcanoes are found in certain parts of the world.</p> <p>Volcano Mapping</p> <ul style="list-style-type: none"> • Pupils use Google Earth to locate volcanoes and mark them on a blank world map. They can search on google earth then zoom out to help locate the country it is in. • Introduce the Ring of Fire using a globe or digital map. Mention lines of latitude and longitude, the equator and tropics. • Discuss patterns: “<i>Why are so many volcanoes near the edge of the Pacific Ocean?</i>” <p><i>Ring of Fire grid reference challenge- use the worksheet in folder as a starting point to develop for class.</i> <i>Recap 4 figure grid references.</i> <i>Get children to find and point to a few 4 figure grid reference squares to check understanding.</i> <i>Children to find the volcano located in the grid references given. Deeper learning- give 4 figure grid references for other volcanoes on the map.</i></p> <ul style="list-style-type: none"> • Play a quick quiz: “Guess the volcano” using clues like hemisphere, continent, near the equator, tropics etc. • Ask: “<i>Why do you think volcanoes are found in these places?</i>”

Lesson 3- To explore the 3 main types of volcanoes

Essential knowledge end point (substantive):

Describe and understand key aspects of physical geography including volcanoes. Types of volcano- shield, composite and cinder cone.

Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):

- Ask more searching questions including, 'how?' and, 'why?' as well as, 'where?' and 'what?' when investigating places and processes
- Identify and describe geographical features, Use geographical language relating to the physical and human processes detailed in the PoS e.g. vent when describing how magma escapes from a volcano
- Describe and understand key aspects of: **physical** geography, including: rivers, mountains **human** geography, including: economic activity

Starter- meta minutes

- Show three different volcano shapes on the board (shield, composite, cinder cone).
- Ask: "What do you notice about their shapes?"
- Introduce the idea that volcanoes come in different types based on their shape and how they erupt.

Introduce each volcano type with a short description and image:

Shield: wide and gently sloping (e.g. Mauna Loa)

Composite: tall and steep with layers (e.g. Mount St. Helens)

Cinder Cone: small and cone-shaped (e.g. Parícutin)

Discuss how each type erupts differently (e.g. runny lava vs explosive ash)

Pupils work in pairs or small groups to **sort volcano fact cards** into the three types.

Each card includes a photo, name, and short description.

Pupils write the volcanoes in Venn diagram showing the types.

Pupils choose one volcano type and create a **mini fact file:**

Name of type

Description of shape

Example volcano

Type of eruption

Draw a picture of the volcano

(photocopy one of each for WW and floorbook- children can have their copy in their book).

Recap the three types of volcanoes.

Ask: "Why do you think some volcanoes erupt gently and others explode?"

Use a simple diagram to show how **lava thickness** affects eruption style.

Quick quiz: "Which volcano type am I?" using clues.

Lesson 4- Active, Dormant or extinct?

Essential knowledge end point (substantive):

Describe and understand key aspects of physical geography including volcanoes.

Know the meaning of active, dormant and extinct volcanoes.

Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):

- Use maps at more than one scale.
- Use the zoom facility on digital maps to locate places at different scales.
- Ask more searching questions including, 'how?' and, 'why?' as well as, 'where?' and 'what?' when investigating places and processes

Starter- meta minutes

Show three volcanoes on the board: one active (e.g. Mount Etna), one dormant (e.g. Mount Kilimanjaro), one extinct (e.g. Edinburgh's Arthur's Seat).

Ask: "What do you think these words mean: active, dormant, extinct?"

Use simple definitions:

Active: can erupt now or soon

Dormant: sleeping, might erupt again

Extinct: won't erupt again

Volcano Status Sorting

Pupils work in pairs with volcano cards showing name, photo, and short description.

They **sort the cards** into three groups: active, dormant, extinct.

Pupils explain their choices using clues from the cards (e.g. "last erupted in 2021" = active).

Map Investigation

Use **Google Earth** or a digital map tool to **locate volcanoes** from each category.

Pupils zoom in to see the volcano's shape and surroundings.

Discuss: "Where are most active volcanoes found?" (Link to Ring of Fire if appropriate)

		<p>Risk Discussion</p> <p>Ask: “Which type of volcano is most dangerous?” Pupils discuss in small groups and share ideas. Use ABC cards to help discussion. Use examples to explain: Active volcanoes can erupt and affect people. Dormant volcanoes are unpredictable. Extinct volcanoes are safe but still interesting.</p> <p>Finish with a definition matching task.</p>
<p>Lesson 5- Pompeii vs Iceland- What happens when volcanoes erupt?</p>	<p>Essential knowledge end point (substantive): Locate and name some volcanoes across the world. Mount Vesuvius and a volcano recently erupted. To know the impact volcanoes can have.</p> <p>Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):</p> <ul style="list-style-type: none"> ▪ Express opinions and personal views about what they like and don't like about specific geographical features and situations ▪ Compare human responses (Then and now) ▪ Identify and describe geographical features, Use geographical language relating to the physical and human processes detailed in the PoS e.g. vent when describing how magma escapes from a volcano 	<p>Starter- meta minutes Show dramatic images (Slide 18, 19 and 20 of ppt) of Mount Vesuvius erupting and Pompeii buried in ash. Ask: “What do you think happened to the people of Pompeii?” Introduce the idea that people didn't know the volcano would erupt — no warnings or science to help.</p> <p>Activity 1: Story of Two Eruptions</p> <ul style="list-style-type: none"> • Read Escape from Pompeii in AD 79. • Then show images or clips of Fagradalsfjall erupting in Iceland in 2021. https://www.youtube.com/watch?v=0HBc_fmfpBI https://www.youtube.com/watch?v=EQcO3WdEkwl • Discuss key differences: <ul style="list-style-type: none"> ○ Pompeii: sudden, no warning, people buried. ○ Iceland: scientists monitored, people evacuated, tourists visited safely. <p>Activity 2: Comparison Chart or Timeline</p> <ul style="list-style-type: none"> • Pupils complete a comparison chart showing: <ul style="list-style-type: none"> ○ What happened? ○ How did people respond? ○ What tools or knowledge helped? • Alternatively, pupils create a timeline showing events before, during, and after each eruption. <p>Activity 3: Discussion & Role Play?</p> <p><i>Pupils work in small groups to discuss:</i></p> <ul style="list-style-type: none"> ○ “Why were people safer in Iceland?” ○ “What would you do if a volcano erupted near you?” <ul style="list-style-type: none"> • Recap key differences between Pompeii and Iceland. • Ask pupils to share one thing they learned about how people respond to volcanoes. • Final question: “How has science helped us stay safe from volcanoes today?”

Lesson 6- Can you stop a volcano from erupting?

Essential knowledge end point (substantive):

You cannot stop a volcano from erupting.

We can predict the likelihood of a volcano erupting based on its status.

We can prepare and plan for responses to eruptions.

Disciplinary Knowledge: (Working, Talking, Writing like a Geographer):

- Ask more searching questions including, 'how?' and, 'why?' as well as, 'where?' and 'what?' when investigating places and processes
- Express opinions and personal views about what they like and don't like about specific geographical features and situations

Starter: meta minutes.

Revisit the Question: "Can you stop a volcano from erupting?"

- Pupils write thoughts on sticky notes.
- Brief discussion: What do they think? Why?
- Make notes on WW (This will help for reference later)

Pupils mind map in groups using information from WW: "If we can't stop eruptions, what can we do?"

Independent Writing Task (20-30 mins)

Pupils write a short explanation in the form of a poster or presentation:

- Their answer to "can you stop a volcano from erupting?"
- Why eruptions happen.
- How humans prepare and reduce impact.

Class Volcano Discussion: Groups share ideas and vote on the most effective preparation strategies.