
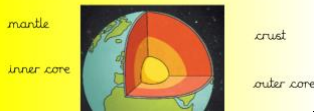




Big Idea: Why do earthquakes happen, and volcanoes erupt?

Experience; BSG- Volcanoes and earthquakes workshop.

Enquiry question and BGS	Retrieval activity	Teacher Input (direct teaching)	Activities (modelling and scaffolding)	Key Vocabulary	Evidence in books and resources	Geographical Lens (second order concepts)
<p>Session 1:</p> <p>What is happening when the earth shakes?</p>	<p>Cold task (see column to the right)</p> <p>What are the names of continents?</p>	<p>Children complete AFW assessment for writing task- picture of volcano- What is this? what is happening?</p>  <p>Show slides on layers of earth. Recap, echo read and reinforce. model and then children complete 1st activity. Then bring children back for second part of the lesson to teach</p>	<p>Pre-application activity: Pre-application: Name the parts and their function.</p>  <p>Application activity: 1st activity: Children to label parts of the Earth's layers. For children that are ARE/GD to then write about each layer. Children working below ARE to label layers.</p> <p>2nd Activity: Children not working at ARE to cut and stick plate names on map and to then complete sentences by</p>	<p>Tectonic plates, earthquake, volcano, layers of the Earth, mantle, crust, inner core, outer core, African plate, Antarctic plate, Eurasian plate, Indo-Australian plate, North American plate, Pacific plate, South American plate.</p>	<ul style="list-style-type: none"> Labelled diagram of Earth's layers and some children will write about these layers. Labelled map of tectonic plates. Written/cut and stick sentences of how plates move and what happens when they do. <p>Resources: Slides, blank copy of earth and layers with key words, definition of layers sheet, blank map of tectonic plates and key plate names. (youtube</p>	<p>Physical Environment</p> <p>Questions about the physical features of locations (including climate and other processes). Comparisons to the physical features in other locations.</p> <p>Map Skills</p> <p>Geographers use a range of maps to investigate and engage with the location, physical environment and human elements of a place. They also use maps to identify change.</p>

		about plate tectonics and show video.	cutting and selecting.		video to show movement of plates)	
		Recap key parts of learning to reinforce and echo read. model and set children off on second activity.	Children working at ARE to label their map using given plate names and then write about the purpose of the plates, how they move and what they create.		Display T/plates on WW for children to refer to.	
Session 2: What is a volcano? (types of volcano- extinct, dormant, active etc).	Labelling Earth layers (mantle, crust etc) what are plate tectonics can you name any?	<p>Show the children slides on what is a volcano? Discuss key elements and show BBC video. The reinforce this knowledge with TTYP 'what is a volcano'. Lots of echo reading! Children to be modelled and led to 1st activity.</p> <p>Children to be taught about the 3 different types of volcanoes- active, dormant and extinct. Offer real life examples such as Mt Fuji, in Japan is a dormant volcano. Reinforce learning through recap, echo reading and model second activity.</p>	<p>Pre-application activity:</p> <p>TTYP- what is a volcano?</p> <p>What are the 3 different types of volcanoes? Children to match description with volcano.</p> <p>Application activity:</p> <p>1st activity- Children to provide and write a definition on 'what is a volcano' children who are ARE to write this independently with a few key words given. Children below ARE to work within a group with me to write a</p>	Tectonic plates, volcano, gases, magma, ash, dormant, extinct and active volcanoes.	<p>1st application activity- Children to answer what is a Volcano.</p> <p>2nd application activity- children to label the 3 different volcanoes- dormant, active and extinct.</p> <p>3rd application activity- children to then define the different types of volcanoes.</p> <p>Resources: Slides, worksheet with 'what is a volcano', key words for different types (active, dormant, extinct) of volcanoes and pictures of 3 different types of volcanoes.</p> <p>Display different types of volcano on WW.</p>	<div>Physical Environment</div> <div>Questions about the physical features of locations (including climate and other processes). Comparisons to the physical features in other locations.</div>

			definition together using key words.			
			<p>2nd activity- children to label the different volcanoes correctly using key words where needed. Then children write about what these key words such as dormant volcano means and use examples.</p> <p>Challenge- Research examples of dormant, extinct and active volcanoes.</p>			
<p>Session 3:</p> <p>- What happens when a volcano erupts? (cross-section)</p>	<p>Recap on what are the three different types of volcanoes? (active, dormant and extinct).</p>	<p>Show the children slides on 'what happens when a volcano erupts'. Point out key features and show video to see if children can identify these features- lots of echo reading!</p> <p>Recap and reinforce key parts of a volcano and what these features do- after modelling- set children off on 1st and 2nd task.</p>	<p>Pre application Task</p> <p>How many parts of the labelled volcano can you remembered (key words covered).</p> <p>TTYP- stages of a volcanic eruption- draw on whiteboards.</p> <p>Application activity:</p> <p>1st activity- children to label</p>	<p>Volcano, eruption ash cloud, crater, main vent, lava flow, secondary vent, magma chamber, volcanic bombs, conduit, layers of rock</p>	<p>Children will have evidence of a labelled volcano, they may also have sentences about the features and an explanation of what happens when a volcano erupts.</p> <p>Resources: Slides, video of eruption, labelling activity, table for key words and writing paper for explanation and stages (may also refer to diagram so they can write the</p>	<div> <p>Physical Environment</p> <p>Questions about the physical features of locations (including climate and other processes). Comparisons to the physical features in other locations.</p> </div>

			key features of a volcano using word bank.		stages and use key terms)	
			<p>2nd activity- children to write a sentence about what the feature does.</p> <p>3rd activity- write about and explain the stages of a volcanic eruption and what happens.</p> <p>Challenge- To use key geographical vocabulary learnt in explanation.</p>			
<p>Session 4:</p> <p>- Are there earthquakes and/or volcanic eruptions all over the world? (mapping volcano, ring of fire etc etc).</p>	Label the main features of a volcano and talk about what these features do.	<p>Lot's of focus on how to use an atlas- more practical session today.</p> <p>Show slides- talk about the key instructions we need to follow when using an atlas and what is is for.</p> <p>Lots of modelling how to look up earthquake/volcano names.</p> <p>Then discuss 'ring of fire' and show slides based on this- children who get to this can find and</p>	<p>Pre-application activity:</p> <p>Practice of using an atlas to find different continents and then countries first.</p> <p>Application activity:</p> <p>1st activity- placing 8 key volcanoes and earthquakes on map.</p> <p>2nd activity- placing more volcanoes and earthquakes on.</p>	Ring of fire, volcano, earthquake, Pacific ocean, tectonic plates, eruption, atlas	<p>Children will have evidence of their map skills in books and will label key volcanoes and earthquakes.</p> <p>Some children will have identified the 'ring of fire' region and will label key volcanoes/earthquake.</p> <p>Resources:</p> <p>2 different maps, key volcano and earthquake names, learning objective, slides, atlas.</p> <p>Display on WW.</p>	<div> <p>Space & Scale (Locational)</p> <p>Questions about where this place is in the world and its position compared to other locations. Viewing this at different scales (zooming in and out)</p> </div> <div> <p>Map Skills</p> <p>Geographers use a range of maps to investigate and engage with the location physical environment and human elements a place. They also use maps to identify change.</p> </div>

		place key volcanoes/earthquakes on map.	3 rd activity- to draw and identify the ring of fire and well-known earthquakes and volcanoes found in this area around the Pacific Ocean. Challenge- find and locate other volcanoes and earthquakes near the ring of fire.			
Session 5: -How and why do people live where there are earthquakes and volcanic eruptions (impact on humans, change and sustain).	Where are many volcanoes and earthquake located? (show map) What is the 'ring of fire'?	Show slides based on how and why people live near volcanoes/earthquakes. Discuss how-(use vocal recall to reinforce) then children add what they have learnt onto one side of the table. Model how to do this first! Then discuss why and reinforce through vocal recall- children add to other side of table on their sugar people.	Pre-application Task: Why do people live in areas where volcanoes and earthquakes? TTYP: discuss the picture prompts on desk and then to share with the rest of the class. May also do as a whole class on the whiteboard (if needed). Application activity:	Volcano, earthquake , tectonic plates, volcanologist, seismic waves, semiologist , tourism, minerals, renewable energy.	Evidence- sugar paper full of idea of how and why people live near volcanoes/earthquake. Display children's work on WW.	<div>Human</div> <div>Questions about the human features of locations, the impact of humans on a location and environment and vice versa (impact of the location and physical environment on humans) . Comparisons to the human features in other locations.</div> <div>Change & Sustainability</div> <div>Questions about how and why changes have occurred are occurring now and will occur in the future</div>

Children will complete a table like this above on sugar paper in small groups. They can also add pictures/illustrations to go

How do people live near earthquake and volcanic eruptions	Why do people live near earthquakes and volcanic eruptions

next to pictures.

Session 6:

- How disastrous have recent earthquakes or volcanic eruptions been? (case studies of recent examples).

1. How do people live near earthquakes/volcano areas.

2. Why do people live in these areas?

Focus on teaching about Lombok, Indonesian earthquake in 2018 and the volcanic eruption in La Palma in Spain in 2021.

Explain the effects of Lombok earthquake-model to children how you would like them to show their knowledge in their boxes underneath pictures. Then send children off on 1st independent activity.

Some children can add to their notes based on how it was responded to.

Pre-application activity:

What do the children remember about the two key extreme events? Share ideas on table.

Application activity:

1st activity Children to complete what damage was created by Lombok earthquake in 2018. ARE children to write independently. Children working

Magnitude, aftershocks, volcano, earthquake, evacuated, tourism


Notes based on the earthquake in Indonesia (some children may also write about how it was responded to). Then children to write about the Volcanic eruption in La Palma and some children will write about how it was responded to.

Resources:

Stem sentences, key words, pictures of events, slides, video of what is an earthquake.



Human	Change & Sustainability
Questions about the human features of locations, the impact of humans on a location and environment and vice versa (impact of the location and physical environment on humans). Comparisons to the human features in other locations.	Questions about how and why changes have occurred are occurring now and will occur in the future

		Then teach the children again explain the effects of La Palma volcano. Children to add to their boxes for second independent activity.	below ARE to work with me and do a guided group. 2 nd activity- children to also include how did people respond (government). 3 rd activity- children to write about the effect of the volcanic eruption in La Palma, Spain.			
Session 7: Warm Task- complete a blank KO			Children to complete blank ko in mixed groups to answer the big idea-why do earthquakes happen, and why do volcanoes erupt. Some children will match parts of KO- using a cut and stick approach with less guided support.			