



Year 6 Summer

Earthquake Zones and Volcanoes

Geography

As Geographers we will look in detail at biomes and tectonic plates. We will apply this knowledge to how volcanoes are formed, and how tectonic movement can cause the natural disasters of volcano eruptions and earthquakes. We will explore how these disasters can impact a country, and also how countries prepare for these disasters to occur.

**Resources and equipment required:**

- iPads/Chromebooks/laptops to access Digimaps and Google maps.
- Compasses
- Atlases with information about Europe
- World maps
- Globes
- Maps of Europe

**Vocabulary**

Physical/human characteristics  
Equator  
Tropic of Capricorn/Cancer  
Latitude  
Longitude  
Prime Meridian  
Northern/Southern/Eastern/Western Hemisphere  
Large scale map  
Small scale map

Summer Term  
Episode 2 – Understanding the World

By the end of this episode, children will:

- Know the different types of tectonic plate movements and how these can lead to earthquakes and volcanoes.
- Know how volcanoes are formed and what causes them to erupt.
- Know about active, dormant and extinct volcanoes, as well as the differences between ice, ocean and land volcanoes.
- Consider the impact of volcanoes on the environment and on humans.
- Know the tectonic plate movements that cause earthquakes.
- Know the impact of some of the most disastrous earthquakes through history and also how different countries prepare for and prevent earthquakes.

Procedural skill:

Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes and the water cycle.

Understand some of the reasons for geographical similarities and differences between countries.

Describe how locations around the world are changing and explain some of the reasons for change.

Identify and describe how the physical features affect the human activity within a location.

NC links:

Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.

Tectonic Plates

Explain the different ways in which a tectonic plate can move and know that each differing movement can result in a different outcome.

NC links:

Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.

Mountains

Explore the fact that the Earth has an inner and outer core, a mantle and a crust. Explain that the crust is the rocky surface that floats on the mantle which cracks, forming plates.

NC links:

Pupils should be taught to: Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.

Volcanoes

Know that a volcano is a type of mountain that hot melted rock, gas, steam and ash can burst out of.

Know that the word “erupt” means that magma is coming up from the Earth’s

NC links:

Pupils should be taught to: Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.

Earthquakes

Know that tectonic plates sliding against each other and tectonic subduction can lead to earthquakes. Know that an earthquake is when the ground shakes because of the plates moving.

<ul style="list-style-type: none"> <li>• Sliding against each other – causes earthquakes</li> <li>• Colliding – crumble and fold to form mountains</li> <li>• Colliding – subduction, where one plate goes over the other – this can cause earthquakes and volcano eruptions</li> <li>• Plates moving away from each other – magma rises from underneath the crust and cools to form new crust</li> </ul> <p>Know that the boundaries of the plates are called fault lines.</p> <p>Draw the tectonic plate boundaries on a map and label each tectonic plate. Identify how the plate boundaries are moving.</p>	<p>Acknowledge the tectonic plate boundaries of the world and know that these move no more than a few centimetres each year.</p> <p>Investigate how the movement of the tectonic plates has changed the world’s appearance over millions of years. Explore the prehistoric supercontinent “Pangea” and look at how this has separated. Investigate how scientists know that this happened (they found fossils from the same creatures on different parts of the world).</p> <p>Know that mountains can be formed from tectonic plates colliding, and that because of this mountain ranges can often be found along tectonic plate boundaries. <a href="#">This website has a great map of some mountain ranges</a></p> <p>Explain how the following types of mountains are formed (children have identified examples of these mountains in Y4 so should be familiar with their features.) <a href="#">Use this to help.</a></p> <ul style="list-style-type: none"> <li>• Fold mountain</li> <li>• Fault-block mountain</li> <li>• Dome mountain</li> <li>• Volcanic mountain</li> <li>• Plateau mountain</li> </ul>	<p>centre and coming out of the volcano as lava. Know that the molten rock is called magma under the surface, but lava when it erupts.</p> <p>Know that as this lava cools, it forms solid rock which adds to the surface of the volcano and overtime makes it bigger.</p> <p>Explain the physical features of a volcano. Consider the similarities and differences of the physical features of a volcano and a mountain.</p> <p>Know that most volcanoes form at the boundaries of tectonic plates. Usually, this is where the plates move away from each other or where subduction occurs from a collision. These tectonic plate movements also cause volcanoes to erupt.</p> <p>Know that The Ring of Fire in the Pacific Ocean is an example of volcanoes created by subduction.</p> <p>Explain the differences between active, dormant and extinct volcanoes.</p> <p>Explore and compare ice volcanoes, ocean volcanoes and land volcanoes.</p>	<p>Explain what the Richter Scale is and how this can be useful to geographers. Use this knowledge to identify some of the earthquakes with the greatest magnitude across the world. Identify the earthquakes that have happened in the UK and place these on the Richter Scale – are they significant?</p> <p>On the previously created map, identify the world’s largest and most destructive earthquakes.</p> <p>Know that earthquakes can then lead to tsunamis (when they occur underwater) and locate areas on a map where these are most likely to happen.</p> <p>Critique the defences and methods of prevention that countries use to protect against earthquakes. How does this differ between developing and wealthy countries?</p> <p>Explore how communities and engineers deal with the impact of earthquakes – consider recent earthquakes/tsunamis. Does this differ around the world?</p> <p>Investigate the impact of the 2004 Boxing Day tsunami and the 1906 San Fransico earthquake. Identify these areas on a map.</p>
---	---	--	--

	<p>Acknowledge the countries that the Andes pass through and that the Andes straddle Chile which is home to the highest active volcano in the Andean Mountains (Ojos del Salado).</p> <p>Use topographic maps to compare the elevation of American mountains to those studied in Y4 (Scottish Highlands, Mount Snowdon, Ben Nevis, Alps, Pyrenees and Carpathians). Compare topographic elevation maps with aerial view maps of the same location. What types of information can be gathered from each? Which are more useful and for what purpose?</p> <p>Compare the physical features of one area of the Americas with a contrasting European country and the UK.</p>	<p>On top of the previously created plate tectonics map, locate and label some of the world's volcanoes. Use an appropriate key to identify which of these are active, dormant and extinct, as well as those that are ice, ocean and land volcanoes.</p> <p>Explore the impact of a volcanic eruption. Consider its impact on humans and its impact on the environment. Look at aerial photos of volcanoes as part of this. (E.G. huge eruptions can cause travel disruptions because of the ash in the air, the ash can fertilise soil etc.)</p> <p>Investigate the impact of the 79CE eruption of Vesuvius, Pompeii.</p>	<p>Compare and contrast the impact of a volcanic eruption and an earthquake – which causes more destruction? Which can be more devastating on a country?</p> <p>Explore how volcano eruptions and earthquakes can impact upon aspects of human geography (i.e. land use, trade, distribution of natural resources).</p>
--	--	--	---