

Geography Scheme of Work

Y3 Volcanoes and Earthquakes	
Links made with other subjects	English: Dinosaur Cove/ The Pebble in my Pocket Science: Rocks and soils DT: Clay Modelling: Dinosaur Eyes Computing: Media
The BIG Question	What is the difference between a volcano and an earthquake?
The BIG Outcome	Children use models and images to explain the answer to the question above. They may create a powerpoint presentation or an iMovie film to do so. In this children will explain the difference, what they are and give examples in our world.
Geography objectives (link to NC)	• Develop and understand key aspects of volcanoes and earthquakes. • Describe and understand key aspects of settlement and distribution of natural resources. • Identify the position and significance of the equator, northern hemisphere and southern hemisphere. • Use maps, atlases, globes and digital/computer mapping to locate and describe features studied.
Prior knowledge What prior knowledge is needed for children to be successful in this unit?	<i>Children already know:</i> Y2 – Where in the world are we? Continents and Oceans. Y3 – Oh I do like to be besides the seaside. Comparison with Los Gigantes Tenerife. Exploring physical features Science Y3 – Rocks and Soils
Future learning Consider the conceptual knowledge within a subject that pupils need for future learning not just the recall of facts but the importance of concepts	This unit gives prior knowledge to: Y4 - Settlements Y6 - Amazing Americas
Geographical strands	<u>Geographical Skills</u> • To use pictures, a range of maps and models to understand. • To use four figure grid references. • To draw sketches to explain and describe. • To use models to explain and describe. <u>Locational Knowledge</u> • To use the 8 points of a compass to describe the location of features. • To know where the equator is. • To what/ where the northern and southern hemispheres are. <u>Place Knowledge</u> • To know the places in our world that have volcanoes. • To know the significance of the Pacific Ocean for volcanoes. • To know which areas of our world have earthquakes. <u>Environmental, human and physical geography</u> • To know the features of a volcano. • To know the features of an earthquake. • To know how volcanoes impact where and how people live. • To know how earthquakes affect how people live.
Vocabulary/ Glossary	volcano, earthquake, equator, southern hemisphere, northern hemisphere, plate tectonics, richter scale, lava, magma, ring of fire, dormant, active, extinct.
Knowledge (see italics for knowledge to remember)	The knowledge that children will learn and remember: 1. <i>Recall from Y2 that the equator runs around the middle of the earth and cuts the world into 2 hemispheres.</i>

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2. *The two hemispheres of our world are called the northern and southern hemisphere.*
3. *Tectonic plates:*
 - *Our world is made up of tectonic plates and volcanoes are on the edge of these.*
 - *The continents are formed on top of the tectonic plates.*
 - *The tectonic plates move and this causes earthquakes and volcanoes.*
 - *Transform movement: Plates slide next to each other which often causes an earthquake.*
 - *Convergent movement: Plates collide and make a mountain this becomes a volcano.*
 - *Divergent movement: Plates move away from each other causing a lava eruption.*
4. *To locate the following on a world map:*
The Ring of Fire
Mount Vesuvius
Mount Etna
Mount Fuji
Cotopaxi
Mount St Helens
Krakatau
Kilauea
5. *The features of a volcano:*
Plate tectonics move and this causes an eruption.
Magma: Molten rock beneath the earth's surface.
Conduit: An underground passage that magma travels through.
Lava: Molten rock that erupts from the volcano (the same thing as magma but on the outside)
Throat: The entrance of a volcano that releases the lava.
Vent: An opening at the earth's surface.
Ash: Fine particles of rock blown from a volcano.
Crater: The steep-sided mouth of a volcano.
Flank: The side of the volcano. The summit is the highest point.
6. *The different types of volcano:*
Composite: Also known as a Strato. Grow very tall. Made of lots of layers of hardened lava. Lava from these volcanoes cools and hardens before spreading too far so layers build up on each other making the volcano higher. Big eruptions.
Shield: Built from slow moving lava. They look like a warrior's shield thus the name shield. Low in height. Spread out across the ground. They look like small hills. Constantly erupt. Don't have many big eruption.
Dome: Much smaller than composite volcanoes. Form when ash and rock pile up around the vent. These are called cinders: melted volcanic rocks that cool and form pebble sized pieces. Makes a circular shape at the top.
7. *Volcanoes can have different 'danger' levels:*
Extinct: Has not erupted in the last 10,000 years. Not expected to erupt again.
Snowdonia, Arthur's Seat
Dormant: Not erupted for a while but could erupt again.
Kilimanjaro, Fuji
Active: Volcano has erupted in the last 10,000 years.
Cotopaxi, Kilauea
8. *Volcanoes affect human and physical characteristics in the area:*
9. *There are minerals in volcanic rocks. People mine these to sell. Miners chose to live near volcanoes for this reason.*

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	10. Volcanoes are beautiful sites. The rich soil means plants and trees grow well. Tourists visit volcanoes. They hike to the craters. Towns have developed near volcanoes for this industry. 11. The magma heats water in volcanic areas. This hot water powers houses and provides hot water. This natural power means that people chose to live there. 12. Volcanic soil is very fertile. Plants grow extremely well and so lots of people farm volcanic plains. 13. The features of an earthquake: Tectonic plates move and this causes an earthquake. The earthquake is the effect of the plates moving. 14. The human implications of an earthquake: - Buildings move and can collapse - Landslides can be caused. - Tsunamis can be caused if the earthquake takes place underwater. - They are measured on the richter scale 1-12 12 being catastrophic - People have to take steps to stay safe: - In earthquake zones, buildings are specially built so that they can move a little bit so they don't collapse as easily in an earthquake. - People know to drop, cover and hold, stay calm and stay put. - People make sure they have an emergency whistle, torch, battery operated radio, have extra shoes and clothes, have a first aid kit.
SEND expectations	1. Recall from Y2 that the equator runs around the middle of the earth and cuts the world into 2 hemispheres. 2. The two hemispheres of our world are called the northern and southern hemisphere. 3. A volcano erupts. Lava, ash and rocks come out of the top of it. The lava cools to make new rock. 4. We have lots volcanoes on our earth. Some are Active: Will still erupt. Dormant: Could still erupt. Extinct: Won't erupt. 5. Some people chose to live near volcanoes because they can work on or near them. 6. Earthquakes cause buildings to collapse and the land to move. They can be dangerous. 7. People have to drop, cover and hold, stay calm and stay put in an earthquake.
Teaching ideas/ resources	- Place tracing paper of tectonic plates over world map with volcanoes on it. Can children identify a pattern of where the volcanoes are. - Moana Books: - Earth Shattering Events at a glance. - The Journey to the Centre of the Earth.