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**BUCKINGHAM PRIMARY ACADEMY - Geography**

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| **Enquiry Question What makes the Earth Angry?** | | **Year group Year 3** |
| **What will be taught through the unit:**  Throughout this unit, children will learn about how a volcano erupts because: Magma rises through cracks or weaknesses in the Earth's crust. Pressure builds up inside the Earth. When this pressure is released, eg as a result of plate movement, magma explodes to the surface causing a volcanic eruption. The lava from the eruption cools to form new crust. Over time, after several eruptions, then the rock builds up and a volcano forms. Volcanoes impact on the lives of people because lava, ash and rock from them can destroy buildings and roads; people can be injured or killed by pyroclastic flows and falling rocks; crops are damaged and water supplies contaminated; also people and plants can be suffocated by carbon-dioxide. Fires can be caused which can destroy settlements and leave people homeless. Furthermore, sulphur dioxide released into the atmosphere can cause acid rain. There can also be benefits from volcanic eruptions – ash can add nutrients to the soil. An earthquake is caused by a fault line on a tectonic plate. The tectonic plates slide over each other. When the pieces slide apart, they create tremendous force. This force causes the earth to shake and ripple. Over 80 percent of the earth’s earthquakes happen in the Pacific Ocean, in a place known as the “Ring of Fire.” Seismologists can tell how serious an earthquake is by a machine called a seismograph, which rates the intensity of the quake’s shaking. A tsunami is along, high sea wave caused by an earthquake or other disturbance. Since 2011, Japan, Nepal and Indonesia have experienced earthquakes. Many people experience extreme weather in our country. Extremely cold and snowy weather, extreme heat, storms and floods can impact on the lives of people. | | **Historical Enquiry:**   * Can they initiate questions about: the formation of volcanoes; the effects of volcanic eruptions on people and the environment; formation and effects of tsunamis; the formation and effect of earthquakes on the environment and the lives of people and the effects of extreme weather across the world? * Can they explain how the strength of earthquakes can be measured using information from books and the internet? * Can they name and locate some of the most famous volcanoes? * Can they investigate the places in the world where volcanoes are located and explain their presence in these areas of the world? * Can they use maps and atlases appropriately using contents and indices? * Can they use the four compass points to locate the position of volcanoes in relation to each other and give directions in order to locate a volcano? * Can they use letter/ no. coordinates on a map to locate the position of volcanoes and areas where earthquakes have occurred across the world? * Can they use large scale maps to locate volcanoes and areas where earthquakes have occurred in the past. * Can they investigate particular volcanoes and discuss its impact on the environment and people in the area? * **Begin to ask/initiate geographical questions.** * **Use NF books, stories, atlases, pictures/photos and internet as sources of information.** * **Investigate places and themes at more than one scale** * **Use 4 compass points to follow/give directions:** * **Use letter/no. co-ordinates to locate features on a map** * **Locate places on larger scale maps** |
| What causes a volcano to erupt and which are the famous volcanoes in the world? | Volcanoes erupt when molten rock called magma rises to the surface. Magma is formed when the earth's mantle melts. Melting may happen where tectonic plates are pulling apart or where one plate is pushed down under another. ... If magma is thick, gas bubbles cannot easily escape and pressure builds up as the magma rises.  The top ten famous volcanoes across the world are:  [Mount Vesuvius](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014626,00.html)  [Krakatoa](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014635,00.html)  [Mount St. Helens](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014629,00.html)  [Mount Tambora](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014631,00.html)  [Mauna Loa](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014645,00.html)  [Eyjafjallajokull](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014604,00.html)  [Mount Pelée](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014625,00.html)  [Thera](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014636,00.html)  [Nevado del Ruiz](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014576,00.html)  [Mount Pinatubo](http://content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014585,00.html) | **Here is a short timeline of some of the world’s deadliest major earthquakes in the last 10 years:**  - Sept 19, 2017 - MEXICO - A 7.1 magnitude quake hits central Mexico, killing at least 369 people, causing more devastation in the capital than any since the 1985 earthquake that killed thousands.  - Aug 24, 2016 - ITALY - A 6.2 magnitude quake strikes a cluster of mountain communities 140 km (85 miles) east of Rome in central Italy, killing about 300 people.  - Apr 16, 2016 - ECUADOR - A devastating magnitude 7.8 earthquake smashes Ecuador, killing more than 650 people along the country’s ravaged Pacific coast.  - Oct 26, 2015 - AFGHANISTAN - A magnitude 7.8 earthquake rocks the Afghan northeast, killing nearly 400 people in Afghanistan and nearby northern Pakistan.  - Apr 25, 2015 - NEPAL - A magnitude 7.8 earthquake ravages impoverished Nepal, killing nearly 9,000 people and disrupting the lives of more than eight million people.  - Aug 3, 2014 - CHINA - A magnitude 6.3 earthquake devastates southwestern China, killing at least 600 people in a remote area of Yunnan province.  Sept 24, 2013 - PAKISTAN - Twin earthquakes, measuring 7.7 and 6.8 magnitude, strike Pakistan’s southwestern Balochistan province, killing at least 825 people.  - Aug 11, 2012 - IRAN - Two strong quakes, measuring 6.4 magnitude and 6.3 respectively, kill at least 300 people near the city of Tabriz in northwestern Iran.  - Oct 23, 2011 - TURKEY - A powerful magnitude 7.2 earthquake shakes southeast Turkey, killing more than 600 people.  - March 11, 2011 - JAPAN - A 9.0 magnitude earthquake and tsunami strikes Japan’s northeast, killing about 15,690 people and injuring 5,700. The earthquake also triggers the world’s biggest nuclear disaster since Chernobyl in 1986.  - Feb 22, 2011 - NEW ZEALAND - A 6.3 magnitude earthquake hits Christchurch, killing at least 180 people and causing an estimated NZ$15 billion ($12 billion) of damage.  - Feb 27, 2010 - CHILE - An 8.8 magnitude quake and subsequent tsunami in Chile kill more than 500 people and cause some $30 billion in damage, wrecking hundreds of thousands of homes and mangling highways and bridges.  - Jan 13, 2010 - HAITI - A 7.0 magnitude quake devastates Haiti’s capital, Port-au-Prince, and kills about 316,000 people. The United Nations estimates that 80,000 buildings in Port-au-Prince and surrounding areas were destroyed.  - May 12, 2008 - CHINA - About 87,600 people are killed in Sichuan province after a 7.8 magnitude earthquake hits the region.  **Destructive Tsunamis in the last 10 years**   * Iquique, Chile (2014-Apr-01) ... * Lata, Solomon Islands (2013-Feb-06) ... * Sumatra, Indonesia (2010-Oct-25) ... * Solomon Islands (2010-Jan-04) ... * Samoa Island and American Samoa (2009-Sep-29) ... * Solomon Islands (2007-Apr-02) ... * Island of Java, Indonesia (2006-Jul-17) ... * Peru (2001-Jun) |
| How do volcanoes impact on the lives of people and why do people choose to live near them? | Fast-moving lava can kill **people** and falling ash can **make** it hard for them to breathe. They can also die from famine, fires and earthquakes which can be related to **volcanoes**. **People** can lose their possessions as **volcanoes** can destroy houses, roads and fields. Lava can kill plants and animals too.  The main things that attract **people** to **live near** active **volcanoes** are minerals, geothermal energy, fertile soils and tourism. ... Hot gasses escaping through vents also bring minerals to the surface, notably sulphur, which collects **around the** vents as it condenses and solidifies. |
| How can we recreate an erupting volcano? | How to make volcano explode?  **What to do**   1. Go outside or prepare for some clean-up inside. 2. Put the container into the **volcano** at the top. 3. Add two spoonfuls of baking soda. 4. Add about a spoonful of dish soap. 5. Add about 5 drops each of the red and yellow food coloring |
| What causes an earthquake (and a tsunami) and how are they measured? | **Earthquakes** happen when two large pieces of the Earth's crust suddenly slip. This **causes** shock waves to shake the surface of the Earth in the form of an **earthquake**. Where do **earthquakes** happen? **Earthquakes** usually occur on the edges of large sections of the Earth's crust called tectonic plates.  Scientists use seismic waves to **measure** how big an **earthquake** is. They use a device called a seismograph to **measure** the size of the waves. ... To tell the strength of an **earthquake** scientists use a scale called the Moment Magnitude Scale or MMS (it used to be called the Richter scale).  A tsunami is a large ocean wave usually caused by an underwater earthquake or a volcanic explosion. Tsunamis are NOT tidal waves. Tidal waves are caused by the forces of the moon, sun, and planets upon the tides, as well as the wind as it moves over the water. ... This is why tsunamis cause so much damage!  **Tsunamis** are detected and **measured** by coastal tide gages and by **tsunami** buoys in the deep ocean. The tide gages **measure** the **tsunami** wave directly. In the deep ocean, sensors on the ocean floor detect the pressure signature of **tsunami** waves as they pass by. |
| Who experiences extreme weather in our country? | From heatwaves to flash floods, the **UK** has experienced several **extreme weather events** . ... Flash flooding, drought, storms, **cold** spells and heatwaves are all examples of **extreme weather** in the **UK.** |
| Which countries have experienced earthquakes and tsunamis in your life time? | See list of most severe earthquakes and tsunamis in the last 10 years ( world wide) |
| How can we capture a stormy weather pattern using music, drama and dance? | Stormy song:  <https://www.youtube.com/watch?v=sOvHcxH4CjM>  put together a weather presentation of extreme weather using music, drama and video clips.    **Vivaldi Storm (Full HD) Classical music**  <https://www.youtube.com/watch?v=RlqI_lAkIfM>  **Rossini ~ William Tell Overture : The Storm**  <https://www.youtube.com/watch?v=JcRuChk7Exo> |

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| **Timeline of significant events for Mount Vesuvius**  [Ancient-Rome-Timeline-2-350 - Tim's Printables](https://www.google.co.uk/url?sa=i&url=https%3A%2F%2Fwww.timvandevall.com%2Fancient-rome-timeline-pdf-learn-the-history-of-the-roman-empire%2Fancient-rome-timeline-2-350%2F&psig=AOvVaw2KTmSQxrvLLoRaLQ6fDLom&ust=1594412326303000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCJDQhvX-wOoCFQAAAAAdAAAAABAK) | |  |  | | --- | --- | | Word | Definition | | **Continent** | any of the world's main continuous expanses of land (Europe, Asia, Africa, North and South America, Australia, Antarctica). | | **Equator** | a line notionally drawn on the earth equidistant from the poles, dividing the earth into northern and southern hemispheres and constituting the parallel of latitude 0°. | | **Volcano** | a mountain or hill, typically conical, having a crater or vent through which lava, rock fragments, hot vapour, and gas are or have been erupted from the earth's crust | | **Lava** | hot molten or semi-fluid rock erupted from a volcano or fissure, or solid rock resulting from cooling of this. | | **Earthquake** | a sudden violent shaking of the ground, typically causing great destruction, as a result of movements within the earth's crust or volcanic action | | **Seismograph** | an instrument that measures and records details of earthquakes, such as force and duration. | | **Tsunami** | a long, high sea wave caused by an earthquake or other disturbance. | |  |  |   **Vocabulary** |
| **Trips/ Visits & Useful Websites:**  **Volcanoes**  <https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zd9cxyc>  <https://www.tes.com/teaching-resource/ks2-geography-volcanoes-6356658>  <https://www.natgeokids.com/uk/discover/geography/physical-geography/volcano-facts/>  <https://www.youtube.com/watch?v=3Jxeh-yAXek>  **Earthquakes**  <https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zj89t39>  <https://www.youtube.com/watch?v=Q-v-G1iL67w>  **Tsunamis**  <https://www.youtube.com/watch?v=Wx9vPv-T51I>  <https://www.youtube.com/watch?v=64FxBgv0n2o> | **Useful information or people to be studied in this particular unit** |