# How do volcanoes and earthquakes affect people's lives?

## – Year 4

### Prior Learning

Year 3: Where in the World – use maps, atlases globes, latitude, longitude, equator, tropics, land use, rural and urban settlements

Year 3: Project Arctic – biomes (desert focus), physical features of Iceland (including volcanoes), human features (land use, settlements, population)

Year 4: Mountains – the structure of the earth, contour lines, tectonic plates, finding the height, using a legend

| | Key question and NC objective | Skills/knowledge to be taught |
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| L1 | **What is under your feet?**<br>**LO: describe the structure of the Earth and locate some well known volcanoes.**<br>NC<br>Physical Geography:<br>• Describe and understand key aspects of physical geography in the context of what is under the Earth's surface. | Knowledge<br>• To understand that the earth has an inner core, outer core, mantle and crust. (retrieval)<br>• To know the features of each of the components of the earth.<br>• To understand that the crust is made up of tectonic plates that are constantly moving.<br>Skills<br>• To map famous volcanoes (possibly discuss the 'Ring of Fire' and link to earthquakes) |
| L2 | **What are the features of a volcano, how are they formed and what are the causes of volcanic eruption?**<br>**LO: explain how volcanoes and formed and how they erupt.**<br>NC<br>Physical Geography<br>• Describe and understand key aspects of physical | Knowledge<br>• Know there are 2 main formations: constructive and destructive plate boundaries.<br>• To investigate volcanoes and understand the features of an erupting volcano (magma chamber, crater, lava flow, ash cloud, main vent, secondary vent, throat, volcanic bomb, fumarole and layers of lava and ash).<br>• To understand that volcanoes are formed by an opening in the Earth's crust that allows magma, hot ash and gases to escape. (Link to mountains – are they the same?).<br>• To know that volcanic eruptions are caused by tectonic plates moving towards each other or by hot spots in the Earth's crust. |

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| | geography including volcanoes. | |

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| L3 | **What are the different types of volcanoes and where are the most famous ones?**<br>**LO: identify different types of volcanoes**<br>**NC**<br>**Geographical skills and fieldwork:**<br>• Use maps, atlases, globes and digital/computer mapping (Google Earth) to locate countries and describe features studied.<br>**Physical Geography:**<br>• Describe and understand key aspects of physical geography including volcanoes. | Knowledge<br>• Understand the difference between shield and composite volcanoes<br>• Identify the features of a composite volcano |
| L4 | **What effects can a volcano eruption have on human and physical geography?**<br>**LO: explain the effects of a volcanic eruption**<br>**NC**<br>**Physical Geography:**<br>• Describe and understand key aspects of physical geography, including: volcanoes<br>Human Geography: | Knowledge:<br>• To understand the difference between active, dormant and extinct volcanoes<br>• To study primary sources (photographs and videos) to help understand the impact an eruption can have on human and physical geography<br>• To understand the main deadly features of a volcanic eruption (Volcanic ash, Lava flow, Volcanic bombs, Pyroclastic flow and Mud flow)<br>• Understand that there can be positive and negative effects. |
| L 5 | **What is the cause of earthquakes and where do** | Knowledge:<br>• To recap that the crust is made up of tectonic plates that |

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| | **they occur?**<br>**LO: understand how and where earthquakes occur**<br>**NC**<br>**Physical Geography:**<br>• physical geography, including: earthquakes<br>**Geographical skills and fieldwork:**<br>• use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied; | are constantly moving<br>• To understand vocabulary related to earthquakes (epicentre, Richter scale, seismic waves, tectonic plates, friction, fault lines)<br>• To be able to describe how an earthquake occurs |
| L6 | **What are the most deadly features of an earthquake? What are the effects on human and physical geography?**<br>**LO: demonstrate understanding of the cause and effects of an earthquake (case study: Italy).**<br>**NC**<br>**Physical Geography:**<br>- physical geography, including: earthquakes | Knowledge<br>• To understand some of the deadly features (ground shaking, tsunamis, landslides)<br>• To use images to understand the effects of earthquakes on the environment<br>• To look at a case study to understand how an earthquake can also affect human geography – on the economy and on society. |
| | **Vocabulary**<br>**Tier 1**<br>**Mountain earthquake shock damage volcano crust plate dome destroyed rock shield**<br>**Tier 2**<br>• **Vent crater active dormant extinct tectonic plates evacuation poisonous surface ash structure natural disaster landslide**<br>**Tier 3** | |

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| | • Lava mantle magma pumice igneous composite molten eruption epicentre Richter Scale |