Subject: Geography – Year 4, Unit 2, Mountains, Earthquakes & Volcanoes
Enquiry Question:
Why do people choose to live near volcanic sites?

NC/POS:

Locational knowledge

- Locate the World's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities.
- Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night).

Place knowledge

- Understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America.

Human and physical geography

- Describe and understand key aspects of:
    - Physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.
    - Human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.

Geographical skills and fieldwork

- Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.
- Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider World.
- Use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

Prior Learning (what pupils already know and can do):

- Children know the World continents and oceans.
- Children have learnt what topography means and looked at topography maps.
- Children have looked at Cumbria and its hilly terrain.
- Children know that rivers usually start at the top of a hill/mountain.

End Points (what pupils MUST know and remember):

- Know the physical geography of a mountain: landscape, topography and weather.
- Name and locate the highest mountains in the world.
- Know how to use contour lines, topography maps and four/six figure grid references.
- Know how mountains are formed.
- Know that there are different types of mountains and how they are formed – fold mountain, fault block mountain, dome mountain.
- Know how volcanoes are formed and why volcanoes erupt.
- Know why people choose to live in volcanic zones.
- Know why earthquakes occur.
- Identify the world's largest and most significant earthquakes.

Key Vocabulary: summit, landscape, topography, ascent, contour lines, topography, grid references, scale, distance, Earth's crust, tectonic plates, fold, fault block, dome, formation, erosion, constructive, destructive, eruption, active, dormant, extinct, shield, composite, fertile soil, geothermal, tourism, minerals, ash, poisonous gas, lahars, lava, earthquake, plate boundaries, tsunami, Richter scale.

SESSION 1: HOOK	**End points covered in this session:**

Royal Geographical Society – Lesson 1 – Mount Everest **https://www.rgs.org/schools/resources-for-schools/mountains-volcanoes-and-earthquakes/mount-everest** • Start with the iconic photograph of Tenzing Norgay at the summit of Mount Everest, taken by Sir Edmund Hillary on 29th May 1953 - the first successful ascent of the mountain. • As a starter activity, pupils are asked to 'think like geographers' and to identify questions (and surmise answers) about the photograph: who, what, where, when, why, how. • Then, through a series of maps and photographs, both modern and archive, pupils will then learn about the physical geography of the mountain- its landscape, topography and weather. • They will come to understand that Mount Everest can be a hostile and dangerous environment. • Finally, pupils will hear how these dangers were faced by Hillary and Tenzing in their successful ascent of the summit.	Know the physical geography of a mountain: landscape, topography and weather. **Vocabulary: summit, landscape, topography, ascent.**
SESSION 2: What do maps tell us about mountains? Children name and locate the 7 largest summits in the world and the continent they are in. **Royal Geographical Society – Lesson 2 – Mapping Mountains** https://www.rgs.org/schools/resources-for-schools/mountains-volcanoes-and-earthquakes/mapping-mountains • In a mapping task, pupils will learn the significance of keys, contour lines, four figure and six figure grid references, grid squares, distance, scale and direction as they answer questions and plan routes. • Pupils will use the Ordnance Survey map of Snowdon and will gain an understanding of how topography is shown on a map.	**End points covered in this session:** Name and locate the highest mountains in the world. Know how to use contour lines, topography maps and four/six figure grid references. **Vocabulary: contour lines, topography, grid references, scale, distance.**
SESSION 3: How are mountains formed? **Royal Geographical Society – Lesson 3 – The Formation of Mountains** **https://www.rgs.org/schools/resources-for-schools/mountains-volcanoes-and-earthquakes/the-formation-of-mountains** • Children learn about the structure of the earth and that mountains can be formed in different ways, depending on how the Earth's crust moves. • *To help the children with scale use toilet roll to show the depth of each layer of the earth: https://www.earthlearningidea.com/PDF/196_Journey_centre_E.pdf* • Three formations will be examined in detail: Fold Mountains, Fault Block Mountains and Dome Mountains. • Children then name and locate mountains which come under each of these formation types (with reference to North and South America and Europe). • Finally, pupils will understand that mountain landscapes change over time through erosion.	**End points covered in this session:** Know how mountains are formed. Know that there are different types of mountains and how they are formed – fold mountain, fault block mountain, dome mountain. **Vocabulary: Earth's crust, tectonic plates, fold, fault block, dome, formation, erosion.**
SESSION 4: How are volcanoes formed? **Royal Geographical Society – Lesson 4 – Volcanoes**	**End points covered in this session:**

https://www.rgs.org/schools/resources-for-schools/mountains-volcanoes-and-earthquakes/volcanoes • Children learn that volcanoes come in many shapes and sizes but are primarily located at the boundaries between tectonic plates (they look at the difference between constructive and destructive plates) • Pupils will also become familiar with the structure of volcanoes and be able to name the key features in a cross section. They learn why and how an eruption happens. • Children explain the difference between active, dormant and extinct volcanoes. • Children draw diagrams of shield and composite volcanoes. Fieldwork: Use the ClassVRs to 'visit' volcanoes around the world.	Know how volcanoes are formed and why volcanoes erupt. **Vocabulary: constructive, destructive, eruption, active, dormant, extinct, shield, composite.**
SESSION 5: Would you live near a volcano? ENQUIRY QUESTION: Why do people choose to live near volcanic sites? Explain to children that people live near volcanoes still today – ask them if they would like to live near a volcano? Look at the advantages and disadvantages of living near a volcano: • Advantages: fertile soil, geothermal energy, tourist attraction, minerals • Disadvantages: health risks, ash clouds, poisonous gases, lahars (mud flows), boiling hot lava. CHESTER ZOO LINK: Children learn that Komodo Dragons live on volcanic islands in Indonesia. They learn about the how volcanic eruptions pose a threat to their habitats.	**End points covered in this session:** Know why people choose to live in volcanic zones. **Vocabulary: fertile soil, geothermal, tourism, minerals, ash, poisonous gas, lahars, lava.**
SESSION 6: What is an earthquake? Look at the tectonic plates on the map: • https://www.geolsoc.org.uk/Plate-Tectonics • Look at the locations of earthquakes. • Remove the tectonic plates and discuss what the children can see – the earthquakes follow the plate boundaries • Explain the cause of an earthquake: usually it is caused by the moving of tectonic plates. **Royal Geographical Society – Lesson 6 – Earthquakes** https://www.rgs.org/schools/resources-for-schools/mountains-volcanoes-and-earthquakes/earthquakes • Complete the case study on the Japanese earthquake and tsunami of 2011.	**End points covered in this session:** Know why earthquakes occur. Identify the world's largest and most significant earthquakes. **Vocabulary: earthquake, plate boundaries, tsunami, Richter scale.**
Future learning this content supports: This content will support future learning on North and South America and when describing the geography of locations around the world.	