Year 5 Geography Term 3

What are the extreme environments in our world?

National Curriculum Reference

Locational Knowledge
Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features(including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time
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 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

Key Vocabulary

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Earth, crust, mantle, outer core + inner core, tectonic plates, earth tremors/earthquakes, volcano, ash, magma, fault lines, lava, eruption, active, dormant, extinct, pumice, Richter Scale, tsunami, natural disasters, avalanche, hurricanes, tornado, forest fires, flooding.

Learning Sequence

What's beneath our feet? What is our planet made up of?

Substantive & Procedural Knowledge Core Components	Disciplinary Knowledge/Skills
The Structure of the Earth Know the structure of the Earth - crust, mantle, outer core and inner core. Know that the crust is a layer of rock around the Earth. Know that the mantle forms about half of the Earth Know that the upper mantle is hard but there is magma (liquid rock) beneath. Know that the core is mostly made of iron. Know that temperatures at the core can reach 5500° C Tectonic Plates Know that the earth's crust is made up of different pieces, called tectonic plates. Understand that these plates fit together like a jigsaw and are always moving, although they move so slowly, we can't usually feel them move. Know that the edges of plates, where two plates meet, are called fault lines or faults. Understand that the edges of these pieces rub against each other and this can cause sudden movements which can lead to earth tremors or earthquakes.	Mapping Analyse the distribution of natural disasters and the relationship with plate boundaries. Identifying countries that are located on fault lines. **Cause and Consequence**

Understand that faults can rub together, push toward each other, or pull away from each other.

What is a volcano and why do we have them?

Substantive & Procedural Knowledge Core Components	Disciplinary Knowledge/Skills
<u>Volcanoes</u> Understand that a volcano is an opening in the earth's crust from which hot molten rock, gas, steam and ash from inside the Earth, sometimes burst out of. Understand that the openings in the earth's crust are along fault lines, where the different plates meet. Know that volcanoes form when magma reaches the Earth's surface, causing eruptions of lava and ash. Know that lava is what we call magma when it is above ground. Know that as lava cools it forms solid rock. Know the causes of a volcanoes: 1. Magma rises through cracks or weaknesses in the Earth's crust. 2. Pressure builds up inside the Earth. 3. When this pressure is released, magma explodes to the surface causing a volcanic eruption. 4. Over time, after several eruptions, the rock builds up and a volcano forms. Know that the word volcano originates from the name for the Roman god of fire, 'Vulcan' <u>Structure of a Volcano</u> Know the structure of a volcano including magma chamber, main vent, secondary vent, secondary cone, crater. Know how to label a diagram of a volcano. Know that sometimes when a volcano erupts under the sea an island can form (e.g. Galapagos islands in the Pacific Ocean) <u>Classifying Volcanoes</u> Know that volcanoes can be described in terms of activity and can be: Active - A volcano that has erupted recently and is likely to erupt again. Dormant - A volcano that has not erupted for a long time, however, it may still erupt in the future. Extinct - A volcano that erupted thousands of years ago and will probably never erupt again	 **Cause and Consequence** **<u>Positive and Negative Effects</u>** Know that volcanic eruptions can have a devastating effect on people and the environment. However, volcanoes can also have a positive impact on an area. These positive impacts can help to explain why people choose to live near volcanoes. **Positive** / **Negative** The dramatic scenery created by volcanic eruptions attracts tourists. This brings income to an area. / Many lives can be lost as a result of a volcanic eruption. Human and natural landscapes can be destroyed and changed forever The lava and ash deposited during an eruption breaks down to provide valuable nutrients for the soil. This creates very fertile soil which is good for agriculture. / If the ash and mud from a volcanic eruption mix with rain water or melting snow, fast moving mudflows are created. These can be dangerous. When volcanoes erupt underwater, islands can form which otherwise wouldn't have existed. E.g. The Galapagos Islands, Hawaii / Gases released from volcanoes can suffocate animals and people. Express own opinions on the advantages and disadvantages of living in areas that are prone to natural disasters considering the impact these have on people's lives.

Where is Santorini and why is it renowned?

Substantive & Procedural Knowledge Core Components	Disciplinary Knowledge/Skills
<u>Mount Santorini Study.</u> Know that there are 5 active volcanoes in Greece: 1. Methana 2. Milos 3. Santorini 4. Kos 5. Nisyros	 <u>Similarities and differences</u> Comparing viewpoints of the challenges of living in a location near a plate boundary.

Understand that active means they have had at least one eruption during the past 10,000 years. Santorini is a cluster of five islands in the southern Aegean sea in Greece, and lies about 100 kilometres north of Crete. Using knowledge of how to use an atlas and map reading, locate Greece, Crete and Santorini on a map. Santorini is renowned for its spectacular sea-filled volcanic caldera surrounded by steep colourful cliffs, the beauty of its villages and fields. The last huge eruption of the volcano dates back 3,600 years, to the late Bronze Age. Thirty million cubic meters of lava in the form of pumice and ash were blown to a height of up to 36 kilometres above the island. Pumice deposits, dozens of meters thick, buried one of the most prosperous pre-historic settlements of that period, feeding the myth of the lost Atlantis. The mild activity of the volcano after this major eruption continues into the present (the most recent eruption occurred in 1950) building up two small islands within the caldera, Palea and Nea Kameni. These islands represent the volcano's most recent activity. Know that about a quarter of the population of Sicily live near Etna. Know that this is because the soil is very fertile as a result of the volcanic activity and this ensures good conditions for growing citrus fruit, such as lemons and limes. Know that many people from around the world come to see Santorini bringing money into the economy. This is an example of tourism. Know that the people living near Santorini look for warning signs such as an increase in temperature near the volcano, an increase in gas being released or a change in the shape of the volcano. Know that when an eruption is expected sometimes people are evacuated from their homes	

What is an Earthquake?

Substantive & Procedural Knowledge Core Components	**Disciplinary Knowledge/Skills**
<u>Earthquakes</u> Know that earthquakes are a violent jolt that shakes the land. Understand that two edges of the earth's crust rub against each other, this can cause sudden movements which can lead to earth tremors or earthquakes. Know that earthquakes are measured on the Richter Scale. Understand that some earthquakes are small and we can barely feel them, whereas other earthquakes are much stronger and can cause lots of damage. Understand that places located along the fault line frequently experience earthquakes, as this is where the most plate movement happens. Know that many earthquakes are very small and unnoticeable. Know that these earthquakes might cause: things to fall off shelves, pictures to fall off walls, furniture to move and trees and telegraph poles to sway. Understand that occasionally stronger earthquakes happen and these can be very dangerous. Know that these earthquakes might cause: roads to be damaged, cracks to appear in the ground, buildings to be damaged or destroyed.	 **<u>Cause and consequence</u>** Understanding the wider causes of an earthquake and the consequences of them.

Understand that the place directly above the ground where the earthquake starts is called the epicentre. Understand that the further you are away from the epicentre, the less you feel the earthquake.	
Why are Tsunami's often linked to Earthquakes?	
Substantive & Procedural Knowledge Core Components	**Disciplinary Knowledge/Skills**
<u>Tsunami</u> Know that Tsunami is a Japanese word which means 'harbour wave'. Know that a tsunami is a large sea wave caused by a large volume of water, being moved. Know that they are often caused by earthquakes happening under the ocean. Know that a tsunami looks like a very large wave. Understand a tsunami flows onto the land in large waves, causing destruction and flooding. <u>Overview of other natural disasters</u> Know that an avalanche is a large mass of snow that falls down the side of a mountain. Know that floods are a large amount of water covers an area which is usually dry, for example when a river flows over its banks Know that forest fires are large, uncontrolled fires in a forest or wooded area Know that hurricanes are an extremely violent wind or storm Know that a tornado is a violent windstorm consisting of a tall column of air which spins round very fast and causes a lot of damage.	**<u>Similarities and differences</u>** **<u>Causes and consequences</u>** Identify links between different hexagons.

Final Assessment Piece

Answering Enquiry Question

Why do people live near places at risk?

Three heads describing the location of where three people live. Children have to decide who is the most at risk and why.