| KS2.CB.T1 | Area of study: Mountains, volcanoes and earthquakes<br><br>Unit aims / outcome: To understand the physical processes behind mountains, volcanoes and earthquakes as well as learning about the human impact of such events |
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Geographical concepts to organise knowledge:

**Location –** to know the location of the tectonic plates – linked to knowledge on continents

**Place –** to know what it is like to live on a fault line or near to a volcano – impact on humans

**Physical and Human features and processes** – to know physical processes of the movement of tectonic plates to create mountains, volcanoes and earthquakes

**Geographical skills, fieldwork and observations** – using maps, atlases and globes to identify the tectonic plates around the world. To use aerial photos to observe what volcanoes look like

Key strands of learning:

**Settlements**

**Land use**

**Physical processes**

**Impact**

| Learning in Reception: | Tier 2 | Tier 3 |
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| | **New**<br>Mountain<br>Volcano<br>Lava<br>Earthquake<br><br>**Review** | **New**<br>Crust<br>Mantle<br>Tectonic plates<br>Magma<br>Epicentre<br>Richter scale<br><br>**Review** |

| NC objective: | Vocabulary and crucial knowledge: |
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| • understand **physical geography**, including processes that give rise to key | **Context of Study:**<br><br>This unit of study, *Mountains, Volcanoes and Earthquakes*, builds on the children's prior learning in both science and geography. In science, the children have previously studied rocks (KS2.T1.CB). They learnt how igneous, sedimentary and metamorphic rocks are formed, as well as how fossils and |

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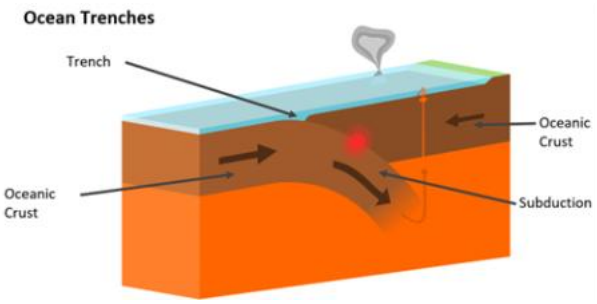
| physical features of the world, how these are interdependent and how they bring about spatial variation and change over time.<br>• develop locational knowledge of globally significant places and key physical characteristics.<br>• Name and locate major physical features including **mountains**, **volcanoes** and **earthquakes**.<br>• Describe and understand aspects of physical geography including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle. | soils are created. This knowledge provides an essential foundation for understanding how mountains are formed through tectonic processes, how volcanoes create igneous rock, and how earthquakes occur due to movements of the Earth's crust.<br><br>In geography, the children are already secure in their understanding of physical and human features (KS1.CA.T3, KS2.CA.T1). This prepares them to explore mountains and volcanoes as significant physical features, and to consider the human impact and challenges of living in such regions, including settlement, agriculture and tourism. Their earlier learning about how humans use land and natural resources (KS2.CB.T2) is extended here, as they consider how natural hazards influence land use and settlement choices.<br><br>The children's prior work on continents and oceans (KS1.CA.T2) also support this unit. Having already developed a global awareness of the world's landmasses and seas, pupils can now locate mountain ranges, volcanoes and earthquake zones, and connect this with an introduction to tectonic plates.<br><br>The study of rivers and the water cycle (KS2.CA.T2) also links closely to this unit. Children know that rivers begin in upland areas, and they can now connect this with an understanding of how mountains provide water sources through rainfall, snowmelt and glaciers.<br><br>**Crucial Knowledge**<br><br>  <br><br>**The Structure of the Earth**<br><br>• Know that the Earth is made up of different layers: the inner core, outer core, mantle, and crust.<br><br>To know that the inner core is made of solid metal<br><br>To know that the outer core is made of liquid metal around 4400 degrees C<br><br>To know that the mantel is molten rock called magma<br><br>To know that the crust is solid rock is granite and basalt<br><br>Know that the Earth's crust is split into pieces called tectonic plates. There are 7 main tectonic plates which make up the Earth's crust<br><br>Know that tectonic plates move very slowly over time |

## Mountains

Know that a mountain is a landform that rises above the land around it.




Know that mountains can be formed when tectonic plates push together (fold mountains).

Know that the UK has mountain ranges such as the Pennines, the Lake District, Snowdonia and the Scottish Highlands.

Know that mountains are a type of physical feature shown on topographical maps.

To know that the Himalayas are the largest mountain range in the world and that Mount Everest is the tallest mountain – Mount Everest continues to get 1cm taller per year as the tectonic plates continue to push against each other causing the mountain to keeping getting taller.

To know Ocean trenches are all formed by the movement of tectonic plates and due to the crust pushing into the magma, it causes the magma to rise up (link to volcanoes)

## Volcanoes

Know that a volcano is an opening in the Earth's crust where magma, ash and gases escape.
Kow this can be either when the plates push together or pull apart

Know that magma is molten rock inside the Earth and lava is molten rock that has erupted onto the surface.

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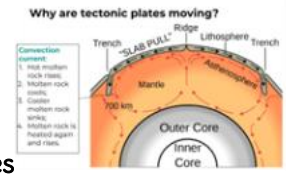
| | Know that most volcanoes are found where tectonic plates meet, such as around the Pacific Ring of Fire.<br><br>Know that volcanic eruptions can be dangerous but also bring benefits such as fertile soils.<br><br>To know that volcanoes can be 'active' or 'dormant'<br><br>  <br>**Earthquakes**<br><br>Know that an earthquake is a sudden shaking of the ground caused by tectonic plates moving against each other. This is on the fault line.<br><br>To know that when the earthquake strikes, the point on the surface of Earth is known as the epicentre.<br><br>Know that earthquakes can cause tsunamis if they happen under the sea.<br><br>Know that earthquakes occur when the pressure between the tectonic plates build up over time<br><br>Know that earthquakes can damage buildings, roads and other human features.<br><br>Know that scientists measure earthquakes using the Richter scale.<br><br>**Impacts and Human Responses**<br><br>Explore two cases: one volcano and one earthquake to understand the geographical impact on both the human and physical aspects.<br><br>Know that volcanic eruptions and earthquakes affect how people live, work and use the land.<br><br>Know that people continue to live near volcanoes and earthquake zones because of benefits such as farming, jobs and tourism.<br><br>Know that humans build earthquake-proof buildings and create emergency plans to protect themselves.<br><br>Know that humans adapt the land to reduce risks from natural hazards. |