MOUNTAINS AND VOLCANOES: WHAT, WHERE AND WHY?

In this unit pupils will learn:

- How mountains and UK peaks are formed
- The features of a volcano and how they erupt
- Why people live near volcanoes.

NATIONAL CURRICULUM

Locational knowledge

- locate the world's countries, using key physical and human characteristics near and around volcanoes.
- name and locate counties of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills and mountains), and land-use patterns; and understand how some of these aspects have changed over time

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 in North or South America

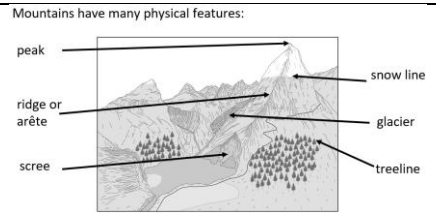
Human and physical geography

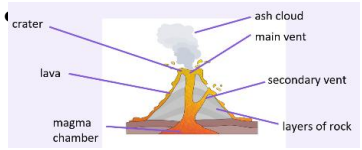
- describe and understand key aspects of:
  - physical geography, including: mountains and volcanoes
  - human geography, including: types of settlement and land use and minerals

Geographical skills and fieldwork

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- use the 8 points of a compass, 4- and 6-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the UK and the wider world.

Lesson	Brief Overview	INK	Vocabulary
THE FORMATION OF MOUNTAINS How are mountains formed and shaped over time?	In this lesson children will learn to use geographical vocabulary to describe and explain how mountains are formed.	• **Fold mountains** happen when tectonic plates converge (move towards each other), the ground is pushed upwards, lifting and folding it, creating mountains. • **Fault block mountains** as tectonic plates converge Earth's crust can break along lines of weakness. These lines of weakness are called fault lines. When this happens the crust can break into blocks, which	Converge, tectonic plates, fold mountains, fault block mountains, dome mountains

		are pushed upwards to create fault block mountains. • **Dome mountains** are formed when molten rock, or magma, pushes its way from the mantle into the crust. The magma doesn't break the surface, but forces the crust to bulge upwards. It then cools and hardens.	
MOUNTAINS AND THEIR FEATURES What are the key features of mountains? What are the conditions like on Mount Everest?	In this lesson children will learn to recognise and name the key features of a mountain landscape and describe the conditions found on Mount Everest.	 • Mount Everest is the highest mountain on Earth. • **Temperatures** at the summit drop as low as minus 60 °C. In the hottest month of July, they reach a maximum of minus 18 °C. • The **weather** can be very unpredictable. Raging storms and howling winds move in without warning. • The light can be extremely bright at high **altitudes**, especially when reflected off snow. • The air can be very thin at high **altitudes**. The lack of oxygen can make climbers feel weak and nauseous. This is called altitude sickness.	Peak, Arête, altitude
THE UK'S PEAKS What are the names and location of the UK's	In this lesson children will learn to name and locate the UK's highest peaks and use OS	 Ben Nevis – Scotland Slieve Donard – Northern Island Yr Wyddfa – Wales	Key, contour lines, trig points

highest peaks? What are the major physical and human features of Yi Wyddfa (OS map)?	maps to identify major physical and human features of Yr Wyddfa. Uss OS map and grid references (4 and or 6 grid refs) to locate the highest peaks. Use 8 point compass to describe location.	• Physical features include a lake, rivers and a cliff • Human features include a footpath, a mine and a station	
VOLCANOES AND THEIR FEATURES What are the features of a volcano?	In this lesson children will learn the key features of a volcano and can use geographical vocabulary to name and explain them.	 • When volcanoes **erupt,** the magma bursts up to the surface of Earth where it becomes lava. When the lava cools, it hardens into igneous rock on the sides of volcanoes. This process makes volcanoes bigger. • Most volcanoes happen at plate boundaries • A volcano is a crack in Earth's crust where lava is emitted	Lava, erupt, magma, igneous rock, plate boundaries, crust
LIVING NEAR VOLCANOES? What is the impact of volcanic eruptions on people? Why do people live near volcanoes?	In this lesson children will learn about the impact of volcanic eruptions on people and understand why some people choose to live near volcanoes.	**Negative reasons for living near a volcano** • Lava – extremely hot and cause fires • Ash – bury homes, farmland and roads • Gas – cause lung damage **Positive reasons for living near a volcano** • Farmland – volcanic soil is rich in minerals and very fertile	Minerals, fertile soil, geothermal energy, tourism, lahar

		• Mineral extraction – graphite can be changed into diamonds that can be mined • Geothermal energy – heat from underground water used to drive turbines and this can be transferred into electricity	
THE IMPACT OF ERUPTIONS : EYJAFJALLAJOKULL, ICELAND What forces are at work when volcanoes erupt? How do they alter the landscape and environment?	In this lesson children will learn about the forces at work when volcanoes erupt, and how these may alter the landscape and environment.	• Iceland is located on the Mid Atlantic Ridge where the North American and Eurasian tectonic plates diverge. • The eruption of Eyjafjallajökull occurred on 14 April 2010 and continued for over one month. • Heat from the eruption caused the glacier covering Eyjafjallajökull to melt and the resulting flood water damaged roads. • Ash from the eruption rose high into the atmosphere and grounded aircraft, impacting on the European economy.	Tectonic plates, diverge, eruption, ash, glacier, flood water