Year 4 Geography: Mountains, Earthquakes and Volcanoes — Spring Term

Why live in tectonic areas?

Geographical Skills:

- To use appropriate geographical vocabulary, e.g. to extend use of geographical terms such as the eight compass points. Begin to use terms such as temperature, transport, industry.
- Ask geographical questions during research to further their understanding- e.g. what is this landscape like? What do I think about it?
- To communicate in ways appropriate to the task and issue, e.g. writing to a newspaper about a local issue, using email to communicate and share information, using appropriate geographical terms.
- To understand how asking geographical questions can support their enquiries.
- To use a key accurately.
- Analyse evidence and begin to draw conclusions.

Fieldwork:

Use of Google Earth

Prior Learning:

My Country my school; Beside the seaside; My locality; Around the World; Comparing North East region to European region; Rule Britannia; Science unit on Rocks and soils

Curriculum Skill(s)	Learning Intention	Knowledge and Key Vocabulary
Locational Knowledge: • To identify where places are (e.g. countries, towns, villages and more specific locations) through use of maps, atlases and globes. • To know the specific location and environments of places they study.	Where in the world are we? - Recap prior learning such as location of the UK and the countries that make up the UK, names of seas and oceans that surround the British Isles, recap capital cities of countries of the UK, name and locate Whickham, Newcastle and London. - Name and locate the continents and five major oceans of the world What are tectonic plates? - To look at the structure of the earth including a map of tectonic plates - To look at how the continents have moved over time due to tectonic plates and heat from the core What is the ring of fire? - Locate countries around the ring of fire.	**Knowledge:** - Name and locate the countries of the UK - Know the difference between the British Isles and the UK - Name and locate the seas and oceans that surround the British Isles - Name and Locate Whickham, Newcastle and London on a map - Recall the difference between a town and a city - Name and locate the continents and know that we are part of Europe. - Name and locate the five major oceans of the world - Know that the earth is made up of three layers – the core, mantle and crust - The earth's crust is made up of tectonic plates

		- These plates move and this movement causes changes on the surface of the earth including mountains, volcanoes and earthquakes - The ring of fire is an area around the Pacific plate in the Pacific Ocean where frequent earthquakes happen and many active volcanoes are found - The main countries the ring of fire includes are Chile, Mexico, America, The Philippines and Japan.
		Vocabulary: England, Scotland, Northern Ireland, Ireland, Wales, British Isles, UK, North Sea, English Channel, Atlantic Ocean, Irish Sea, Whickham, London, Newcastle, town, city, North America, South America, Africa, Europe, Asia, Australasia/Oceania, Antarctica, Pacific Ocean, Indian Ocean, Southern Ocean, Arctic Ocean, crust, mantle, outer core, inner core, tectonic plates, rock, molten, divergent, convergent, transform, continental drift, fault lines, Pangea.
Place Knowledge: • To use secondary sources to further understand and compare contrasting localities. • To describe where these places are- e.g. region, country, proximity to rivers or hills etc.	Where in the world might we find mountains/volcanoes/earthquakes? - To locate the following places on a world map: Himalayan mountain range and Mount Everest; Japan (Chiba) case study for life in an earthquake zone; Mount St. Helens in North America case study for volcanoes	**Knowledge:** - Know that Mount Everest is the highest mountain on earth and that it is located between Nepal and China and in the continent of Asia - Know that the Himalayas spread across many countries such as India, Pakistan, Afghanistan, China, Bhutan and Nepal.

• To recognise how places are linked to other places in the world	- To be able to state which country and continent they are located in and what oceans surround them as well as which tectonic plate they lie on.	- Know that the Himalayas are on the fault line of the Indian Plate - Be able to locate Japan on a world map and know that it is in the continent of Asia and in the Pacific Ocean and lies on the Pacific Plate - Know that Mt St Helens is in North West America in the continent of North America and lies close to the Pacific Ocean. It is part of the North American Plate. **Vocabulary:** Mount Everest, Himalayas, Indian Plate, Japan, Pacific Plate, Mount St Helens, North American Plate.
Human and Physical Geography: • To identify and describe what places are like, and how things change, through understanding of, and reference to, human and physical features- e.g. in terms of weather and jobs. • To respond to questions about patterns in the landscape around them and make appropriate observations about the location of features relative to others.	What is an earthquake/volcano? How is a mountain formed? - What happens to the earth's crust during an earthquake/when a volcano erupts/ as a mountain is formed? - What do we experience during an earthquake/volcanic eruption?	**Knowledge:** - Mountains are created when the movement of the tectonic plates forces the crust upwards. - Volcanoes are caused when magma rises to the surface of the Earth, which causes bubbles of gas to appear in it. This gas can cause pressure to build up beneath the surface, and it eventually explodes. - Earthquakes are usually caused when rock underground suddenly breaks along a fault. This sudden release of energy causes the seismic waves that make the ground shake. - Earthquakes vary in severity and are measured on the Richter scale. **Vocabulary:** Pressure, crust, tectonic plates, seismic waves, after shocks, Richter scale, Fold

		mountains, volcanic mountain, fault-block mountain, dome mountain, plateau mountains, active, dormant, extinct, epicentre, hypocentre, fault line, drills, super volcano
	What is the human and physical landscape like on a mountain/ volcano/ in an earthquake zone? - Identify key human and physical features of each area featured for the case studies (Mt Everest, Chiba in Japan, Mt St Helens) using maps, atlases, Google Earth etc. e.g. land mass, climate, heights of mountains, land use, population and tourism.	**Knowledge:** - Know that the climate is very cold and windy at Mt Everest and that it is mainly used for tourism and climbers although Sherpa's do live nearby and in the Himalayas for farming and tourist purposes - Chiba in Japan has a population of almost a million people and is known for its mild climate and fertile land as well as tourism due to Tokyo Disneyland being located there - Know that Mt St Helens has a typical climate of the northern hemisphere (cold winters and warm summers) and that people often live by volcanoes due to volcanic ash enriching soil and making it more fertile for farming and agriculture
		Vocabulary: Key, symbols, atlas, contours, foot, summit, peak, face, slope, outcrop, valley, ridge, magma, lava, vent, conduit, ash, eruption, settlements, tourists, tourism, economy, employment, climate, temperature, precipitation, fertile soil
Geographical Enquiry:	Why do people live in volcanic regions? - Show images of towns below volcanos with the volcano blocked out. Why would people	**Knowledge:** - Volcanoes erupt so rarely that many people have decided the benefits of the

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- Using: maps, counts, photographs, graphs, measurements, films and reports
- Researching secondary sources
- Engaging with people, communities, views and opinions
- Tackling issues and relevant events
- Proposing outcomes and taking actions
- Working at different scales of enquiry e.g. local, regional, global but in connected ways

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live there? Then show the volcano. Would you still want to live there?

How have cities developed to survive earthquakes?

- Investigate earthquake proof buildings and other measures countries have taken to protect people from earthquakes and tsunamis e.g. warning systems, flood defences and barriers

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fertile land outweigh the risks of an eruption.

- Engineers and architects in earthquake zones have designed buildings that can withstand an earthquake.
- Warning systems, coastal defences, flood barriers etc. have been designed to protect people and buildings from earthquakes and tsunamis

Vocabulary:

Vibrations, fertile soil, agriculture, tourism, settlement, architecture, flood barriers, coastal defences, warning systems, drills, tsunami

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Thinking Deeper:

Look into the frequency of earthquakes in Chiba and how the people of Chiba live with these and are protected. Look at the most recent activity of Mt St Helens. What was the effect of this eruption on the landscape and people living nearby?

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Links to other subjects:

- Subject Specific links – DT – Looking at building structures and how they withstand earthquakes; Science – Types of rocks and soil near volcanoes, tectonic plates; Maths – Data handling e.g. looking at temperatures, heights of mountains, land mass, Richter Scales etc.; ICT – Use of Google Earth
- Personal Development – Develops children's respect for the natural world and how major earthquakes and volcanic eruptions effect people's lives and livelihoods
- SMSC – Develops an understanding of different ways of life and why some people choose to live in the regions they do
- Cultural Capital – Why is the fertile land near volcanoes so important?
- Careers – Look at careers such as mountaineers, volcanologist, seismologist
- British Values – Developing empathy for those effected by natural disasters
- Equality – Helping others in times natural disasters

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