

# Year 4

## GEOGRAPHICAL CONTEXT: Mountains, Volcanoes and Earthquakes



### KEY VOCABULARY:

Volcano	an opening in the Earth's crust through which lava, volcanic ash, and
Magma	Molten rock beneath the surface of the earth.
Lava	Magma which has reached the surface through a volcanic eruption.
Ring of fire	The regions of mountain-building earthquakes and volcanoes which surround the Pacific Ocean. Over half the world's volcanoes arise in the Ring of Fire.
Earthquake	A sudden violent shaking of the ground.
Tectonic plate	Large edges of the earth's crust that are divided into huge slabs. These plates fit together like a jigsaw and when they move, they cause earthquakes.

### As Geographers we will...

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

Is a volcano a suitable home?

Why and how does a volcanic eruption happen?

What is an earthquake?

How do we map mountains?

Where is Mount Everest?

What is the role of plate tectonics?

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<https://www.rgs.org/schools/teaching-resources/mountains,-volcanoes->

### Session 1:

#### Locational Knowledge

Where is Mount Everest? (In what continent is it located? In what mountain range is it located? In what countries are Mount Everest and The Himalayas located?)

##### Starter

KWL grid

Show pupils the photograph of Tenzing Norgay at the summit of Everest (with no contextualised information from the class teacher.) Pupils identify enquiry questions: who, what where, when, why? What is the evidence?

#### Place Knowledge

Pupils develop contextual knowledge of the location of globally significant places Interpret a range of geographical information Communicate geographical information in a variety of ways, including... writing at length.

##### Main Activity

Either, pupils write a diary entry, either as (Sir) Edmund Hillary, or Tenzing Norgay after their successful ascent. The diary should include geographical vocabulary, alongside facts and information about the mountain and the men's endeavour, not just express excitement.

#### Human and Physical Geography

Describe and understand key aspects of physical geography, including... mountains Describe and understand key aspects of human geography, including ... land use

##### Plenary

Pupils to share their diary entries with the class.

#### Geographical Skills and Fieldwork

Use atlases, globes and digital/computer mapping to locate countries and describe features studied

##### Assessment

Baseline assessment from the starter activity. Formative assessment from diary entries.

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### Session 2:

#### Locational Knowledge

[In the United Kingdom] name and locate...key topographical features including hills, mountains...

##### Starter

Follow-Me Loop Card activity based on the teaching and learning from the previous lesson on Everest. The class teacher asks the class a question. Each pupil has a card with an answer. Only the pupil with the correct answer can read that answer aloud to the class. In turn that pupil then reads a pre-given question to the class for someone else to answer. By the end of the game every pupil will have followed on from another by reading their answer and asking their question. The loop will be complete because the class teacher has the final answer.

#### Place Knowledge

Understand geographical similarities and differences through the study of [the] ... physical geography of a region of the United Kingdom... Aims Interpret a range of geographical information including maps... Communicate geographical information ...through maps

##### Main Activity

Pupils will complete the Mapping Snowdon worksheet.

#### Human and Physical Geography

Describe and understand key aspects of physical geography, including mountains...

##### Plenary

Pose a question to the class to extend their understanding and interpretation of the OS map of Snowdon: 'Can I see the Clogwyn railway station from Glaslyn (lake)?

#### Geographical Skills and Fieldwork

Use maps...and digital mapping to locate countries... 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 UK...

##### Assessment

Formative assessment of prior learning from the starter activity. The worksheet will cover the skills covered in the lesson: four and six-figure grid references; the use of the key; four and eight points of a compass; directions; the use of scale.

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### Session 3:

#### Locational Knowledge

Using maps to focus on ... North and South America, concentrating on ... key physical characteristics Aims Understand the processes that give rise to key physical ... geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time Interpret a range of geographical information Communicate geographical information in a variety of ways

#### Starter

Just a Minute!: Pupils to speak for one minute without hesitation, repetition or deviation (using factual information and correct vocabulary) on the topic of Everest and the first ascent and/or Mapping Mountains?

#### Place Knowledge

Understand geographical similarities and differences through the study of physical geography of a region ...within North and South America

#### Main Activity

: Pupils draw and annotate diagrams of the three main types of mountain formation (Fold, Fault Block and Dome).

#### Human and Physical Geography

Describe and understand key aspects of physical geography, including...

#### Plenary

Pupils to peer assess their partner's work. Pupils can nominate their partner for praise for the accurate use of geographical vocabulary and detail. Do they have any suggestions for improvement? Then, show interactive clip of the supercontinent Pangea. Can pupils' use their knowledge of plate tectonics to explain what happened? (That a single land mass broke apart to form our current continents.) After, follow the link to see how the today's political borders fit with Pangea.

#### Geographical Skills and Fieldwork

Use maps ... to locate countries and describe features studied

#### Assessment

The starter activity assesses prior learning. Formative assessment from the diagrams. The complexity of the diagrams and annotations will differ according to pupils' understanding. HA pupils will be expected to show the stages of mountain formation over time. Labels will be detailed, accurate and some written explanation may also accompany the work. MA pupils will complete accurately annotated diagrams and LA pupils can use the worksheet supplied.

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### Session 4:

#### Locational Knowledge

Using maps to focus on ... North and South America, concentrating on ... key physical characteristics

#### Place Knowledge

Understand geographical similarities and differences through the study of physical geography of a region ... within North and South America  
Aims Understand the processes that give rise to key physical ... geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time. Interpret a range of geographical information. Communicate geographical information in a variety of ways

#### Human and Physical Geography

Describe and understand key aspects of physical geography, including... mountains, volcanoes

#### Geographical Skills and Fieldwork

Use maps...and digital/computer mapping to locate countries and describe features studied

#### Starter

'Around the World' challenge- see the Volcanoes Lesson Plan for details.

#### Main Activity

Either draw and label a diagram showing the cross section of a composite volcano. Or in pairs or small groups make a 3d cross section of a volcano using colour appropriate plasticine. Annotate the key features using small labels attached to cocktail sticks. This activity will offer peer support for lower ability pupils. As an extension or homework activity pupil could cut out and glue their own composite volcano using the links provided.

#### Plenary

What have we learned today? Give each pupil a post-it note. They should write, or draw, one piece of information they have learned today. Pupils then stick their post-it note on a wall/whiteboard. As a class did we remember everything?

#### Assessment

The starter activity assesses prior learning. In the main activity, higher ability pupils will be expected to have more detailed and accurate labels. Their diagrams or model will also show more of the key structural features of a volcano. In the modeling activity, higher ability pupils may choose to base their model on a specific volcano and make accompanying landscape features.

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### Session 5:

#### Locational Knowledge

Using maps to focus on Europe... North and South America, concentrating on ... key physical and human characteristics, key topographical features... and land-use patterns; and understand how some of these have changed over time.

#### Starter

Spot your teacher's mistakes! Use the mis-labeled diagram of a cross section of a composite volcano. As an extension- can they correctly label the diagram?

#### Place Knowledge

Understand geographical similarities and differences through the study of ... a region of the United Kingdom, a region in a European Country and a region within North and South America Aims Communicate geographical information in a variety of ways including through... writing at length

#### Main Activity

Pupils write a postcard home having visited a volcanic locality. This postcard should include a description of the key features of the volcano. Pupils can then draw the picture on the front of the postcard- which should be relevant. HA pupils should be expected to include more of the geographical detail specific to the chosen volcano in their writing. Their design for the front of the postcard will be more complex, including a picture of the volcano and its surrounding landscape, a map showing its location, and/or how the benefits of volcanic activity for the region.

#### Human and Physical Geography

Describe and understand key aspects of physical geography, including volcanoes... Describe and understand key aspects of human geography, including... types of settlement and land use, economic activity... and the distribution of natural resources including energy, food, minerals...

#### Plenary

Volcano Tennis. In pairs pupils take it in turns to say, "Did you know that..." and then give one piece of information or one fact about volcanoes from the lesson. The Tennis Champion is the pupil who runs out of information last.

#### Geographical Skills and Fieldwork

Use maps... and digital/computer mapping to locate countries and describe features studied

#### Assessment

Formative assessment of the content of the postcard according to the accuracy and the level of detail in the writing and picture(s).

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### Session 6:

#### Locational Knowledge

Using maps to focus on ... North and South America, concentrating on ... key physical characteristics

#### Place Knowledge

Understand geographical similarities and differences through the study of physical geography of a region ... within North and South America  
Aims  
Understand the processes that give rise to key physical ... geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time  
Interpret a range of geographical information  
Communicate geographical information in a variety of ways

#### Human and Physical Geography

Describe and understand key aspects of physical geography, including... earthquakes...

#### Geographical Skills and Fieldwork

Use digital/computer mapping to locate countries and describe features studied

#### Starter

Show a picture of the after effects of the earthquake in Folkestone, Kent, on 28/04/07 (magnitude of 4.3). Do not contextual the information. Pupils identify enquiry questions: who, what where, why? What is the evidence? After discussion, introduce theme of lesson.

#### Main Activity

Pupils will design a board game. This can be in the style of Monopoly, Snakes & Ladders or one of their own devising. To progress in the game players will need to correctly answer questions on earthquakes. See the Lesson Plan for more details.

#### Plenary

'Let's be Seismologists!' The class teacher defines the effects of an earthquake. From the evidence, pupils have to deduce its measurement on the Richter Scale.

#### Assessment

Formative assessment of the content of the board game according to the depth of geographical knowledge and understanding in the questions and decorations