

3BILSTON CHURCH OF ENGLAND PRIMARY



MEDIUM TERM PLANNING

Subject	Topic/Key Question	Year Group	Term	Time Allocation
Geography	Why are mountains so important?	6	Autumn 2	13 hours


What knowledge and skills will children have gained by the end of this unit?

- Explain what a mountain is and how it is formed.
- Draw and label features of a mountain.
- Understand how mountains are identified on a map.
- Understand contour lines and how these show the shape and height of a mountain.
- Compare mountains from different regions and countries.
- Plot data on a graph showing the climate of a range of mountains.
- Know how tourism affects mountains and decide whether it has a positive or negative impact on the environment.

Lesson Sequence	Time Allocation	Key Question/WALT	Teaching Activities	Resources	Vocabulary
Lesson 1	1 hour	<p>Where are the major mountain ranges in the world?</p> <p>By the end of this lesson children will be able to:</p>	<p>What is a mountain? Understand how a mountain is formed. Can children name any mountain ranges in the UK? Can they name any mountain ranges across the world? Use atlases and internet to locate major mountain ranges in the world. On a world map children to identify area that there are famous mountain ranges.</p> <p>Look at how can we identify mountains on a map? What do children notice?</p>	Collins Teacher Notes	Mountain Terrain Map Atlas Mountain range Elevated

		<ul style="list-style-type: none"> • Explain what a mountain is. • Name major mountain ranges. • Identify mountains on a map. 			Earth Crust Bedrock
Lesson 2	1 hour	<p>What are contour lines and how are they used?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Identify mountain on a map by locating contour lines. • Understand how contour lines work. 	<p>Recap Mountain ranges from the previous lesson.</p> <p>How did we identify mountains on a map? What did children notice? These are called contour lines. How is land height shown on maps? Give children an understanding of how contour lines work.</p> <p>Look at maps to identify mountains and heights using contour lines. Identify contour lines on OS maps</p> <p>Match contour lines with mountain images</p>	<p>You tube Twinkl</p>	<p>Mountain range Contour Lines OS map</p>
Lesson 3	1 hour	<p>What are the features of a mountain?</p>	<p>Recap previous lessons.</p> <p>Ask children to draw an image of a mountain. Share your mountains around the room. Do they all look the same? Why or why not?</p>	<p>Collins Teacher Notes Twinkl</p>	<p>Base Plateau Face Ridge</p>

		<p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Draw a mountain. • Label features of a mountain. 	<p>Show children a variety of mountains across the world, are they all the same?</p> <p>What are the features of the mountains?</p> <p>Share the mountain vocabulary. Can you match the features to the different parts of the mountain?</p>		<p>Tree line</p> <p>Summit</p> <p>Snow line</p> <p>slope</p>
Lesson 4	1 hour	<p>How are mountains are formed?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Explain how mountains are formed. • Identify different types of mountains. 	<p>Explain to the pupils that about one-fifth (20 per cent) of the surface of Earth is covered by mountain ranges. A <i>mountain range</i> is a large area where many mountains can be found close together. Among the greatest are the Himalaya, Andes, Rockies, Alps, Urals and Atlas. Using the world map of relief in Resource 7 and also the map of countries in Resource 8, support the pupils to identify the continent within which each of these mountain ranges is located, together with examples of the countries covered. These mountain ranges appear very similar, as the images in Resource 9 indicate. So much so that it would be almost impossible even for an expert geographer to identify which mountain range is which.</p> <p>Explain to the pupils that all of the major mountain ranges in the world – which include all those that they have been looking at – are called <i>fold mountains</i> after the way in which they were formed. Encourage speculation as to what this might mean – what does the word <i>fold</i> mean in everyday usage e.g. to fold up, fold away.</p> <p>Now tell the pupils that you are going to show them a short film made by a GCSE geography student to help explain to</p>	<p>Twinkl</p> <p>BBC bitesize</p> <p>You tube</p> <p>Collins teacher resources</p>	<p>Mountain range</p> <p>Himalaya</p> <p>Rockies</p> <p>Andes</p> <p>Alps</p> <p>Urals</p> <p>Atlas</p> <p>Fold mountain</p>

			<p>Key Stage 2 pupils how fold mountains were created. The film is at www.youtube.com/watch?v=ForDD_BXaNL4</p> <p>What do the pupils think happened? To extend this further, watch the two short films about the formation of the Himalaya range of mountains at www.youtube.com/watch?v=PDrMH7RwupQ and www.youtube.com/watch?v=HuSHOQ6gy5Y</p> <p>Look at images of different mountain types</p>  <p>How are they formed? Use video clips from you tube and bbc bitesize to show mountain formation.</p> <p>Identify different types of mountains</p>		
Lesson 5	1 hour	<p>What are most mountain climates across the world?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Explain mountain climates. 	<p>Recap previous lessons. What is a mountain climate?</p> <p>Look at temperature graphs/ rainfall graphs and compare different mountain climates. (compare top of the mountain to the bottom)</p> <p>Using rainfall and temperature data create a graph to show a specific mountain climate.</p>	Collins Planbee	Climate Temperature Humidity Rainfall Graph

		<ul style="list-style-type: none"> • Compare data of rainfall and temperature in regards to mountains. • Create a graph showing the data of a mountains climate. 			
Lesson 6	1 hour	<p>What is the positive and negative impact of tourism on mountains?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Describe the positive and negative impact of tourism on mountains. 	<p>What do we use mountains for?</p> <p>What are the positive/ negative impacts of tourism? Discuss</p> <p>Sort statements which show positive and negative impact of tourism on mountains.</p>	Google Twinkl	Tourism Mountain Population Litter
Lesson 7	1 hour	<p>Should we ban tourists from Mount Everest?</p>	<p>Recap on the positive and negative impact of tourism.</p> <p>Show newspaper clips of tragedies on mount Everest. Should we ban expeditions? Why or why not?</p>	Newspaper clips from Mount Everest.	Tourism Mount Everest Explore Tourists

		<p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Write a persuasive argument for or against tourism on Mount Everest. 	<p>Show children extracts from famous explores of Everest. What is your opinion?</p> <p>Write a persuasive letter for or against banning tourists on Mount Everest.</p>		
Lesson 8	1 hour	<p>Why is the legend of Mallory and Irvine the greatest unsolved mystery of mountaineering?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Write a newspaper report on an unsolved Mountain mystery. 	<p>Show the pupils the photographs of George Mallory (Resource 12) and Andrew Irvine (Resource 13) and the film at www.youtube.com/watch?v=kl57JzoJpmw</p> <p>Then read them the following passage recorded in the diary of Noel Odell on 8 June 1924:</p> <p><i>At 12:50 there was a sudden clearing of the atmosphere, and the entire summit ridge and final peak of Everest were unveiled. My eyes became fixed on one tiny black spot silhouetted on a small snow-crest beneath a rock-step in the ridge; the black spot moved. Another black spot became apparent and moved up the snow to join the other on the crest. The first then approached the great rock-step and shortly emerged at the top; the second did likewise. Then the whole fascinating vision vanished, enveloped in cloud once more.</i></p> <p>What do the pupils think is the great unsolved mystery?</p> <p>Write a newspaper report on the mystery surrounding them.</p>	Collins teacher resources	<p>Atmosphere</p> <p>Summit</p> <p>Ridge</p> <p>Crest</p> <p>Mountain</p>

Lesson 9	1 hour	<p>Who was Edmund Hillary?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Explain who Edmund Hillary is. • Explain what Edmund Hillary was famous for. 	<p>Research famous mountaineer.</p> <p>What was he famous for?</p> <p>Research and find facts about him</p> <p>Create a biography of his life.</p>	<p>iPads</p> <p>Laptops</p> <p>Library books</p>	<p>Mountaineer</p> <p>Edmund Hillary</p>
Lesson 10	1 hour	<p>How are the Cambrian Mountains different from the Himalaya Mountains?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Compare the Cambrian mountains and Himalayan mountains. • Describe the similarities and difference 	<p>Project the satellite image of the United Kingdom in Resource 20 and give out copies of the relief map of the United Kingdom in Resource 21. Take time here to discuss with the pupils what they notice about the distribution of higher ground and mountains across the country – particularly those areas shown to be higher than 500 m. Which of the four nations of the United Kingdom has the largest area of high ground and mountains, and which has the least?</p> <p>In terms of compass direction, which areas of the United Kingdom have the greatest proportion of high ground and mountains? The north and west. Which areas have the smallest proportion of high ground and mountains? The south and east. Which is the highest mountain in England, Wales, Scotland and Northern Ireland? What are the main mountain ranges in Scotland, Wales, England and Northern Ireland called?</p>	<p>Collins Teaching resource</p>	<p>Himalayas</p> <p>Cambrian Mountains</p> <p>United Kingdom</p> <p>Satellite image</p> <p>Map</p> <p>Compass</p> <p>Climate</p>

		between the Cambrian mountains and Himalayan mountains.	Compare the 2 mountains- include climate , shape etc		
Lesson 11	1 hour	<p>Why is the climate such a challenge for Derek?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Identify natural, environmental and economic problems people face working on or near Mountains. 	<p>Introduce the pupils to Derek Jenkins (Resource 24). He has a farm in the Cambrian Mountains in Wales. Divide the pupils into small groups and provide each group with a set of the photographs of his farm in Resource 25. Working together and just using evidence in the photographs, encourage the pupils to make notes in response to the four questions in Resource 26. Encourage feedback and discussion regarding their responses to the questions and summarise all of the possibilities on the board.</p> <p>Give out copies of the text in Resource 27. Here Derek talks about his farm, how he earns a living and the different kinds of problems and challenges he faces. Read through the passage with the pupils and then tell them to use different colour pens or pencils to:</p> <ul style="list-style-type: none"> Underline in red all of the ways in which Derek earns a living – what he produces or provides to sell to others for a profit (this is the definition of an <i>economic activity</i>); Underline in green any problems he faces that can be considered <i>natural</i> or <i>environmental</i>; Underline in blue any problems he faces that are to do with <i>economic</i> factors such as prices he receives for what he produces at market; 	Collins Teaching resource	Mountains Economic Environmental Natural

			<ul style="list-style-type: none"> Underline in yellow things that Derek does in an attempt to overcome the natural problems created by the mountain environment. 		
Lesson 12	1 hour	<p>Why were the 'treasures of untold value' to be found in the Cambrian Mountains so precious to the people of Birmingham?</p> <p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> Identify and use evidence to support their answer to the above question. 	<p>Give out the quotation by Thomas Barclay in Resource 37. Explain that the 'treasures of untold value' he was talking about were to be found in the mountains of Wales.</p> <p>Divide the pupils into small groups and tell them that you are going to give them five pieces of evidence to help them work out what these riches were. They will have only one chance to answer as a group so it will be best not to rush into a response before they have seen all of the evidence and evaluated it.</p> <p>The first piece of evidence is the quote in Resource 37. Give each group a few minutes to look again at the quote and the date (over 100 years ago) and to speculate about all the things that 'the riches' might be. Could there be things that were considered 'riches' in 1898 that we might not today? What things today have the greatest value?</p> <p>Now give out the second piece of evidence in Resource 38. Explain that this shows the kind of living conditions in 1898 with which many of the 525 000 people of Birmingham had to cope.</p> <p>Next is Resource 39, which shows the poor of the slums of Birmingham queueing at a standing water pump in the street. What does this tell us about living conditions? There is no piped water supply to the overcrowded homes. Allow time for the pupils to reflect and be intuitive in their thinking – to speculate.</p> <p>Resource 40 shows a cartoon representation from the time of a disease spreading death so quickly and aggressively that even</p>	Collins teacher resources	<p>Mountain</p> <p>Wales</p> <p>Lakes</p> <p>Water</p> <p>Valleys</p> <p>Birmingham</p> <p>Reservoirs</p> <p>River</p> <p>Dam</p>

			<p>armies can't hold it back. What could have been the disease? How might it have been spread?</p> <p>Finally give out the fifth piece of evidence – Resource 4.1, photographs of one of many reservoirs (Claerwen) to be found in the Cambrian Mountains. What is a reservoir? What is its purpose? How are reservoirs created? Why are mountainous areas such as Wales a suitable place to create reservoirs? Explain that reservoirs are huge artificial lakes of water that are created by building dam walls across valleys through which rivers are flowing. The water builds up behind the dam wall to create a reservoir.</p> <p>Now it is time to focus the thinking of all of the groups. If water represents the 'treasures of untold value' described by Thomas Barclay then why? What was its value? The answer lies in Resource 4.2. By 1898 it had been discovered that cholera was spread by the consumption of water and food contaminated with bacteria. This knowledge led the council of Birmingham to seek out sources of fresh water. They identified the mountains of Wales and the valleys of the River Elan and Claerwen in particular as the ideal location to construct reservoirs to collect the water, which could then be piped all the way to the city 118 km away. These valleys were considered ideal because they had:</p>		
Lesson 13	1 hour	How else is the precious resource of water used in the Cambrian Mountains?	Project the photograph of the dam and reservoir in Resource 4.9 . It is Nant-y-moch Reservoir in the Cambrian Mountains of Wales, which has been created by building a dam across the River Rheidol.	Collins teacher resources	Dam Reservoir Wales River

		<p>By the end of this lesson children will be able to:</p> <ul style="list-style-type: none"> • Use a map to estimate the area of Nant-y-moch Reservoir. • Understand the water cycle and how this supports electricity to homes in Wales. 	<p>Distribute copies of the OS map extract in Resource 50. The photograph was taken in grid square 7586 showing the dam wall with the reservoir behind. Explain that this reservoir was not created to supply fresh drinking water but for another very important purpose. Can the pupils find any evidence on the map to suggest what this purpose might be? Encourage them to trace the course of the river on the map south from the dam wall to the settlement of Devil's Bridge (Pontarfynach) and then westwards towards Aberffraw. Can they find any clues along the way? The most important clue is the power station in grid square 7079 and shown in the photograph in Resource 51. What kind of power station will it be?</p> <p>Hydroelectric power is produced by the force of falling water. In mountainous areas such as mid-Wales, hydroelectric power stations have been built to provide electricity to homes, schools, farms and businesses. The annual energy production is about 85 GWh (gigawatt-hours) – enough to power 12 350 homes. An underground shaft takes water from the main reservoir to the Dinas Reservoir in grid square 7482 where further water is added. The underground shaft carrying the water continues to Bwa-drain at 715798. At this point the water drops vertically down a 250 m surge shaft to the power station where it spins the blades of a giant turbine such as the one in Resource 52 (see water bottle for scale). The turbine is connected to a generator. As the generator spins it makes electricity, which is transmitted away from the power station along high tension cables suspended between pylons (Resource 53). After passing through the turbine, the water flows back into the river on the other side of the dam (Resource 54).</p>		<p>Map Hydroelectric Mountainous Human features Physical features</p>
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			<p>Complete this line of enquiry by asking the pupils to reflect a little about the advantages and disadvantages of renewable energy schemes such as this. The electricity produced is 'clean' and 'green' in the sense that it doesn't result in the production of harmful greenhouse gases, such as carbon dioxide, that contributes to global warming and climate change – which is good. But can the pupils think of any other potential harmful impacts on the environment? What do companies that produce hydroelectric power in places such as this have to do before they can start generating electricity? They have to flood a very large area, normally a deep valley, to create the reservoir and the huge head of water that is required. Looking at the map ask the pupils to estimate the area of Nant-y-moch Reservoir (each grid square is 1 sq km). Before flooding, it would have looked something like the valley in the photograph in Resource 55.</p>		
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Links to the National Curriculum.

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.

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 within North or South America.

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.