Mendell Primary School

Aspire Challenge Achieve

Medium Term Plan Geography – Autumn term

Year Group: 4	Term: Autumn 2021	Teacher: Hannah Jones	Subject lead: Amy Harris	Overview: Mountains: To learn the characteristics and features of mountain ranges; how mountains are formed; different types of mountains around the world and an exploration of the ecosystems and processes that shape them and the land around them.	Key end points: Ask and answer geographical questions about the physical and human characteristics of a location. Name and locate geographical regions and their identifying human and physical characteristics, including hills, mountains, rivers, key topographical features and land-use patterns; and understand how some of these aspects have changed over time.	Prior learning/future learning: Year 4: Mountains

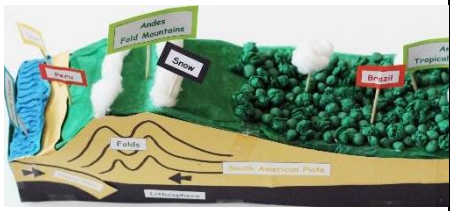
Links to other learning:	Common misconceptions:	High Quality Text:	National curriculum links:
Year 3 science: rocks Year 3 Geography: volcanoes	Pupils are likely to view mountains as they are seen now – seemingly static and stable. They often have difficulty believing that rocks can change over time. Ensure they can conceptualise that change happens over time and that mountains can change over millions of years. Some pupils will not realise that volcanoes (Year 3 memory flashpoint) are types of mountains although different in their structure. Some pupils may think that a mountain range (e.g. the Alps) is a single mountain.	The world's greatest Mountain Ranges	Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle

	Learning Intention	Real life links	Lesson Outline	Resources	Vocabulary	Lowest 20% Adaptations
1	I can explain what a mountain is and identify the key features of mountains Knowledge: A mountain is a natural elevation of the Earth's surface, rising to a summit. Mountains have an elevation greater than that of a hill, usually	Photograph of first mountaineer to climb Mount Everest	Explain to the pupils that the skills we are going to learn today are use secondary sources of information to help us think like a geographer and explain the key features of mountains. **Starter:** Begin the lesson by showing pupils the iconic photograph of Tenzing Norgay at the summit of Everest (See resources). Do not contextualize the photograph. **Ask pupils to identify enquiry questions:** who, what, where, when and why. Who is it?	Question matrix grid Google Earth Knowledge organisers/word mats Word of the week vocabulary slips	**Mountain** **Mountain range** **Peak** **Base** **Summit** Terrain Assent Ridge Glacier Moraine Crevasse Mount Everest **Landscape** Snow line Tree line Elevation Altitude Slope Face Rocky Plateau Valley	Support adult to show children visual 3D model of a mountain to support understand of different features of a mountain/formation and how mountains typically obtain their shape.

	greater than 610m.		Where is it? At the summit of Mount Everest			

			When do you think the photo was taken? 29th May 1953 What does the photograph show?			

			Locate Mount Everest using Google Earth Google Earth. **Show pupils the photograph of Mount Everest**. When examining the photograph ask: What can you see? What words would you use to describe the landscape? (Flat sides, covered in ice and glaciers, cold temperatures etc.) The name Himalaya is an old Sanskrit word meaning 'abode of snow.' Is this a suitable name? (yes) Would it be easy or hard to climb? (challenging – due to the low temperatures and difficult climbing conditions) Other than climbing, what is the mountain used for? (Scientists use to study climate change.) Is it habitable? Why or why not? (No – only temporarily because of the harsh conditions.) Use the 'marvellous mountains' presentation from Maestro (see resources) to introduce and define the concept of mountains. Add key images/definition/vocabulary to working wall. Share video link: Mountains - BBC Bitesize to supplement this. **Word of the week: peak –** children to explain the meaning of this in books. Using knowledge organisers/word mats for support (see resources) pupils to record answers to these key questions in their books: What is a mountain? (A mountain is an elevated portion of the Earth's crust, generally with steep sides that show significant exposed bedrock.) What is the highest point of a mountain called? (Peak or summit) What is the difference between a mountain and a hill? What is the minimum height a mountain should be? (Hills are easier to climb than mountains. They are less steep and not as high. any peak above 8,200 feet (approx. 2,500m) is a mountain.) How is the base of a mountain different from its peak or summit? (The base of a mountain is where it meets flat or only gently sloped ground. The height of a mountain is measured from sea level rather than from its base.)			

			What is a snow line? (The snow line is an irregular line located along the ground surface where the accumulation of snowfall equals ablation (melting and evaporation). This line varies greatly in altitude.) What is a mountain range? (A mountain range or hill range is a series of mountains or hills ranged in a line and connected by high ground.) Pupils to work collaboratively to Create a 3-D food or other model of a mountain/mountain range using ingredients or resources available (e.g. playdough.) Pupils to label key features like in image below to enable them to understand key vocabulary. Who can make the highest structure? Or the most realistic one?  **Exit pass**: Why do you think is It difficult for trees to grow on mountains? (Trees don't grow above the timberline of a mountain because of high winds, low moisture, and cold temperatures.)			
2	I can identify different types of mountains and explain how they are formed Knowledge: I know the five main different types of mountains are: fold, dome, fault-block, plateau and volcanic.		Explain to the pupils that the skills we are going to learn today are use secondary sources of information to help us think like a geographer and explain different types of mountains and how they are formed. Recap key learning from previous lesson. What is a mountain? (See definition from previous lesson) Is all high land a mountain? (No – see previous lesson for difference between a hill and a mountain) (It depends because definitions of a mountain vary. One convention, often used in the UK, is a peak above 3000 feet. **Word of the week: Mountain ridge** – pupils to explain meaning in their books. Use the 'different types of mountain' presentation from Maestro (see resources) to introduce different types of mountains and add key images to working wall. Share video link: Types of mountains and how they are formed - YouTube to help explain how mountains are formed (ensure	i-pads Mountain sorting cards Word of the week vocabularly slips	**Fold** **Fault Block** **Dome** Plateau Volcanic Plate Magma Anticline Syncline Crust Together Upwards Mount Everest Fault lines Eroded Pressure Rock strata	Pupils build the different types of mountains with adult support, using soil, sand and other soft materials to help them visualise the different mountain types. Give pupils a piece of A4 paper and ask them to push the two ends towards each other. This will create an upward fold in the paper. This is similar to how a fold mountain is formed.

			children have retained prior knowledge from Year 3 tectonic plates here – memory flashpoint) If children need further support revisit Year 3 link: Key Stage 2: Mountains, volcanoes and earthquakes - YouTube Can you explain in talk partners now how mountains are formed? (Occasionally two plates move closer to each other or converge. This creates intense pressure, causing the plates to buckle in different ways and this process forms a mountain.) If children are struggling, use i-pads to access this webpage: How Are Mountains Made?	Wonderopolis Provide children who require additional support with types of mountain sorting cards and ask them to sort into 5 groups: dome, fault-block, fold, plateau and volcanic and photograph for books. Average and more able pupils to draw and label these (See resources for WAGOLL examples of pupil work from RGS society). Use answer sheet to assess children's understanding. Children to explain in books how mountains are formed.			
3	I can identify the topography of an area of the UK using contour lines on a map I can use four figure grid references Knowledge: A contour line is a line on a map that joins areas of equal height and shows the elevation of features in the landscape.	OS maps	Explain to the pupils that the skills we are going to learn today are use maps at a range of scales, including ordnance survey maps to help us think like a geographer and analyse key information. to help us think like a geographer and explain the activity of plate tectonics. Recap prior learning on different mountain types. Use word of the week to introduce lesson concept: **Word of the week: contour lines –** children to explain the meaning of this in books. (Contours are lines showing land of equal height. Contour lines that are close together show land that is steep, contour lines drawn further apart show land that is more gently sloped.) Explain to the children that today will be looking specifically at Ordnance Survey maps (OS maps) and contour lines. These show topographical features (primarily maps of the landscape). Show children video link to introduce concept of contour lines: Understanding contour lines with Steve Backshall and Ordnance Survey - YouTube What does an Ordnance Survey map represent? (OS maps show physical and human features as symbols making maps easier to read. They show	I-pads OS maps (online or printed copies) Word of the week vocabulary slips Print out guide of how to read grid references Compass directions	**Contours** **Contour lines** Height ordnance survey maps Steep Steeper Flat flatter Slope **Topography** **Topographical features** grid **Four figure grid reference** **Peak** **Summit** **Scale** Metres	Provide pupils with enlarged copies of OS maps to study peaks to help them identify contour lines/grid references.

			grid references to accurately locate places and contour lines.) What are contour lines? (A contour line is a line drawn on a topographic map to indicate ground elevation or depression.) Using the link OS Maps: online mapping and walking, running and cycling routes (ordnancesurvey.co.uk) Explore Ben Nevis and print out map of this for pupils to analyse. Trace contour lines with their fingers, noting that they join together places of the same height and form patterns that help us to imagine what the land actually looks like. Explain to the children that the closer together the contour lines, the steeper the land. Conversely, the wider apart the contour lines, the flatter the land. Recap how to find four figure grid references (memory flashpoint Year 3) using link How to take a 4-figure grid reference with Steve Backshall and Ordnance Survey - YouTube and/or print out webpage from How to Read Grid references (dash4it.co.uk) Together, identify a peak and its height by using the contour lines. Find the grid reference for the peak identified. Assessment checkpoint: Have children grasped key features of an OS map including: • Compass directions • The key • Four figure grid references • Grid squares • Scale Print OS maps for up to 5 mountain ranges for the pupils to analyse to find key information. Can they record in books the name of mountain; height and grid references. What do you notice about how the contour lines are used on the map? What type of landscape do you think this is? (Contour lines, are lines on a map representing an imaginary line on the land surface, all points of which are at the same elevation above a datum plane, usually mean sea level. Contour lines show relief by joining points of equal elevation.) Finish by showing pupils a map of school/local area using google maps. What can you infer about the terrain of our local area? (Flat as no contour lines.)			
4	I can use the eight points of a compass	OS maps Mountain ranges of UK	Explain to the pupils that the skills we are going to learn today are use secondary sources of information to help us think like a geographer and identify features of mountains in the UK.	8 points of a compass poster Compasses UK mountain ranges map i-pads	Compass **direction** **North South East West**	Use Mnemonics (e.g. Never Eat Shredded Wheat) to help pupils retain order

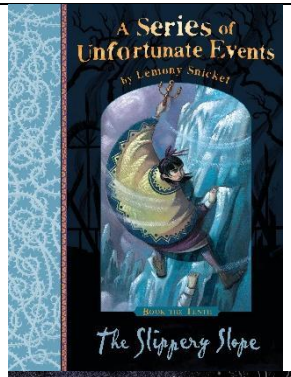
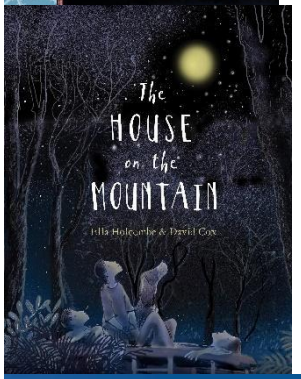
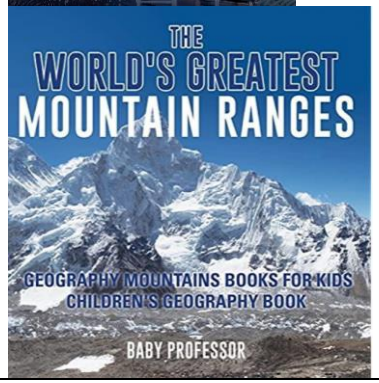
	I can identify features of significant mountains and mountain ranges in the UK		Use video link to recap 8 compass points: Maths KS2: Using a compass and reading maps - BBC Teach (Memory flashpoint Year 3) Add 8 points of a compass poster to working wall (see resources) Show the children the United Kingdom mountain ranges map (see resources) . Ask them to describe the mountain ranges' locations in the UK using cardinal and intercardinal compass points. Use the eight points of the compass, maps and globes to describe the locations of significant UK hills and mountains in relation to their own location. Study other UK mountain ranges together including examples, such as Dartmoor, Exmoor, South Downs, Cotswolds, the Mendips, Grampians, the Scottish Highlands or the Lake District. Look at and analyse Ordnance Survey maps of a mountainous region of the UK selected, identifying various local human and physical features (memory flashpoint – Year 1). Pick an area and describe the main land use. Pupils to work in pairs to investigate a UK mountain/mountain range using i-pads and describe the characteristics using maps, photographs and satellite tools to help them. Pupils to find out and present information on: type of mountain, height, location, climate, wildlife, leisure and tourism and closest settlement. Children to present as PowerPoint using computing skills and record in books. What are the highest peaks in the UK? What is their height? Ben Nevis – 1345m Ben Macdui – 1309m Braeriach – 1296m Scarfell Pike – 978m Useful websites for children: List of mountains and hills of the United Kingdom Facts for Kids (kiddle.co) Mountains and hills of England Facts for Kids (kiddle.co)	photographs/maps of UK mountains	**North-East** **North-west** **South-East** **South-west** **Peak** **Mountain** **Mountain range** **Base** **Summit** Terrain Assent **Ridge** **Landscape** Tree line **Elevation** **Altitude** Slope Rocky Valley	of compass directions
5	To interpret an OS map to answer questions about a		Explain to the pupils that the skills we are going to learn today are use maps at a range of scales, including ordnance survey maps to help us think like a geographer and analyse key information about Snowdon.	Images of contrasting mountain ranges OS maps of Snowdon Work of the week vocabulary slips Grid reference guide from lesson 3	**Topography** **Mountain** **Mountain range** Snowdon Vegetation **Landscape**	Pre-teach with pupils to recap how to use four figure grid references and OS maps.

	locality: Snowdon I can use four-figure grid references		Starter: Look at images of two contrasting mountainous regions/ordnance survey maps. Use the images to brainstorm what they can see in two lists – human and physical features (Year 1 memory flashpoint). Pick an area and describe the main land use. Present their observations to others in the group, comparing their ideas. Discuss any examples of human impact that they have seen and consider whether these impacts are positive or negative. **Word of the week: topography** – children to explain the meaning of this in books. Explain to the children that today we will be learning more about Snowdon using an OS map. The *OS Map Extract* of Snowdon (see resources) shows, in detail, the height of land, the type of vegetation, the footpaths and other features of the landscape. This is a map that is used by hikers, fell runners, horse riders, climbers or anyone experiencing the 'great outdoors.' Locate Snowdon on Google Earth and ensure pupils know that it is located in Snowdonia National Park, north Wales. http://www.google.co.uk/intl/en_uk/earth/. Provide pupils with OS map of Snowdon to stick in books (see resources). A key is available from Ordnance Survey website: http://www.ordnancesurvey.co.uk/docs/legends/25k-raster-legend-welsh.pdf Can you find the summit of Snowdon? The summit of Snowdon is located in grid square 6054. How do you know you have found the summit? There are many 'red herrings' here. The symbols for a tourist feature, visitor centre and train station are all highly visible. The summit itself is marked with the dot and blue triangle symbol demarking a trig point and the height of 1085 (heights are in metres, although this unit of measure is not written on the map). Next look at the other main features marked on the map extract. There are three areas of water in the centre of the extract: **Glaslyn, Llyn Llydaw and Llyn Teyrn**. Llyn means lake in Welsh. Ask the pupils which of the lakes is higher. Spot height markers are evident and are written in red. The answers are: • Glaslyn (to the north of the lake) 605		Hikers **Fell** Footpaths Markers **Summit** **Trig point** Metres **Causeway** Height markers Four figure grid reference	

			metres • Llyn Llydaw (to the north east of the lake, at the causeway) 446 metres • Llyn Teyrn (to the east of the lake) 389 metres Next, from Llyn Teyrn go north east to the location **Pen-y-Pas**. Ask pupils to give you the four-figure grid reference for Pen-y-Pas. (6455 and 647557). Children to answer these questions in their books: **Using Grid References and Keys:** 1. What is located at the grid reference 607562? 2. What is located at the grid reference 624531? *Remember to use the key to find out what this symbol means.* 3. Can you see a big blue bird at this location in real life? 4. What is located at grid reference 658542? *Remember to use the key to find out what these symbols mean.* 5. Look at grid reference 648525. What can you do here? *Remember to use the key to find out what this symbol means.* 6. Find two more features that visitors might want to see in Snowdonia. What are they? What are the grid references for each feature? **Knowing Direction:** 1. You are standing on the summit of Snowdon. Which compass direction does the train journey follow to Clogwyn station? 2. Is Llyn Llydaw to the west or east of Glaslyn? 3. You are in Pen-y-Pas. In which direction will you walk if you take the Miners' Track? 4. Devise two more questions for your class to answer using the 8 points of the compass. Remember, you must know the answers yourself! Challenge – what different dangers does mountaineering pose? (see RGS lesson plan resources for details)			
6	I can name, locate and explain the significance	Significant mountains of the world	Explain to the pupils that the skills we are going to learn today are use secondary sources of information to help us think like a geographer	World mountain cards World maps Atlases i-pads	K2, Ben Nevis, Mount Olympus, Ararat, Everest,	Pre-teach with pupils to recap which mountains they would be

	of key mountains around the world Knowledge: Significant Mountain ranges include the Himalayas, Urals, Andes, Alps, Atlas, Pyrenees, Apennines, Balkans and Sierra Nevada		and identify features of mountains around the world. Recap prior learning on mountains of the UK. Explain to the children that today we are going to progress from analysing mountains in the UK to looking globally at mountains from around the world. **What mountains from around the world do we already know?** Find out where in the world the most impressive mountains are located, using an atlas and its index. Locate mighty mountains on a map of the world, such as K2, Ben Nevis, Mount Olympus, Ararat, Everest, Kilimanjaro, Kenya, Kosciuszko and Aconcagua and ranges, such as the Himalayas, Alps, Andes, Rockies, Karakoram and Pyrenees. In pairs, give the children world mountain cards to read (see resources). Ask them to use maps or atlases to find and study the location of each mountain, highlighting and revisiting the names and locations of continents and countries when looking at the location of each mountain range. Encourage them to use the world maps, atlases, information books and online resources to find out the following for at least 5 different mountains around the world: 1) Name of mountain 2) Height at peak of mountain 2) Mountain range or group within which it is located 3) Continent in which it is located 4) Interesting facts about the mountain Children to find out more about mountains around the world using these links: Mountain Facts | How Are Mountains Formed | DK Find Out and here: Geography for Kids: Mountain Ranges (ducksters.com) **Exit pass:** How do the features of the landscape change at higher altitude? (As altitude rises, air pressure drops. In other words, if the indicated altitude is high, the air pressure is low. High-altitude locations are usually much colder than areas closer to sea level.) What and where are the seven highest peaks in each continent? Mt. Everest (8,850 m) in Asia Aconcagua (6,962 m) in South America Denali (6,190 m) in North America Kilimanjaro (5,895 m) in Africa Mt. Elbrus (5,642 m) in Europe	non-fiction books from SLS on mountains	Kilimanjaro, Kenya, Kosciuszko and Aconcagua Himalayas, Alps, Andes, Rockies, Karakoram and Pyrenees.	interested in learning about and additional adult to support with using web resources.

			Puncak Jaya/ Mt. Carstensz (4,884 m) in Oceania Mt. Vinson (4,892 m) in Antarctica. Optional video link to summarise learning: Royal Geographical Society - Geography resources for teachers (rgs.org) Book links:			

			 A Series of Unfortunate Events by Lemony Snicket The Slippery Slope  The HOUSE on the MOUNTAIN  THE WORLD'S GREATEST MOUNTAIN RANGES GEOGRAPHY MOUNTAINS BOOKS FOR KIDS CHILDREN'S GEOGRAPHY BOOK BABY PROFESSOR			