




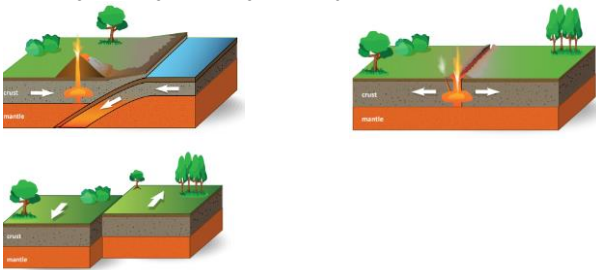
Mendell Primary School

Aspire Challenge Achieve


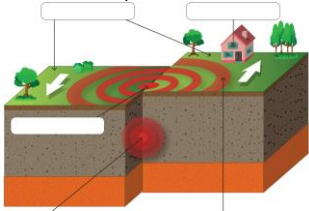
Medium Term Plan Geography – Autumn term



Year Group: 3	Term: Autumn 2021	Teacher: Jessica Hindley	Subject lead: Amy Harris	Overview: Rocks, relics and rumbles: To learn features and characteristics of the Earth's layers, including a detailed exploration of volcanic, tectonic and seismic activity.	Key end points: Use a range of resources to identify the key physical and human features of a location. Describe key aspects of: physical geography, including volcanoes and earthquakes.	Prior learning/future learning: Y3 Science: Rocks	
Links to other learning: Y3 Science: Rocks		Risk Assessment: Prior to sharing video clips/images of destruction from earthquakes, discuss with children potential impact and consequences of such natural disasters.	High Quality Text: Volcanoes and Earthquakes <i>Kathy Furgang</i>	National Curriculum links: Describe and understand key aspects of: Physical geography, including climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.		Common misconceptions: All rocks are heavy. All volcanoes erupt violently and are only found in hot climates. They only erupt straight through the top vent. The Earth's mantle is semi-liquid (due to volcanic eruptions and the liquid nature of magma)	
<u>Learning Intention</u>	<u>Real life links</u>	<u>Lesson Outline</u> (Key questions in colour)			<u>Resources</u>	<u>Vocabulary</u>	<u>Lowest 20% Adaptations</u>
1 I can name and describe properties of the Earth's four layers		<p>Explain to the pupils that the skills we are going to learn today are to use geographical vocabulary to help us think like a geographer and communicate the properties of the Earth's layers.</p> <p>Find out what the pupils already know about the Earth's layers and address any misconceptions. Use link below to Introduce children to the structure and characteristics of the Earth's layers Earth's Interior National Geographic Society Display the downloadable poster on working wall. Provide children with layers of the Earth knowledge organiser (see resources.) Challenge children to find out the answers to these questions using the information sheet which layer is the thickest? (Mantle) Which layer is the hottest? (Inner core) What is magma? (Molten material from which lava and igneous rocks are formed on cooling.) What are the large pieces of the Earth's crust called? (Tectonic plates.) Which layer of the Earth is molten metal? (Outer core) Record in books.</p> <p>Word of the week: (display on vocabulary wall) Molten – Children to find out the meaning of this and record.</p> <p>Pupils to use 4 different colours of playdough to make and represent the different layers of the Earth and label the different layers. Record photographs in books.</p>			<p>Various colours of playdough: red, yellow, orange, green and blue.</p> <p>Cocktail sticks Plastic bottle Newspaper Masking tape Box Plain flour Water Paints Four layers of Earth poster Word of the week vocabulary slip</p>	<p>Earth Layer Crust Mantle Inner core Outer core Molten Semi-molten magma State Solid Temperature Composition Surface Tectonic plates</p>	<p>Carry out a pre-teach with children to discuss key vocabulary and use visual/practical images to show layers of Earth's crust to help them visualise different thicknesses of layers.</p>

			 <p>(NB/Ensure the relative size of each layer is the appropriate size i.e., the crust should be thinner than the core and mantle.)</p>			
2	I can describe the activity of plate tectonics and how this has changed the Earth's surface over time (continental drift).	See adaptations for lowest 20%	<p>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 activity of plate tectonics. Recap prior learning on the four layers of the Earth. Share the video clip to introduce the concept of tectonic plates: Tectonic Plates - The Skin of Our Planet Down to Earth - YouTube Share the plate tectonics presentation with the children (see resources) Use a world map to identify the location of plate boundaries.</p> <p>Can you explain how tectonic plates move now? (The heat from radioactive processes within the planet's interior cause the plates to move either towards or away from each other.) What is the potential impact on the Earth's surface? (formation of mountains, faults and cracks in the Earth's crust resulting in earthquakes etc.)</p> <p>Using the pictures from the continental drift resource (see resources) pupils to explain how the movement of tectonic plates has changed the Earth's crust over time. Using the images from the plate boundaries resource (see resources) stick each picture in books of the three different types of plate boundary (convergent, divergent, transform) and describe what is happening in each image.</p>  <p>Exit pass: What is the difference between convergent, divergent and transform plate boundaries? Convergent – where two plates are colliding divergent – where two plates are moving apart from one another transform – where plates slide past each other.</p>	Four layers of Earth poster World map Images of 3 different types of plate boundaries	Crust Continental drift Plate boundary Convergent Divergent Transform Earthquake Pull Push Form Magma Slide Mountain Tectonic plate Pressure Volcano	Use ideas from video link to model tectonic plate collision using practical and visual objects: How to Make a Model of Tectonic Plates for Elementary Students : Plate Tectonics - YouTube
3	I can name and locate significant volcanoes and plate boundaries and explain why they are important.	Real life images of volcanoes situated within ring of fire and landslides.	<p>Hook for learning for volcanoes: Teacher to make a 3D volcano by clicking on the link and pupils watch it erupt. How to Make a Papier Mache Erupting Volcano for the Science Fair - Red Ted Art - Make crafting with kids easy & fun</p> <p>Explain to the pupils that the skills we are going to learn today are to present evidence on maps to help us think like a geographer and locate the ring of fire. Over the next few lessons we will be studying volcanoes.</p> <p>Recap prior learning on tectonic plates and four layers of the Earth. Share with pupils' images and information from the ring of fire resource pack (see resources).</p>	Images of ring of fire Images of active, dormant and extinct volcanoes Word of the week vocabulary slip True or false cards	Dormant Extinct Active Pacific Ocean Tectonic plates Volcano Volcanic eruption Ring of fire Landslide	Show children visual examples of landslides to support them in understanding the impact.

			<p>Which ocean is the ring of fire centred around? (Pacific Ocean) Which plate is most of the ring of fire along the edge of? (Pacific plate) Why are there so many earthquakes and volcanic eruptions along the ring of fire? (the amount of movement of tectonic plates in this area.)</p> <p>Watch video clip up to 1.40 to see how the ring of fire developed. Ring of Fire Volcanoes, Earthquakes, and Tectonic Plates - YouTube</p> <p>Add key images to working wall to help enforce key concepts.</p> <p>Children to draw the ring of fire on the tectonic plate map (see resources)</p> <p>Introduce the different between active, dormant and extinct volcanoes. Word of the week: Dormant – children to explain the meaning of this in their books.</p> <p>Use link to explain the concept of landslides landslide National Geographic Society</p> <p>Children to write a paragraph explaining what they are in their books.</p> <p>Plenary: provide pupils with ring of fire true or false cards (see resources) and ask them to sort in pairs into two groups: true or false. Work through answers as a class.</p>		<p>Earthquake Earth</p>	
4	I can describe the features of a volcano	Images of real-life volcanic eruptions.	<p>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 describe the features of volcanos.</p> <p>Recap prior learning of plate tectonic using this link: The Geological Society (geolsoc.org.uk)</p> <p>Explain to children that the word volcano is derived from the name Vulcan, the Roman God of fire.</p> <p>Today the pupils will be volcanologists. Share presentation on volcanoes (see resources) and video link: Share the video clip with the pupils to explain further what volcanoes are and how they are formed. Volcanoes - BBC Bitesize Using planning resource from the Royal Geography Society, (see resources) explain why eruptions happen and the difference between shield and composite volcanoes. In groups, pupils to record as much information as they can on large sheets of paper using different headings e.g. what is a volcano/types of volcanic eruption. Add these to working wall. Address any types of misconceptions.</p> <p>Word of the week: volcanologist – children to explain the meaning of this in their books.</p> <p>What is the role of plate tectonics in forming volcanoes? (they form when one tectonic plate moves under another)</p> <p>Why and how do volcanic eruptions happen? (Volcanoes erupt when molten rock called magma rises to the surface. Magma is formed when the earth's mantle melts. Melting may happen where tectonic plates are pulling apart or where one plate is pushed down under another. Magma is lighter than rock so rises towards the Earth's surface. As the magma rises, bubbles of gas form inside it.)</p> <p>Does the UK have volcanoes? Why or why not? (No -The reason why there are no volcanoes in Britain is that such activity usually occurs at the edge of the tectonic plates that make up the surface of the earth. Britain lies on the Eurasian plate, some 1-2000 kilometres away from the plate boundary.)</p> <p>Challenge – pupils to find out: Why do people live near volcanoes? What is the impact on their lives? (Tourists are attracted to the volcano, which increases money to the local economy. geothermal energy can be harnessed, which provides cheaper electricity for locals. minerals are contained in lava, eg diamonds - these can be mined to make money etc.)</p> <p>Pupils to draw a diagram showing the cross section of a composite volcano. Pupils requiring additional support to be provide with the image below to label (see resources) with word banks as necessary. Explain in their books what a volcano is and the different types of volcanoes and volcanic eruptions.</p>	<p>Large sheets of paper Whiteboard pens Word of the week vocabulary slip</p>	<p>Volcano Volcanic eruption Ash cloud Mantle Crater Pyroclastic flow Lava Throat Vent Magma chamber Viscous Plates Plate boundary Dormant Extinct Active Shield Composite</p>	<p>Pupils to make a 3d cross section of a volcano using colour-appropriate plasticine. and annotate the key features using small labels attached to cocktail sticks.</p>

			 <p>Exit pass: play 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.</p>			
5	I know the physical processes that cause earthquakes and volcanic eruptions	Real-life images of earthquakes	<p>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 physical processes that cause earthquakes to occur.</p> <p>Recap prior learning on volcanoes. Share video clips on Earthquakes: Earthquakes - BBC Bitesize and Rocks, Relics and Rumbles Curriculum Maestro (cornerstoneseducation.co.uk)</p> <p>An additional option would be to model the physical activity of an earthquake using an activity from the following link: STEM-Works - Earthquakes Activities</p> <p>Explain how earthquakes occur primarily along the boundaries of tectonic plates. There is a clear correlation between the location of volcanoes and earthquakes. However, earthquakes also occur less frequently within the body of a tectonic plate. Introduce the concept of the Richter scale and how it measures the magnitude (the strength) of an earthquake. Using the teacher factsheet (see resources) explain the two types of shocks that earthquakes can cause and how buildings can be made earthquake proof using visual images.</p> <p>What is an earthquake? (Earthquake is a term used to describe both sudden slip on a fault, and the resulting ground shaking and radiated seismic energy caused by the slip, or by volcanic or magmatic activity, or other sudden stress changes in the earth.)</p> <p>Where do earthquakes happen? (mainly along the rim of the pacific ocean – the ring of fire)</p> <p>What causes earthquakes? (Earthquakes are the result of sudden movement along faults within the Earth. The movement releases stored-up 'elastic strain' energy in the form of seismic waves, which propagate through the Earth and cause the ground surface to shake.)</p> <p>What do you think you should do in the event of an Earthquake? (Stay inside. Drop under heavy furniture such as a table, desk, bed or any solid furniture. Cover your head and torso to prevent being hit by falling objects. Hold onto the object that you are under so that you remain covered and keep safe)</p> <p>Provide children with diagram of earthquake to label (LA) or draw their own (see resources)</p> <p>Word of the week: epicentre – pupils to explain the meaning of this in their books.</p> <p>Children to explain the causes and consequences of an earthquake using diagrams to help them.</p> 	<p>Images of Richter scale</p> <p>Images of earthquake devastation/earthquake proof buildings</p> <p>Word of the week</p> <p>vocabulary slips</p> <p>Earthquake diagrams</p> <p>Wood</p> <p>Sandpaper</p>	<p>Earthquake</p> <p>Plates</p> <p>Plate tectonics</p> <p>Plate boundary</p> <p>Focus</p> <p>Epicentre</p> <p>Seismic waves</p> <p>Magnitude</p> <p>Richter scale</p> <p>Seismologist</p> <p>Seismograph</p> <p>Damage</p> <p>Tremor</p>	<p>Provide the children with blocks of wood covered in coarse sandpaper and encourage them to push them together and try to slide them in different directions. Ask them to describe how the blocks become 'stuck' and then move when the stored energy in the blocks is released. Help the children to relate this to the movement of two plates on a boundary.</p>
6	I can describe how a significant geographical activity has changed a	Photographs of real life earthquakes in Italy.	<p>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 impact of an Earthquake on a landscape.</p>	<p>Images of earthquake devastation- before and after.</p>	<p>Earthquake</p> <p>Plates</p> <p>Plate tectonics</p> <p>Plate boundary</p>	<p>Pre-teach discussion with children to share before and after effects of an Earthquake.</p>

<p>landscape in the short or long term.</p>		<p>Recap prior learning on earthquakes using this link: Earthquake National Geographic Society</p> <p>Show online clips and pictures of earthquake activity in pictures of Italian towns using link from the Guardian Newspaper: Before and after pictures of Italian towns devastated by deadly earthquake Italy The Guardian</p> <p>What can you see happening in the images? What is the impact of the Earthquakes? (Ground shaking, rupturing, structural damage, landslides etc.) Discuss the problems encountered by humans in the short term, such as fear, injury from falling debris and loss of personal items, and in the long term, such as loss of homes, lack of water and sanitation, damaged roads and transport networks and loss of jobs and services.</p> <p>Provide the Central Italy earthquake information pack for the children to analyse in pairs (see resources). Encourage them to read the information and complete the questions from the Central Italy earthquake recording sheet in their books (see resources). At the end of the session, ask the children to report their findings back to the class, highlighting the short and long-term consequences of the earthquake studied. Finish with a class debate: Would you want to live near to a site at risk of an earthquake? Use the photos from earlier in the lesson to support decisions and consider both short- and long-term effects. Pupils to record their opinions in books justifying their opinions.</p>	<p>Word of the week vocabulary slips Earthquake information packs Earthquake diagrams Wood Sandpaper Sentence starters for debate</p>	<p>Focus Epicentre Seismic waves Magnitude Richter scale Seismologist Seismograph Damage Tremor Town Short/long-term effects Rescue Architect Survivors Amatrice Central Italy Collapse Injured destroyed</p>	
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