

**KS1 Geography – Spring Term Learning Journey Snap Shot – Earth Quakes**

Lesson 1	What does the inside of the Earth look like?
Lesson 2	What are tectonic plates? How do they move?
Lesson 3	How and where do Earth Quakes happen?
Lesson 4	What damage can Earthquakes cause and how we measure this?
Lesson 5	What happened in Christchurch in 2011? What impact did the earth quake have?
Lesson 6	How do cities try to prevent earthquakes? Can I make an earthquake-proof building?

**Weekly Lesson Plan Overview**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Key Question(s)	What does the inside of the earth look like?	What are tectonic plates? How do they move?	How and where do earthquakes happen?	What damage can earthquakes cause and how do we measure this?	What happened in Christchurch in 2011? What impact did the earthquake have?	How do cities try to prevent earthquakes? Can I make an earthquake-proof building?
Retrieval Activity	Continents retrieval – labelling the seven continents – could be done as a Socratic	Guessing game for each of the parts of the Earth 'I am ..., I am....Which layer of the earth am I?' Children to vote.	Concept cartoon with a diagram of tectonic plate movement – focused on what the movement is and whether it is the only movement.	True or False – statements about how earthquakes are formed and where they are most likely to occur.	Odd one out – 3 images of earthquake damage and 1 of the richter scale.	Just a minute Can children talk or one minute without stopping about how earthquake happen. Use a vocabulary bullseye to ensure children are using the key vocabulary.
Key Knowledge	To know that the Earth has layers: the inner core, the outer core, the mantle and the crust. The inner core is solid rock, surrounded by liquid rock in the outer core and mantle. The inner core is incredibly hot, which is	Tectonic plates are pieces of the earth's crust that sit on top of the molten rock in the mantle. There are twelve major tectonic plates, some of which are named after the continent that is on top of them.	Earthquakes happen either from friction when tectonic plates are sliding past one another, or from a build up of pressure when they are moving towards one another.	Earthquakes are measured using the Richter Scale. This goes from 0-10, where 0 is not felt and 10 is permanent, globally significant damage. Earthquakes can cause significant damage to buildings, roads and	In January 2011, a major earthquake (6.3 on the Richter scale) occurred in Christchurch, New Zealand. It caused widespread damage and killed 185 people. It caused over 44.8 billion	Experts know where earthquakes are likely to happen, but it is very difficult to predict when.  In order to prevent the damage earthquakes cause, cities

	<p>why the rock surrounding it is liquid. The crust is a solid layer of rock where it has cooled.</p>	<p>Tectonic plates move in different ways, and over time have resulted in the Earth's land changing.</p>	<p>Most large earthquakes happen in the 'ring of fire', but earthquakes can happen anywhere, and we do sometimes have small earthquakes in the UK.</p>	<p>infrastructure. They can cause serious damage and can cause loss of life. Some earthquakes, however, do not cause any damage and are barely felt at all, like those in the UK.</p>	<p>dollars worth of damage to Christchurch and the surrounding areas.</p>	<p>protect their buildings. Protection involves constructing buildings so that they are safe to live in and will not collapse. This includes: steel frames that can sway, rubber shock absorbers in the foundations of the buildings and open outside areas for people to assemble.</p> <p>It is essential to protect cities and buildings from earthquake damage as the impact can be catastrophic.</p>
Key Skills	<p>To label a model of the inner structure of the Earth.</p> <p>To understand that the part of the Earth that we see is just the crust, and that there are layers underneath made of incredibly hot rock.</p>	<p>To use different maps to recognise the shapes of the seven continents.</p>	<p>Use an atlas map to identify patterns in earthquake occurrences.</p>	<p>Discuss and describe the impacts that earthquakes can have.</p> <p>Try to identify where some types of damage would sit on the Richter Scale.</p>	<p>Discuss and describe the impacts of a specific earthquake.</p>	<p>To use research to identify and understand the impact preventing an earthquake can have on cities.</p>
Task	<p>Looking at the AR model of the earth on Twinkl AR – What do they notice? What do they think this is? Discussion using specific stem sentences and target oracy skills.</p> <p>Watch Layers of the Earth Video: <a href="#">Video</a></p> <p>Vocab slide – magma</p> <p>IP – Children to label a diagram of the earth on Showbie, then to record a voice note explaining the different layers of the earth and what they know about them.</p>	<p>Give children a cut up jigsaw of the earth in pairs (tectonic plate jigsaw). What do they notice about it?</p> <p>Explain to them that these are the tectonic plates – pieces of the earth's crust that sit on top of the mantle and make up the top layer of the earth.</p> <p>Show the children a photo of Pangea (with continent outlines on) – what do they think this is? What do they notice?</p> <p>Explain to them that this is what the world used to look like 300 million years ago (before people existed). It has changed over time (watch video) because the tectonic</p>	<p>Use prop/video (jelly on a plate etc) to shake and explain to the children that this is what an earthquake is like.</p> <p>Watch <a href="#">video</a> To explain how earthquakes happen as a result of tectonic plate movement. <i>Once you have watched the video, give children a slide of key vocabulary and ask them to retell how an earthquake happens in pairs using this target vocab. (Have this on their Showbie for them to refer back to at a later point).</i></p> <p>Where do the children think earthquakes happen?</p>	<p>Give children a before and after image from a real earthquake – what do they notice? What damage can they see has happened? Making a list as a class on flipchart paper.</p> <p>Introduce the children to the Richter scale – explain that this is the way that we measure how big an earthquake is and how much damage it is likely to record (watch video with them).</p> <p>Show children some images of earthquake damage – ask them where they would put them on the Richter scale and why.</p> <p>IP – Children to have a Richter scale diagram, and to draw the</p>	<p>Where is Christchurch? Exploring where it is on a map and looking at images of the city before the earthquake.</p> <p>Watching a video with the children of the events of the earthquake. Give them a timeline of the earthquake events and some key vocabulary - retelling the events of this in pairs. (Have this on Showbie to refer back to)</p> <p>IP – Record a news report reporting on the Christchurch Earthquake of 2011.</p>	<p>Earthquake Augmented Reality (AR) 3D Model – allow the children to move the reality to show how the objects move. What do children notice? Why is it important to stop this from happening?</p> <p>Thinking of the school, how could you redesign the school building so that it had further protection?</p> <p>Children are to screen record over their design and explain their choices – imagining these are going to pitch these to Mrs Jones and Mr Hemus.</p>
Oracy						
Writing						

		<p>plates that the land sits on have moved. The plates can move in different ways.</p> <p>Give children two pieces of paper/post it notes. Explain to them that for this activity they are going to represent two of the tectonic plate when they meets. Show them the three types of tectonic plate movement (sliding, moving apart, pushing together) and get them to act these out with their pieces of paper.</p> <p>IP – Children to write (or voice note) a short entry for an encyclopaedia for tectonic plates. Ask them to include diagrams of the movement.</p>	<p>Give them an atlas in pairs (p.79) to explore what they notice about where the green dots are, explore what the larger dots mean.</p> <p>IP – Children to answer the key question in their learning journal books.</p>	<p>damage they would expect at each point on the scale, then to record a voice note explaining what the scale is and what it means.</p>		
WAGOLL						
Key Vocabulary	<p>Layers Diagram Inner Outer</p> <p>Magma Molten Mantle Core Outer core</p>	<p>Movement Boundary Sliding</p> <p>Tectonic plate Convergent Divergent</p>	<p>Earthquakes Countries Continents</p>	<p>Earthquakes Measurements Damage Destruction</p>	<p>Earthquakes City Town Community Impact Devastation</p>	<p>Earthquakes Protection Prevention Constructing/construction Steel frames</p> <p>Shock absorbers</p>
Reading Opportunities						