Geography – Extreme Earth

Main plot- What effects do geological natural disasters have on people and the environment?

Week	Order of Study – Main plots and Subplots – links to geographical skills
1 Structure of the Earth	**LI- I can explain the structure of the Earth in detail. (kpi)** **What is the structure of the Earth?** What is at the centre of the Earth? What are the properties of each layer? How do we know what is inside the Earth? Is the Earth's surface still or moving? Chn to complete first 2 sections of the KWL and stick in knowledge organiser. Ask the children if they know what the Earth is made of and how it's structured. Chn to research each layer of the Earth and write a paragraph explaining each layer. Then draw a diagram with labels. SEN- Provide chn with some simple notes, a word bank and sentence openers to help them construct their paragraphs or cloze procedure if needed. Provide diagram for chn to label using word bank. **Peer assessment.** **Resources:** PPT, ipads, example diagram, word bank, notes for SEN Key vocabulary: crust, mantle, core, lithosphere, asthenosphere, lava, magma, convection currents, tectonic plates, continental plate, oceanic plate, molten, viscous
2 Tectonic plates/Ring of Fire	**LI- I can explain how plate tectonics are changing and understand that these changes happen over different time scales. (kpi)** **How is the world changing?** What is continental drift? Where are the Tectonic Plate boundaries? Which direction are the plates moving in? What is the Ring of Fire? Show chn a picture of how the Earth used to look (Pangaea, Gondwana and Laurasia) and how it looks currently. Chn to stick maps into their books. How has the land changed position? Can the chn identify where the continents were previously? Introduce the theory of continental drift. Give chn an A3 map of the tectonic plates to fill in the missing labels and answer questions (if time, colour different boundaries a different colour each). Discuss the Ring of Fire. Chn stick in map of Ring of Fire and then use an atlas to find and label the missing countries. What do the chn notice about the location of volcanoes? **Teacher mark- task: Is the UK safe from volcanoes and earthquakes? Why?** **Resources:** PPT, maps of the Earth over time, A3 map of tectonic plates and questions, Ring of Fire map, atlas **Vocabulary:** Pangaea, Gondwana, Laurasia, continents, continental drift, tectonic plates, Ring of Fire, convection currents, constructive/divergent plate boundary, destructive/convergent plate boundary, conservative/transform plate boundary, volcanoes, earthquakes, hot spots
3 Volcanoes	**LI- I can explain key aspects and processes of volcanoes in detail. (kpi)** **What causes volcanic eruptions**? How are volcanoes formed? What is the structure of a volcano? What types of volcano are there? Recap that volcanoes mostly occur on tectonic plate boundaries. Give chn diagram of convergent and divergent plate boundary and hot spot for chn to explain how volcanoes form at each location. Chn to then draw (or stick in) and label the structure of a volcano. Chn to then stick in diagrams of the 3 different types of volcano and explain their different structures. SEN- Give chn word bank or cloze procedure to help them explain the formation and structure of volcanoes. **Self assessment.** **Resources:** PPT, plate boundaries diagrams, types of volcano diagrams, https://www.youtube.com/watch?v=WgktM2luLok https://www.youtube.com/watch?v=V863xR0Y2qk http://www.bbc.co.uk/education/clips/zxngkqt http://www.primaryhomeworkhelp.co.uk/mountains/volcanoes.htm

	Vocabulary: mantle, pressure, magma, lava, volcano, constructive/divergent plate boundary, destructive/convergent plate boundary, active, dormant, extinct, composite, cinder cone shield, hot spot, magma chamber, conduit, vent, crater, ash cloud, pyroclastic flow
4 Volcanoes case study	**LI- I can analyse how volcanic eruptions affect the people living there. (kpi)** **What are the short and long term effects of volcanic eruptions?** How do volcanoes affect people? How do volcanoes affect the environment? Are there any positive effects of living near a volcano? Introduce chn to the Cascade Range and the location of Mount St Helens. Chn create a timeline of the eruption. Show chn before and after pics. What differences do they notice? Watch the video and read the information sheet. Chn to create a fact file about the eruption, including the effects on people and the environment. **Peer assessment.** **Resources:** PPT, information sheet, fact file template, https://www.youtube.com/watch?v=X_2qtaVs5u4&ab_channel=GeographerOnline, **Vocabulary:** Cascade Range, Mount St Helens, crater, lava dome, plume, stratovolcano,
5 Earthquakes	**LI- I can explain key aspects and processes of earthquakes in detail. (kpi)** **What causes the earth to quake?** At which plate boundaries do earthquakes happen? How do we measure earthquakes? Why are some earthquakes larger than others? Why does the UK suffer earthquakes? Recap what happens at convergent and divergent plate boundaries and explain that earthquakes can happen at both of these but they can also happen at conservative plate boundaries. Chn stick in diagram and explain what happens at a conservative plate boundary. Chn complete worksheet about the causes of earthquakes including labelling a diagram. **Teacher mark.** **Resources:** PPT, conservative plate boundary diagram, causes of earthquakes worksheet **Vocabulary:** earthquake, faults, constructive/divergent plate boundary, destructive/convergent plate boundary, conservative/transform plate boundary, fracking, pressure, friction, epicentre, focus, seismic waves, Richter scale, seismograph
6 Earthquakes Case Study	**LI- I can analyse how earthquakes affect the people living there. (kpi)** **What damage has been caused by earthquakes at the San Andreas Fault?** Why are there so many earthquakes around San Francisco? Why do you think so many people choose to live there? Show chn an image showing the plate movement at the San Andreas Fault. Why do they think there are so many earthquakes and volcanoes in this region? Use the PPT to tell chn about the earthquake there in 1906. Chn to use this information and their own research to answer questions including effects and prevention. **Self assessment.** **Resources:** PPT, ipads, worksheet **Vocabulary:** San Andreas Fault, prevention, long term effects, short term effects, early warning system, earthquake resistant houses
7 Tsunamis	**LI- I can explain key aspects and processes of tsunamis in detail. (kpi)** **Why do tsunamis cause so much damage?** What factors may trigger a tsunami? Are there any warning signs before a tsunami happens? Show chn a picture of before and after a tsunami. What do they think has happened? Show chn a video of how tsunamis form and chn to then write an explanation along with a diagram (or stick one in). SEN- Give chn statements to sort into order to explain the formation of a tsunami. **Peer assessment.** **Resources:** PPT, before and after picture, diagram, statement cards, https://www.youtube.com/watch?v=Wx9vPv-T51I **Vocabulary:** tsunami, trough, crest, energy, displacement, gravity, wave shoaling, retreat, sea walls, flood gates,
8 Tsunamis Case Study	**LI- I can analyse how tsunamis affect the people living there. (kpi)** What are the short and long term effects? How do tsunamis affect people? How do tsunamis affect the environment? Chn to make notes on the key details of the Japanese tsunami in 2011. Show chn sections from the 'caught on camera' video so chn can see the scale of the destruction. What effects

	can they spot in the film? Chn to list effects, decide if they are short term and long term and then describe how it would affect people. What can be done to prevent further tsunamis? **Teacher mark.** **Resources:** PPT, https://www.bbc.co.uk/news/world-asia-pacific-12709598, https://www.channel4.com/programmes/japans-tsunami-caught-on-camera/on-demand/52325-001 **Vocabulary:** sea walls, retreat, flood gates, tsunami early warning system
	Chn to complete the final section of the KWL grid to show what they have learnt.