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| **What will we be learning?**  **Challenge of Natural Hazards:**  **Tectonic Hazards** | **Why this? Why now?**  The focus in Year 9 is **INTERACTIONS.** Our previous of topic of Weather Hazards is one of the two most frequent types of natural hazard that impact society – the other being Tectonic Hazards. In this topic we will learn about how humans interact with and manage Tectonic Hazards in areas of contrasting levels of wealth. |
| **What will I learn?**   |  |  |  | | --- | --- | --- | | **Lesson Question** | **Date** | **Retrieval Practice** | | 1. What is the theory of **plate tectonics**? |  |  | | 1. How are hazards created at different **plate boundaries**? |  |  | | 1. What are the **hazards** caused by earthquakes & volcanoes? |  |  | | 1. How do we **mitigate** the risks of tectonic hazards? |  |  | | 1. How do the **impacts** of tectonic hazards vary in areas of **contrasting levels of wealth**? |  |  | | 1. How do the **responses** to tectonic hazards vary in areas of **contrasting levels of wealth**? |  |  | | 1. Why do people **still live** near tectonic hazards? |  |  | | |
| **What opportunities are there for wider study?**  **Links in School**: Two main topics on your Learning Journey that link to this topic: building on knowledge from the Natural Hazards topic in Y8 and taking understanding further in the A Level Hazards topic.  **Careers:** GIS, Geotechnical Engineer, Geophysicist, Geologist, Seismologist, Volcanologist  **Brilliant Websites for Revision & Wider Study:** regularly featured in news stories   * <https://www.bbc.co.uk/bitesize/guides/zgkksrd/revision/4> * <https://www.internetgeography.net/aqa-gcse-geography/the-challenge-of-natural-hazards/>   **How will I be assessed?**  You will be assessed by answering questions in your End of Year exam to help you get “**GCSE Ready**.” You will further be assessed on this topic at GCSE by completing SAPS and MAPs.  To help you prepare for this in class we will be attempting GCSE style exam questions to practice technique. | |
| **Key Words:**  **Tectonic Hazard:** A natural hazard caused by movement of tectonic plates (e.g. earthquakes, volcanoes).  **Plate Tectonics:** Theory explaining the movement of the Earth's plates and the activity at their boundaries.  **Convection Currents:** Circular movements of molten rock in the mantle that drive plate movement.  **Ridge Push:** This occurs at constructive plate margins, where magma rises to form new oceanic crust at mid-ocean ridges. As the newly formed crust cools, it becomes denser and starts to slide away from the ridge under the force of gravity, pushing the rest of the plate ahead of it.  **Slab Pull:** This occurs at destructive plate margins, where an oceanic plate is being subducted beneath another plate. As the denser, older part of the plate sinks into the mantle, it pulls the rest of the plate along with it.  **Destructive Plate Margin:** Where two plates move towards each other and one is forced beneath the other (subducted), often causing earthquakes and volcanoes.  **Constructive Plate Margin:** Where two plates move apart and magma rises to form new crust, often creating volcanoes.  **Conservative Plate Margin:** Where two plates slide past each other, causing earthquakes.  **Subduction Zone:** The area where one plate is forced under another.  **Stick & Slip:** Tectonic plates are “stuck” together due to friction. Pressure builds up over time as the plates continue to push against each other until it causes the plates to suddenly "slip", releasing energy in the form of seismic waves (vibrations through the Earth’s crust)— causing an earthquake.  **Earthquake:** A sudden shaking of the ground caused by movement along a fault line.  **Focus:** The point inside the Earth where an earthquake starts.  **Epicentre:** The point on the Earth's surface directly above the focus.  **Volcano:** An opening in the Earth's crust through which lava, ash, and gases erupt.  **Shield Volcano:** Wide, gently sloping volcano formed by low-viscosity lava, found at constructive margins.  **Composite Volcano:** Steep-sided volcano made of layers of ash and lava, found at destructive margins.  **Magma vs Lava:** Molten rock beneath the surface vs Molten rock that erupts above the surface.  **Lahar:** A destructive mudflow on the slopes of a volcano.  **Pyroclastic Flow:** A fast-moving current of hot gas, ash and volcanic matter.  **Prediction & Monitoring:** Using scientific equipment to detect warning signs of tectonic activity and attempting to forecast when and where a tectonic hazard might occur.  **Protection:** Designing buildings and infrastructure to withstand tectonic hazards.  **Planning:** Preparing communities through education, evacuation routes, and emergency supplies.  **Primary Effects:** Immediate impacts of a tectonic hazard (e.g. collapsed buildings).  **Secondary Effects:** Later impacts caused by the primary effects (e.g. fires, disease).  **Short-Term Responses:** Immediate actions taken after a hazard (e.g. rescue, aid).  **Long-Term Responses:** Actions taken to rebuild and reduce future risk (e.g. reconstruction, education). | |