**Science 8 – Earth Science**

Evidence and Mechanism of Plate tectonics



**Continental Drift Theory**

1. Initially the theory was not well accepted.
2. Alfred Wenger needed evidence to support his theory!

List the evidence for **continental drift and Pangaea, make sure to explain how each supports Wenger’s theory!** If it helps draw a picture

1. *Matching Coal deposits on different continents*
2. *Fossil evidence (ancient fossils on distant coastline - Africa, SA and Australia)*
3. *Rock Evidence (matching mountains – Appalachians in North-East US match those in Britain & Norway and SA and Africa AND coal deposits typical of the tropics in Antarctica*
4. *Geometry Evidence (puzzle fit – mainly Africa and South America)*
5. *Glacial evidence (glaciers scratches on the rocks - evidence of glaciers near the equator – Africa)*

**Question**: What is the difference between the Theory of Continental Drift and the Theory of Plate Tectonics? Continental Drift was proposed first and only states (***but does not explain***) the splitting up of Pangaea in the current seven continents. Plate Tectonics explains the mechanism for Continental Drift, and also other geologic features such as volcanoes, earthquakes, mountains etc.

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| **Evidence** What evidence do we now have that confirms **Plate tectonics?** | **Mechanism**What actually makes the plates move?How does it work? |
| *Seafloor spreading is evident through:* 1. *Magnetic Reversals*
2. *Radioactive Dating of the rocks on the oceans floor*
3. *Volcanic eruption patterns*
4. *World Earthquake patterns*
5. *Underwater mountain ranges – from sonar*
6. *Underwater Volcanos*
 | *Mantle Convection* – movement of plates on conveyer belt like systems caused by heat from the center of the earth*Slab Pull –* edge of a plate is subducting or sinking into the mantle*Ridge Push – new magma pushing plates apart at divergent boundaries* |