Study guide for test on plate tectonics

- **Tension is a stress that pulls on rocks in opposite directions these stresses are associated with normal faults**
- **Compression is a stress that is forcing rock together these stress are associated with reverse faults**
- **The temperature and pressure increase as depth into Earth increases**
- **Scientists study the interior of Earth by recording and interpreting seismic waves**
- **The correct order of the Earth is crust, mantle, outer core, inner core**
- **Earth's mantle is an area of hot rock that flows like silly putty**
- **Earth's inner core is solid metal the outer core is liquid metal**
- **Convection currents flow in the Earth's asthenosphere producing the mechanism for plate movement**
- **Convection is the transfer of heat in a fluid. A fluid is a gas or liquid.**
- **Wegener's theory of continental drift says that all the continents were once joined into a single continent (supercontinent) called Pangaea**
- **Wegener used fossils, landforms, climate and glacial striations to support his theory**
- **Wegener's theory was rejected because he could not explain the mechanism for how the continents drifted**
- **The mid ocean ridge is a divergent plate boundary where new seafloor is created and is the longest mountain chain in the world**
- **Sonar was used to map the mid ocean ridges**
- **Subduction is where an oceanic plate sinks back into the mantle at a convergent plate boundary**

- **The theory of plate tectonics states that the plates are constantly moving very slowly over time and being driven by convection currents in the asthenosphere (mantle)**
- **Folded mountains are formed at convergent boundaries between 2 plates of continental crust**
- **A transform boundary is where 2 plates slide past each other neither colliding or pulling apart**
- **Rifting occurs where plate boundaries are diverging.**
- **The focus is the point below the surface where a rupture is the rock create an earthquake**
- **P (primary) waves are the fastest and travel both through liquids and solids**
- **The Richter scale measures the energy of an Earthquake. The Mercalli scale measures the damage.**
- **A seismograph measures the ground movements of a seismic wave.**
- **A tsunami is an effect of a Earthquake and can be very damaging to human property and life**
- **Most Earthquake deaths and damages come from falling buildings**
- **Earthquakes are most likely at plate boundaries where the movement of the plates stores energy.**
- **Lava is magma that flows onto the surface.**
- **Volcanoes are usually found at plate boundaries**
- **Hawaii is an example of a hotspot volcano. This is where a magma plume rises up to Earth creating an unusually hot spot on the crust**
- **Island arcs are created at convergent boundaries between 2 oceanic plates and one subducting under the other one**
- **Magma rises to the surface because it is less dense then the surrounding material**

- **The amount of silica in lava determines how easily lava will flow. High silica lavas have a high viscosity which means they do not flow easily. This type of lava can cause gases to build up creating an explosive eruption.**
- **Viscosity is the ability of a liquid to flow basalt has the least viscosity and granite the highest.**
- **Geothermal energy can be produced where volcanic activity heats groundwater**
- **Composite volcanoes are tall cone shaped mountains created by alternating layers of ash and lava**
- **A caldera is when the cone of a volcano collapses on itself creating a wide depression in the volcano**
- **A sill is when magma squeezes between horizontal cracks in rocks. A dike occurs when magma squeezes between vertical cracks in rocks.**
- **A batholith is when a huge pool of magma cools producing a large area of igneous rock under the surface of the crust.**

Diagrams are on Plate Boundaries and the features found there, Earthquake faults and stress forces, The 3 types of Volcanoes