**Underlying Theme – I understand the how Earth’s natural cycles of weather and climate are affected by human interaction. I know why and how natural phenomenon like earthquakes and volcanoes are studied and what impacts they can have on our lives.**

PLATE TECTONICS, EARTHQUAKES, VOLCANOES

1. I know of evidence (continent shapes, fossil, mountain belts and paleoglaciation) that supports the continental drift theory and the proposed model of the super continent Pangea
2. I know the location and composition of the following layers of the earth

a. crust

b. lithosphere

c. asthenosphere

d. mantle

e. outer core

f. inner core

1. I know that the layers of the earth were determined by observing seismic waves(primary, secondary, and surface waves)
2. For divergent, convergent, and transform boundaries, I can:
   1. Identify each plate boundary and the mapping symbols on the data sheet maps of the world and B.C.
   2. Indicate in which direction the plates are moving
   3. Differentiate between ocean and continent plates on a diagram
   4. Describe what forms at the 3 types of convergent boundaries (continent-continent, ocean-continent, and ocean-ocean). Indicate, where and how, events or structures occur such as mountains, shallow-focus and deep-focus earthquakes, subduction zones, trenches, cliffs, volcanoes, melting of rock, and island formation
   5. Describe what forms at 2 types of divergent boundaries (ocean-ocean, continent-land). Indicate, where and how, events or structures occur such as mid-ocean ridges, and rift valleys, magnetic reversals and age of rocks relative to spreading ridges
3. I know the driving force that causes tectonic plates to move are mantle convection, ridge push, and slab pull.
4. I can identify sources of heat within the Earth that produce mantle convection and hot spot activity (ie. Heat within the core and excess radioactivity within the mantle)
5. I can define epicenter and focus for earthquakes and I know how to find the epicenter of an earthquake by using seismometer data
6. I know that the three earthquake waves are p-waves, s-waves, and surface waves and
7. I can illustrate them to show the motion of each
8. I know the order in which they occur, and the order that p and s-waves are detected by a seismometer
9. I know how they travel through the layers of the earth
10. I know that four types of Volcanoes are Composite, Shield, Rift, and Super and also
11. Their relative strengths of explosions and effects on humans
12. What causes their formation with reference to plates
13. What they release and form (volcanic island arcs, volcanic belts, hot spot island chains)
14. I know why scientists are studying the hot spot activity at Yellowstone Park

Vocabulary

􀈱asthenosphere

􀈱continental drift theory

􀈱converging/diverging plates

􀈱earthquakes

􀈱epicentre

􀈱fault

􀈱hot spot

􀈱inner core

􀈱lithosphere

􀈱mantle

􀈱mantle convection

􀈱outer core

􀈱paleoglaciation

􀈱plate boundary

􀈱plate tectonic theory

􀈱primary waves

􀈱ridge push

􀈱slab pull

􀈱rift valley

􀈱secondary waves

􀈱spreading ridge

􀈱subduction zone

􀈱surface waves

􀈱tectonic plate

􀈱transform fault

􀈱trench

􀈱volcanic belt

􀈱volcanic island arc

􀈱volcanoes