

**Technology Integration Workshop
2016**

Unit Title: Restless Earth
Grade Level: 8th
Subject Area: Earth Science
Duration/Length/Number of class periods: 5-6 days
Description: Unifying Theory of Plate Tectonics

Commented [1]: Complete

Established Goals (National, State, Local):

8 3. Earth Science 1. Earth Structure and Processes 1. The movement of tectonic plates results from interactions among the lithosphere, mantle, and core. 8.3.1.1.1 Recognize that the Earth is composed of layers, and describe the properties of the layers, including the lithosphere, mantle and core.

8 3. Earth Science 1. Earth Structure and Processes 1. The movement of tectonic plates results from interactions among the lithosphere, mantle, and core. 8.3.1.1.2 Correlate the distribution of ocean trenches, mid-ocean ridges and mountain ranges to volcanic and seismic activity.

8 3. Earth Science 1. Earth Structure and Processes 1. The movement of tectonic plates results from interactions among the lithosphere, mantle, and core. 8.3.1.1.3 Recognize that major geological events, such as earthquakes, volcanic eruptions and mountain building, result from the slow movement of tectonic plates.

What Enduring Understandings are desired?
The Earth's surface is dynamic and constantly changing due to intense heat in the Earth's core.
Drifting earth continents was once a controversial idea; it is now widely accepted by most scientists as the unifying theory of plate tectonics.
Geologic landforms and events are related to the very slow movement of the Earth's tectonic plates

What Essential Questions will be considered?

1. How do geologist distinguish and map the different layers of the Earth based on composition and physical properties.
2. Relate evidence of a dynamic Earth to the evolving theory of plate tectonics. (Continental Drift, Seafloor Spreading)
3. How does the occurrence of earthquakes and volcanoes and correlate to the location of plate tectonic boundaries.

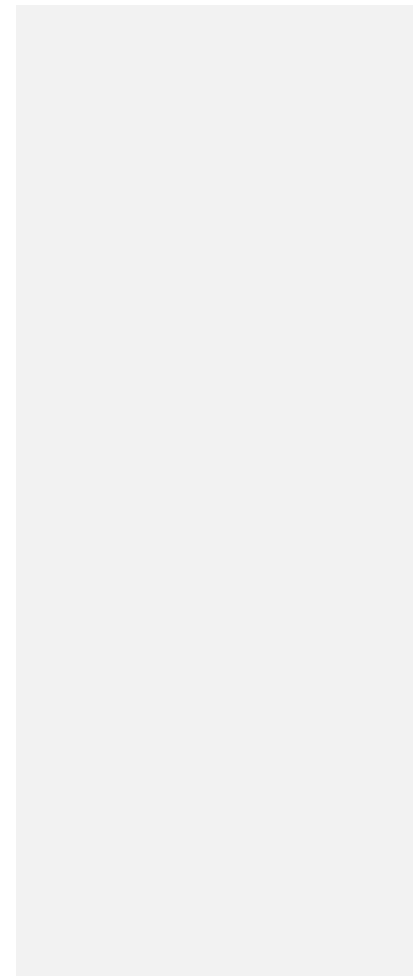
Students will know / be able to:

1. Distinguish and map the different layers of the Earth based on composition and physical properties.
 - _____ I can name and distinguish the 3 layers of the Earth based on chemical composition.
 - _____ I can name and distinguish the 5 layers of the Earth based on physical.
 - _____ I can explain how Geologist theorize what's inside the Earth
 - _____ I can compare and contrast the 2 different types of crust.

2. Relate evidence of a dynamic changing Earth to the evolving theory of plate tectonics. (Continental Drift, Seafloor Spreading)
 - _____ I can describe and list multiple bits of evidence for the Theory of Continental Drift.
 - _____ I can explain the process of Seafloor Spreading and support the theory with ages of crust and magnetic clues.
 - _____ I can name the 3 major plate tectonic boundaries
 - _____ I can explain the driving forces of plate tectonics

3. Correlate the distribution of plate boundaries to resulting landforms and occurrence of earthquakes and volcanoes
 - _____ I can locate and recognize feature caused by the different types of plate tectonic boundaries.
 - _____ I can correlate the plate boundaries, types of stress and types of faults.
 - _____ Predict location of earthquakes and volcanoes

Description	Units must include at least one of each formative, summative, introductory activity and learning activity. Check the appropriate box; one per row.	Formative	Summative	Introductory Activity	Learning Activity	Student Technology Used	Teacher Technology Used	ISTE Standards
10 question preassessment Plickers quiz		x					Ipad/phone	2,4
Intro to Alfred Wagner and his ridicule, www.youtube.com/watch?v=hC1E93ITJbA PowerPoint				x			Powerpoint	1



Continental Drift Activity , http://ngss.nsta.org/Resource.aspx?ResourceID=140				x	computer		
Calculating the rate to seafloor spreading, Activity link Measure and calculate spreading rates over 200 million years				x			3,4
Linoit Post it Board, Reflection and/or questions (set up board on linoit.com)					internet/computer	internet/computer	1,2,5,6
Powerpoint, Intro to Tectonic Plates and Plate Boundaries Students complete note foldable			X			Powerpoint	1
Interactive Plate Tectonics YouTube www.youtube.com/watch?v=kwfNGatxUJl www.learner.org/interactives/dynamicearth/plate.html ees.as.uky.edu/sites/default/files/elearning/module04swf.swf				x	computer/internet		2,3,,6
Earth's Interior, compositional and physical layers www.learner.org/interactives/dynamicearth/structure.html http://interactivesites.weebly.com/earths-structure.html			x	x	computer/internet		
Mapping Ring of Fire Activity Link				x			3,4
Quizlet Vocab Review quizlet.com/62679083/plate-tectonics-flash-cards/	x						
Unit Test		x					

Materials, tools and resources -computers and internet, scissor, tape, rulers
Unit Plan Author Tom Lanoue, Luverne Middle School
Additional credit given to BestPrep

