

FRANKLIN-SIMPSON HIGH SCHOOL

Course Name: Earth/Space Science

Unit Name: Unit 5: Plate Tectonics

Objectives:

SC-08-2.3.1

Student will describe various techniques for estimating geological time (radioactive dating, observing rock sequences, comparing fossils).

SC-HS-2.3.6

Students will:

- Compare the limitations/benefits of various techniques (radioactive dating, observing rock sequences, comparing fossils) for estimating geological time;
- Justify deductions about age of geologic features.

SC-08-2.3.3

Students will:

- Explain the transfer of Earth's internal heat in the mantle (crustal movement, hotspots, geysers);
- Describe the interacting components (convection currents) within the Earth's system.

SC-HS-2.3.7

Students will:

- Explain real-life phenomena caused by the convection of the Earth's mantle;
- Predict the consequences of this motion on humans and other living things on the planet.

SC-08-2.3.2

Students will understand that earthquakes and volcanic eruptions can be observed on a human time scale, but many processes, such as mountain building and plate movements, take place over hundreds of millions of years.

SC-HS-2.3.8

Students will:

- Predict consequences of both rapid (volcanoes, earthquakes) and slow (mountain building, plate movement) earth processes from evidence/data and justify reasoning.

Purpose of the Unit:

The purpose of this unit is for students to understand the mechanics of plate tectonics and how it is responsible for most of Earth's major features. They will investigate some of Earth's properties in order to draw some of the same conclusions scientists have about the processes happening in and on Earth.

Prerequisites:

Previous units from this class, most importantly, the Earth History unit.

Daily Lesson Guide

Day	Lesson Content and Objectives	Focus Questions	Critical Thinking (High Yield / Literacy /LTF/etc.)	Engagement	Assessment and/or Accommodations
1	Activity packet over: - Continental Drift evidence (fossils and rocks) -Sea Floor Spreading -Convection	-What does the fossil and rock evidence help conclude about the continents? -What is convection, and why is it important for plate tectonics? -How does convection affect life on Earth?	Comprehension Application	Learning With Others Clear Modeled Expectations Novelty/Variety Authenticity	Target Practice Check Packet for completion
2	Activity packet over: - Convergent boundaries - Divergent boundaries -Transform boundaries Questionnaire when finished	- What are the characteristics of each boundary, and what formations are found there? -How do the formations form, and how do we know this?	Comprehension Application	Learning With Others Clear Modeled Expectations Novelty/Variety Authenticity	Target Practice Check Packets for completion
3	Finish working on Packets Go over PT Prezi to tie up any misconceptions and	Summarize each of the boundaries, and how they form each of their earth processes/ formations?	Synthesis	Clear Modeled Expectations	Target Practice Clicker Quiz over concepts

	lost ideas. Clicker quiz over plate tectonics				
4	<i>The Deepest Place on Earth</i> Plotting earthquakes using latitude and longitude.	Summarize each of the boundaries, and how they form each of their earth processes/ formations. Can I predict where earthquakes happen?	Evaluation Application	Clear modeled expectations Personal Response Authenticity	Target Practice Turn in work
5	Plotting earthquakes using latitude and longitude.	Can I predict where earthquakes happen?	Comprehension Application	Personal Response Clear Modeled Expectations Learning with others	Target Practice Discuss work
6	Can I predict where earthquakes happen? Draw in Plates and answer questions on the correlation	Can I predict where earthquakes happen?	Analysis Synthesis	Clear Modeled Expectations Emotional/Intellectual Safety Authenticity	Target Practice
7	Research land forms and events related to plate movement	Using knowledge of plate tectonics, research and write about	Synthesis	Clear Modeled Expectations Emotional/Intellectual Safety Authenticity	Target Practice
8	Research land forms and events related to plate movement	Using knowledge of plate tectonics, research and write about	Comprehension	Clear Modeled Expectations Emotional/Intellectual Safety Authenticity	Target Practice Turn in work
9	Review Day -Work on "I Can..." sheets -Play Trashketball	Summarize the importance of plate tectonics in the formations of volcanoes, mountains, earthquakes and other earth processes.	Synthesis	Clear Modeled Expectations Emotional/Intellectual Safety	Target Practice -Self assessment on "I Can..." Sheet
10	Test	Summarize the importance of plate tectonics in the formations of volcanoes, mountains, earthquakes and other earth processes.	Evaluation	Clear Modeled Expectations	Target Practice Summative assessment over unit