

5E Lesson Template

ClassDay/Time ___ AP Environmental Sciences _____

Technology Lesson? **Yes** No (circle one)

Name(s): Cassandra Browne / Rebeca Guerrero

Title of lesson: Plate tectonics

Date of lesson: 9/11-9/18

Length of lesson: 3 blocks

Description of the class:

Name of course: AP environmental Sciences

Grade level: 11/12th

Honors or regular: Advanced Placement / Honors

Source of the lesson:

Fellow's previous experience.

TEKS addressed:

§112.66. Advanced Placement (AP) Environmental Science (One to One and One-Half Credits).

(a) General Requirements. Students can be awarded one to one and one-half credits for successful completion of this course. Recommended prerequisites: Algebra I, two years of high school laboratory science including one year of life science and one year of physical science.

(b) Content Requirements. Content requirements for Advanced Placement (AP) Environmental Science are prescribed in the College Board Publication Advanced Placement Course Description: Environmental Science, published by The College Board.

I. Overview

Explore and investigate the interrelationships of the natural world, identify and analyze environmental problems, both natural and human-made, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving and/or preventing them.

II. Performance or learner outcomes

Students will be able to: understand the relationship between plate tectonics, volcano formation, earthquakes, and hydrothermal vents. In addition, to compare and

contrast these geological phenomena and the relationships with plate boundaries and subduction zones.

II. Resources, materials and supplies needed:

- a. **Maps**
- b. **Computer (pHet simulations)**
- c. **Power point**

IV. Supplementary materials, handouts. (Also address any safety issues Concerning equipment used)

Maps provided by Graduate Student Fellow
Guiding questions to go over activity

V. Safety Issues

VI. Accommodations for learners with special needs (ELLs, Special Ed, 504, G&T)
N/A

Five-E Organization

Teacher Does	Probing Questions	Student Does
<p>Engage: <i>Learning Experience(s)</i></p> <p>Approx. Time_60__ mins</p>	Field trip to Blunn Creek collecting rocks and looking at geology of the area	<i>Expected Student Responses/Misconceptions</i>
<p>Evaluation(Decision Point Assessment):</p>	Rock identification	<i>What student outcome will indicate that you should move on to the exploration? What will you do if the outcome is something else?</i>
<p>Explore: <i>Learning Experience(s)</i></p> <p>Approx. Time__20__ mins</p>	Can a volcano be born in TEXAS?	Series of world maps highlighting the concepts to be learned: subduction zones, divergent boundaries, convergent boundaries, transform, and tectonic plates.
<p>Evaluation(Decision Point Assessment):</p>	What evidence can you find?	Students should be able to differentiate between basic rock types. If not, review.
<p>Explain: <i>Learning Experience(s)</i></p> <p>Approx. Time_30__ mins</p>	How are volcanoes related to subduction zones? Suppose you can stand on top of the San Andreas fault, what would you to gather evidence of its movement?	Students go over lecture with Graduate fellow using Cornell note style, and ask questions as the lecture describes the different geological concepts described in the activity above.
<p>Evaluation(Decision Point Assessment)</p>		

<p>Extend / Elaborate: <i>Learning Experience(s)</i></p> <p>Approx. Time __60__ mins</p>	<p>Phet simulation on boundaries</p>	<p><i>Expected Student Responses/Misconceptions</i></p>
<p>Evaluation(Decision Point Assessment):</p>	<p>Make short presentations on various plate boundaries and their properties</p>	

<p>Evaluate: <i>Lesson Objective(s) Learned (WRAP –UP at end) -> Summarize</i></p> <p>Approx. Time __10__ mins</p>	<p>Ask questions after their presentations</p>	<p><i>Expected Student Responses/Misconceptions</i></p>
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