Lesson Plan

Subject: Earth Science Grade Level: Gifted 6th

1-5-16 to 1-8-16

Content Standard:

S6E5. Students will investigate the scientific view of how the earth's surface is formed. Recognize that lithospheric plates constantly move and cause major geological events on the earth's surface

Vocabulary: Lithosphere, Asthenosphere, crust, mantel, core, plate tectonics, continent, seismic, volcano, earthquake, transform boundary, convergent boundary, divergent boundary, seismologist, seismograph, Alfred Wegner, continental drift, Richter Scale, subduction

Parallel
Alternative
Station
Team
Independent

	Beginning May include: Opening, warm up, review, anticipatory set, etc	**Middle** May include: Instruction, checking for understanding, independent or group practice	**End** May include: Closing, assessments, extension of lesson, etc.
Monday Field Trip-2 classes		Task 1: Directed Reading Restless Continents- use textbook- Chapter 7 Task 2: Directed Reading The theory of Plate Tectonics-Chapter 7 Task 3: Read pages 201-205 and answer questions 1-4 and 6-7- DO NOT COMPLETE QUESTION 5	
Tuesday Field Trip-2 classes		Task 1: Directed Reading Restless Continents- use textbook- Chapter 7 Task 2: Directed Reading The theory of Plate Tectonics-Chapter 7 Task 3: Read pages 201-205 and answer questions 1-4 and 6-7- DO NOT COMPLETE QUESTION 5	
Wednesday		Review work from Monday and Tuesday	
Thursday		Student will create a model of structure of earth	Class reflection
Friday		STEM-	

Marzano's Essential 9 (Highlight Strategies Used)

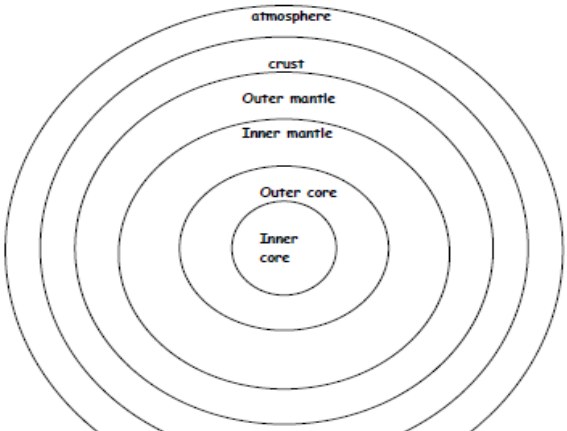
- Identifying Similarities and Difference
- Summarizing and Note-taking
- Reinforcing Effort and Providing Recognition
- Homework and Practice
- Nonlinguistic Representations
- Cooperative Learning
- Setting Objectives and Providing Feedback
- Generating and Testing Hypotheses
- Cues, Questions, and Advance Organizers

Multiple Intelligence (Highlight Accessed Intelligences)

- Verbal-Linguistic
- Logical-Mathematical
- Visual-Spatial
- Bodily-Kinesthetic
- Musical
- Interpersonal
- Intrapersonal
- Naturalistic

Back
Glue the inner structure on the reverse of the circle.

FOLD HERE



Instructions

1. Cut out the entire shape on p. 1 and colour the ocean area blue and the atmosphere light blue.
2. Cut out the entire shape on p. 2 and colour:

Inner core = yellow

Outer core = orange

Inner mantle = dark red

Outer mantle = light red

Crust = brown

Atmosphere = light blue

3. Glue the inside structure to the reverse of the circle as shown.
4. Fold your model along the fold line.

Name _____ Class_____Date_____

Skills Worksheet

Directed Reading A

Section: Restless Continents

WEGENER'S CONTINENTAL DRIFT HYPOTHESIS

_____ 1. What hypothesis by Alfred Wegener explains why continents seem to fit together?

a. continental spreading c. Wegener's puzzle

b. plate tectonics d. continental drift

_____ 2. According to Wegener, how many landmasses did all continents once form?

a. one b. six c. seven d. ten

_____ 3. What did Wegener hypothesize happened to the continents?

a. They broke up and re-formed.

b. They drifted together to form a single continent.

c. They broke up and drifted to their current locations.

d. They sank into the ocean.

4. Does fossil evidence support Wegener's theory? Explain your answer.

5. List three kinds of evidence found on both sides of the ocean that support Wegener's theory.

THE BREAKUP OF PANGAEA

6. Wegener thought that all of the present continents were once joined 245 million years ago in a landmass he called _____.

7. The single landmass split into two huge continents he called Gondwana and _____ about 180 million years ago.

8. When those two continents split 65 million years ago, what were formed?

SEA-FLOOR SPREADING

9. Why did many scientists reject Wegener's hypothesis?

10. In the process of sea-floor spreading, what happens when magma rises to Earth's surface and solidifies?

Match the correct definition with the correct term. Write the letter in the space provided.

_____ 11. Process of forming new oceanic lithosphere as magma rises to the surface

a. continental drift
b. mid-ocean ridges
c. sea-floor spreading
d. magnetic reversal

_____ 12. Areas where sea-floor spreading takes place

_____ 13. Process that happens when Earth's magnetic poles change place

_____ 14. Theory that explains how continents reached their current locations

15. Rock on the ocean floor provided the final proof of sea-floor spreading with a record of _____.

Name _____ Class_____Date_____

Skills Worksheet

Directed Reading A

Section: The Theory of Plate Tectonics

1. The theory that Earth is divided into plates that move around is _____.

TECTONIC PLATE BOUNDARIES

_____ 2. The place where tectonic plates touch is known as the

a. continental plate.
b. tectonic boundary.
c. magma zone.
d. tectonic ridge.

_____ 3. Which of the following is NOT a type of tectonic plate boundary?

a. convergent boundary
b. fault-block boundary
c. divergent boundary
d. transform boundary

_____ 4. The three ways that tectonic plates can move relative to each other are

a. collide, separate, and slide.
b. collide, fuse, and slide.
c. drift, separate, and slide.
d. collide, fuse, and drift.

5. When two plates with continental crust collide, what happens to thecontinental crust?

_____

_____

Match the correct definition with the correct term.Write the letter in the space provided.

_____ 6. boundary formed when tectonic plates collide

a. transform boundary
b. convergent boundary
c. divergent boundary

_____ 7. boundary formed when tectonic plates separate

_____ 8. boundary formed when tectonic plates slide past horizontally

9. Which type of boundary produces strike-slip faults?

_____

10. Which type of boundary produces earthquakes?

_____

POSSIBLE CAUSES OF TECTONIC PLATE MOTION

_____ 11. When rock is heated, it becomes less dense and tends to

a. rise.
b. sink.
c. move sideways.
d. erupt.

_____ 12. When rock cools, it becomes more dense and tends to

a. rise to the surface.
b. sink below the surface.
c. move sideways.
d. push against the surface.

13. Density changes in the asthenosphere are caused by the flow of _____energy from deep within the Earth.

Match the correct definition with the correct term. Write the letter in the space provided.

_____ 14. plate motion due to higher densities
_____ 15. plate motion due to gravity
_____ 16. plate motion due to the heating and cooling of rocks

TRACKING TECTONIC PLATE MOTION

_____ 17. How fast do tectonic plates move?
a. kilometers per year
b. meters per year
c. meters per month
d. centimeters per year
_____ 18. What do scientists use to measure the rate of tectonic plate movement?
a. clinometers
b. the global positioning system
c. densitometers
d. seismographs
a. ridge push
b. convection
c. slab pull