

## Earth Science Study Guide

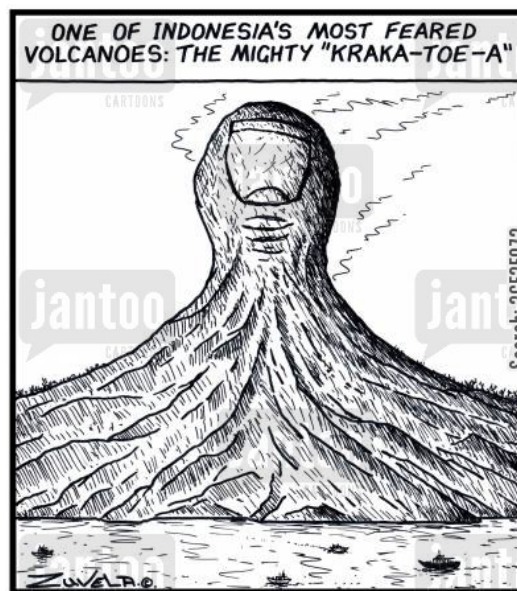
### Cycle 2: Weeks 1 & 2

*We live in a world bathed in 5,000 times more energy than we consume as a species in the year, in the form of solar energy. It's just not in usable form yet.*

*--Peter Diamandis*

#### Overview and Objectives

In this cycle of study we will continue understanding Earth's solid structure and atmospheric content and processes. We will be able to relate how the sun's energy drives atmospheric processes including weather. We will be able to describe what makes up weather and the instruments used to predict weather. We will be able to articulate and argue points on the climate change debate by logically and systematically examining the data. (USOE Stds. 3.1-3)



#### Essential Questions:

- How do changes in Earth's structure affect natural and human structures?
- What is weather?

#### Week 1: DUE Friday, December 2

- \_\_\_\_\_ 1. Participate in and complete the: Plate Tectonic Puzzle Activity.
- \_\_\_\_\_ 2. Participate in the lesson: Tectonic Plate Movement and Its Effects on Earth Life
- \_\_\_\_\_ 3. Complete the Lab Activity and accompanying Student Sheet: Mountain Barriers
- \_\_\_\_\_ 4. Read pp. 120-128 of the Earth Science textbook.
- \_\_\_\_\_ 5. Answer questions 1-7 on p. 129 of the textbook. Complete sentences and grammatical accuracy are necessary for full points. (21 pts)
- \_\_\_\_\_ 6. Review and study for Chapter 2 Final Exam.
- \_\_\_\_\_ 7. Bring in a 2L soda bottle (Clear bottles preferred)

#### Week 2: DUE Friday, December 9

- \_\_\_\_\_ 8. Take the Chapter 2 Final Exam.
- \_\_\_\_\_ 9. Complete your Exam corrections

Name \_\_\_\_\_ Period: \_\_\_\_\_

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\_\_\_\_\_ 10. Turn in all Chapter 2 work

\_\_\_\_\_ 11. Bring in a 2L soda bottle (Clear bottles preferred)

\_\_\_\_\_ 12. Complete vocabulary cards or Marzano sheets for unfamiliar Chapter 3 vocabulary terms (located on p. 133 margin).

\_\_\_\_\_ 13. Read pp. 133-139 of the Earth Science textbook.

\_\_\_\_\_ 14. Hand in Answers to questions 1-6 on pp. 138-39 of the textbook. Complete sentences and grammatical accuracy are necessary for full points.

\_\_\_\_\_ 15. Participate in the Socratic Dialogue: Climate Change and Greenhouse Gas.

\_\_\_\_\_ 16. Begin Lab: Atmosphere in a Bottle – assign group members to tasks and prepare bottle.

## Earth Science Study Guide

### Cycle 2: Weeks 3 & 4

#### Essential Questions:

- How do changes in Earth's structure affect natural and human structures?
- What is weather?

Week 3: DUE Friday, December 16



\_\_\_\_\_ 17. Perform and complete Atmosphere in a Bottle part II; perform experiment and collect and analyze data.

\_\_\_\_\_ 18. Complete parts I and II of the Graphic Organizer.

\_\_\_\_\_ 19. Publish your group work on the bulletin board for the class and complete your class data graph for the Lab: Atmosphere in a Bottle.

\_\_\_\_\_ 20. Participate in and take notes on the Lesson: Where does a tree get its mass from?

\_\_\_\_\_ 21. Create a Venn Diagram comparing Carbon Cycles.

\_\_\_\_\_ 22. Complete parts III-VI of the Graphic Organizer.

\_\_\_\_\_ 23. Watch the Video: "Earth's Giant Game of Tetris"

\_\_\_\_\_ 24. Play the online game (individually or in pairs) to complete part VI of your Graphic Organizer: The Carbon Cycle Game

Week 4: DUE Tuesday, December 20

\_\_\_\_\_ 25. Complete all of the unit work the Lab: Atmosphere in a Bottle (incl. Graphic Organizer).

\_\_\_\_\_ 26. Complete the online PHeT Activity: The Greenhouse Effect.

\_\_\_\_\_ 27. Read pp. 140-145 of the Earth Science Textbook.

\_\_\_\_\_ 28. Answer questions 1-14 on pp. 142-43 of the textbook. Complete sentences and grammatical accuracy are necessary for full points.

\_\_\_\_\_ 29. In Class: Watch the C-Span video on Climate Change

\_\_\_\_\_ 30. Work on Completing the Unit Final Essay (Due by Jan. 6 via Utah Compose)

## Earth Science Study Guide

### Cycle 2: Weeks 5, 6, & 7

#### Essential Questions:

- How do changes in Earth's structure affect natural and human structures?
- What is weather?

#### Week 5: DUE Friday, January 6

- \_\_\_\_\_ 31. Complete the Unit Final Essay (*Due by Jan. 6 via Utah Compose*)
- \_\_\_\_\_ 32. Participate in and take notes on the lesson: Solar Radiation: Tilt and Seasons
- \_\_\_\_\_ 34. Read pp. 149-158 of the Earth Science Textbook.
- \_\_\_\_\_ 35. Complete the Lab Activity: Direct and Indirect Radiation Lab.



#### Week 6: DUE Thursday, January 12 [This is the END of the Quarter; no more work accepted]

- \_\_\_\_\_ 36. Participate in and take notes on the lesson: The Coriolis Effect, Hadley, Ferrell, and Polar Cells, and review Mechanism of the Seasons (youtube)
- \_\_\_\_\_ 37. Participate in and take notes on the Lesson: Wind Belts and the Jet Stream
- \_\_\_\_\_ 38. Review your Utah Compose argumentative essay: Climate Change.

#### Week 7: DUE Friday, January 20 [This marks the end of Cycle 2 work]

- \_\_\_\_\_ 39. Participate in the lesson: Layers of the Atmosphere
- \_\_\_\_\_ 40. Observe: <http://www.geog.ucsb.edu/ideas/Insolation.html#localinsol> : What are the factors that must be considered when calculating solar insolation? What most interested you as you read and/or what did you learn?
- \_\_\_\_\_ 41. Participate in the lesson: High and Low pressure, and how to read a Barometer.
- \_\_\_\_\_ 42. Complete the worksheet: Reading a Barometer.