

Earth Science Study Guide

Cycle 3: 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 atmospheric content and processes and introduce the hydrologic cycle. 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. Lastly, we will understand and be able to explain the Earth's water cycle and all of its processes. (USOE Stds. 3.1-3 & 4.1)

Essential Question: What is weather and what causes it?



Week 1: DUE Friday, January 22

- _____ 1. Read the quotes and overview with the class and mark them up. (5 pts)
- _____ 2. Complete and submit for grading: Indirect Radiation Lab.
- _____ 3. Read and take notes on pp. 122-125 of the Earth Science textbook.
- _____ 4. . Answer questions 1-10 on pp. 125 of the textbook. Complete sentences and grammatical accuracy are necessary for full points. (30 pts).
- _____ 5. Review your Utah Compose argumentative essay: Climate Change.
- _____ 6. Participate in the lesson: Layers of the Atmosphere, High and Low pressure, and how to read a Barometer.
- _____ 7. Advanced Work: <http://www.geog.ucsb.edu/ideas/Insolation.html#localinsol> :what are the factors that must be considered when calculating solar insolation? Calculate one factor using the supplied formula. What most interested you as you read and/or what did you learn?

Week 2: DUE Friday, January 29

- _____ 8. Read and take notes on pp. 126-128 of the Earth Science textbook.

Name _____ Period: _____

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_____ 9. Answer questions 1-10 on p. 129 of the Earth Science textbook. Complete sentences and grammatical accuracy are necessary for full points. (30 pts)

_____ 10. Participate in and take notes on the lesson: The Coriolis Effect, Hadley, Ferrell, and Polar Cells, and review Mechanism of the Seasons (youtube)

_____ 11. Complete the worksheet: Reading a Barometer.

_____ 12. Participate in and take notes on the lesson: Air Masses and Fronts.

_____ 13. Complete the activity and handout: Pressure Activity.

_____ 14. Participate in the lesson: Weather Stations and Instruments of Weather

_____ 15. Receive your weather station Key and be sure you understand how to use it.

_____ 16. Complete the activity and handout: Air Masses (due next Friday).

Self-evaluation--Rate yourself on:

How well you understood the information in the lesson

(1= didn't learn much, 3=learned some, 5=would be able to teach a peer about it)

1. Layers of the Atmosphere/ H and L pressure/ Read a Barometer _____
2. Air Masses and Fronts _____
3. Weather Stations and Instruments _____

How well you used correct spelling, punctuation, grammar, and neatness

(1= more than 5 errors, 3=between 1-4 errors, 5=no errors)

1. Assignment # _____ score: _____
2. Assignment # _____ score: _____
3. Assignment # _____ score: _____
4. Assignment # _____ score: _____

How much effort you gave to the works

(1 = not much effort, not colored/complete, 3=some effort, more than half complete, 5= lots of effort, colored/all complete)

1. Assignment # _____ score: _____
2. Assignment # _____ score: _____
3. Assignment # _____ score: _____
4. Assignment # _____ score: _____