

Env Sci 4.1

Goals

- * Describe the geologic time scale, the importance of the Cambrian explosion, the K-Pg Extinction, and the cenozoic.
- * Use the time scale to understand the relevance of climate information
- * Map the structure of the interior of the earth
- * Describe geologic hazards such as earthquakes, tsunamis, and volcanoes
- * Use knowledge of the importance of agriculture to characterize the importance of soil

Plan

Bellwork:

- 1) What do you think are the reasons why we should study the history of the human race? What could we learn?
- 2) How could we apply the study of history to the study of the planet before humans?

Why study geologic timescales? (5 min)

Activity: climate history (15 min)

Video: The last time the globe warmed (10 min)

Describe major events in the last 500 million years (5 min)

Structure of the earth (5 min)

Video: Why does the earth have layers (5 min)

Rock cycle review (10 min)

Crust and plate tectonics (5 min)

Video: Why there's a ring of natural disasters around the pacific (5 min)

Soil: a critical resource (10 min)

Video: Soil and conservation (5 min)

Soil formation, erosion, and depletion (10 min)

Video: Soil and soil dynamics (10 min)

HW: Discussion questions

Env Sci 4.2

Goals

* Review and discuss reading

Plan

Bellwork:

- 1) What is the evidence for plate tectonics?
- 2) Why do some places get more earthquakes and tsunamis than other places?

Short review of review worksheet

Factual questions Q and A

Discussion questions open discussion

HW: Watch or read a weather report for tomorrow. What factors about our atmosphere do they discuss and predict?

EnvSci 4.3

Goals

* Describe the components of the atmosphere

* Characterize the layers of the atmosphere and the influence of gas laws on temperature

- * Use knowledge of axial tilt to solve problems related to seasons
- * Apply knowledge of atmospheric chemistry to give examples of anthropogenic modification
- * Describe cells and relate to weather phenomena
- * Distinguish climate and weather
- * Connect climate and ocean

Plan

Bellwork

- 1) What are some of the figures that are predicted on a weather report?
- 2) If you are predicting the weather, why should you be paying attention to weather events outside of your area?

Connect climate to region of the earth—why? (5 min)

Video: Why do more species live near the equator? (5 min)

Axial tilt and seasons (5 min)

Three cells of circulation, connections to rainfall (5 min)

Video: What is global circulation, part 2 (5 min)

Coriolis effect (5 min)

Video: What is global circulation, part 3 (5 min)

Layers of the atmosphere (5 min)

Defining tropopause

Troposphere, Stratosphere, Mesosphere, Thermosphere, Exosphere

Define ionosphere

Video: The atmosphere (10 min)

Ozone: Tropospheric ozone and stratospheric ozone, hairspray, and fire extinguishers (5 min)

Video: Why don't we hear about the ozone hole anymore? (5 min)

Global energy balance (5 min)

Practice assignment (Remainder)