**Reading Notes: pages 12-15**

Name: Steve Jacobs

Hour: All

Date: 10/18/13

# What is the difference between a scientific theory and law?

### Scientific Theory: well-tested concept that explains observations

1. Observations: touch, taste, smell, etc.

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### Scientific Law: observed pattern in nature, without explanation

i.e., What happens not why it happens

**Section 2: The Study of Earth Science**

# What are big ideas in Earth Science?

**1. Earth Science:** knowledge about Earth & place in universe

**2. Earth Scientists: use several big ideas to guide their work: the structure of the Earth system, Earth’s history, & Earth in the solar system.**

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### What is the structure of the Earth system?

### Answer: It is a system divided into 4 spheres

1. 4 Spheres:
   1. Atmosphere: gas
   2. Bio: living
   3. Geo/litho: ground/rock
   4. Hydro: water

**System:** parts that work together as whole

**Energy:** ability to do work or cause change

### What is Earth’s history?

### Answer: Changed by constructive/destructive forces over 4.6 Billion years

1. **Constructive force:** builds up/creates mountains/land
2. **Destructive:** wears away/destroys mts./land

### What is the solar system and Earth’s relationship?

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**Solar system:** dust, rock, ice, planets, moons all moving around sun

1. Earth: moves around sun

# Reading Notes: pages 16-18

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# What are the different branches of Earth Science?

**Answer: geology, oceanography, meteorology, astronomy, & environmental science**

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### 1. Geology: study of forces that shape Earth

e.g., rocks

2. Oceanography: study of oceans

3. Meteorology: study atmosphere

e.g., climate, weather

4. Astronomy: study universe/space

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e.g., solar system, planets, stars

5. Environmental Science: human impact on environment/resources

e.g., pollution

# What are models in earth science?

**Answer: items used to understand complex or unobservable objects/processes**

1. **Model:** represent complex objects or process

i.e., version of real thing that can be studied

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e.g., model car

2. **Simulation:** model that imitates something in real world

i.e., interactive/moving

e.g., tornado simulator