#### 8th Grade Science 1st Semester Exam Study Guide

#### SCIENTIFIC METHOD

 Why it is important for scientists to be skeptical? If a scientist is skeptical of the results of an experiment, what should be usually do?

Skepticism is one of the most valuable tools in science. Continual questioning of ideas and results is a means of overturning long-held assumptions and uncovering new ideas. A skeptic in science will continually review the credibility of a scientific result or idea.

2. What makes an experiment valid?

When the results give validity to the question (hypothesis) that is being asked or tested.

3. What is the difference between qualitative and quantitative data?

Qualitative Data is used to describe something using your 5 senses. Quantitative Data is when you describe something using numbers.

#### EARTH SCIENCE

4. What are the 4 layers of the Earth?

Inner core, outer core, mantle and crust

- What are the two types of crust? What types of rock are they made of? Which type is more dense?
   Continental granite and Oceanic basalt, oceanic is more dense
  - 6. Which layer of the Earth is made of the crust plus the upper mantle (this layer is rigid and brittle like a jolly rancher)?

#### Lithosphere

7. Which layer of the Earth is plastic and flowing (like silly putty)?

#### Asthenosphere

8. Which layer (asthenosphere or lithosphere) is broken into large pieces called plates?

#### Lithosphere

9. Which layer (asthenosphere or lithosphere) carries the plates?

#### Asthenosphere

10. What process causes the tectonic plates to move?

#### Convection currents

11. What are the three types of plate boundaries? Describe how the plates move at each (toward each other, away from each other, or slide past each other).

Convergent - Plates come together/collide, Divergent - plates move away from each other/divide, Transform - plates slide past each other/shear

- 12. Describe what happens when the following plates collide:
  - Continental crust collides with continental crust mountains
  - Continental crust collides with oceanic crust subduction zone, oceanic trench and volcanoes, rift valleys
  - c. Oceanic crust collides with oceanic crust volcanoes
- 13. Where are ALMOST all volcanoes formed?

Volcanoes are most commonly found at subduction zone boundaries. This is where the thinner oceanic plates get pulled under the thicker continental plates. As the plates go deeper, they melt and form pockets of magma which can cause mountains to be built and as the hot magma rises, it erupts out of volcanoes.

14. What is a hot-spot volcano?

This is an extra hot plume of molten rock which causes the earth's crust to thin allowing molten rock to escape onto the surface. The movement of the earth's tectonic plates means that volcanoes form a <u>trail</u> along the earth's surface.

15. What occurs when too much stress builds up at a plate boundary and the rock finally breaks? Earthquake

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**Padhraic Smyth** 

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