***Internet Activity: "Planet Earth & the Moon"***

Astronomy

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

\* Use the following website links to complete the activity.

**Part I:** [***"Planet Earth"***](http://www.enchantedlearning.com/subjects/astronomy/planets/earth/)

<http://www.enchantedlearning.com/subjects/astronomy/planets/earth/>

1. The Earth is about \_\_\_\_\_\_\_\_\_\_\_ miles in diameter and is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ terrestrial

 planet in the solar system.

 Explain how Eratosthenes figured out Earth's diameter over 2000 years ago. How

 [accurate was his calculations](http://www.windows2universe.org/citizen_science/myw/w2u_eratosthenes_calc_earth_size.html)?

2. If you built a spaceship, how fast would the ship have to go to escape Earth's gravitational

 pull?

3. On around what date is Earth at perihelion (closest to the Sun)?

 When is Earth at aphelion (farthest from the Sun)?

 What is the difference (in kilometers or miles) and does this affect Earth's seasons?

4. Explain the cause of Earth's seasons.

 If you were standing at the equator, how fast would you be traveling due to the Earth's

 rotation?

 How fast would you be traveling at the poles & why?

5. The coldest temperature ever recorded on Earth was in the continent of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 at \_\_\_\_\_\_\_\_\_ degrees Fahrenheit. The hottest temperature ever recorded was located in

 the continent of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at \_\_\_\_\_\_\_\_\_ degrees Fahrenheit.

6. How did Earth's atmosphere form and what mechanism eventually modified it?

7. List the layers of the atmosphere and briefly describe each layer.

8. [Earth Puzzle](http://www.enchantedlearning.com/subjects/astronomy/activities/radiobuttonquiz/Earthpz.shtml)  http://www.enchantedlearning.com/subjects/astronomy/activities/radiobuttonquiz/Earthpz.shtml

 Answer the questions on the interactive quiz/puzzle. What is the name of the

 website (located at the bottom right of the image after you successfully completed the

 quiz!)

9. [Plate Tectonics](http://www.learner.org/interactives/dynamicearth/drift3.html) activity. http://www.learner.org/interactives/dynamicearth/drift3.html

 Solve the interactive map activity. What was the name given to the

landmass that existed 250 million years ago?

**Part II: *“***[***The Moon***](http://www.enchantedlearning.com/subjects/astronomy/moon/index.shtml)***”*** ***http://www.enchantedlearning.com/subjects/astronomy/moon/index.shtml***

1. Describe the surface of the Moon. What is "regolith" and how is it formed?

2. How did scientists discover ice at the lunar poles?

3. How can ice survive on the Moon if it has no atmosphere - and where did the ice come from?

4. If the Moon rotates on its axis, why do we only see one side of the Moon?

5. [Inside the Moon](http://www.enchantedlearning.com/subjects/astronomy/moon/Mooninside.shtml) Sketch and label the Moon's interior structure. Why did the Moon cool down faster than Earth?

6. [Moon Phases](http://www.enchantedlearning.com/subjects/astronomy/moon/Phases.shtml) Explain why the shape of the Moon appears to change in the night sky as seen from Earth.

 [(Take the lunar cycle challenge!)](http://sciencenetlinks.com/interactives/moon/moon_challenge/moon_challenge.html) http://sciencenetlinks.com/interactives/moon/moon\_challenge/moon\_challenge.html

7. Briefly describe and sketch (when possible) the following Moon phases:

 New Moon -

 Full Moon -

 Gibbous Moon -

 Crescent Moon -

 Blue Moon -

8. [Tides](http://www.enchantedlearning.com/subjects/astronomy/moon/Tides.shtml) What two main factors are the cause of Earth's tides?

 What is the main factor that causes two daily tidal bulges to form on Earth & why?

9. What is the difference between Spring & Neap tides?

10. [Lunar Eclipses](http://www.enchantedlearning.com/subjects/astronomy/moon/Lunareclipse.shtml) Make a sketch below of the Sun, Earth & Moon during a lunar eclipse. Label the Sun, Earth, Moon, umbra (total shadow) and penumbra (partial shadow).

11. When will the next total lunar eclipse be visible from North America?

 Is it [safe to view a lunar eclipse](http://earthsky.org/space/how-do-i-watch-the-total-lunar-eclipse)? Explain.