

NTSC 261L – Physical Science  
Solar System Brochure and “Earth as a Peppercorn”

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**GOALS OF PROJECT**

- 1- To learn content about planets and other objects in the Solar System
- 2- To integrate this knowledge with an investigation of the scale of the Solar System
- 3- To explore an opportunity that integrates art and science

**SPECIFICS**

In this project you will create a travel or real estate brochure that (humorously perhaps) outlines the major physical characteristics of a celestial object in our solar system, which may be a planet, moon of a planet or some other celestial object. You will “present” the brochure to the class during our “Earth as a Peppercorn” investigation.

The specific information you must include in your brochure are:

- Size of planet: radius, mass, volume, density
- Average distance from the Sun
- Surface gravitational
- Length of day
- Length of year
- Atmosphere composition
- Surface temperatures
- Characteristics of the surface
- Namesake
- History of discovery and exploration

You might want to concentrate on comparing your planet/celestial object to physical characteristics of the Earth. The NASA website <http://solarsystem.nasa.gov/index.cfm> is an excellent resource! **You must use a total of at least 3 references!** These should be included in your brochure.

Other questions/information you should consider:

- What would it be like to live or visit your planet?
- Other stuff?

The outline of the brochure is up to the individual student but should include the pertinent information (does not have to be paragraph form – can be a bulleted list) as well as some great images! In this project, humor is always appreciated!

This is due on **Monday 4/2!**

## **ESSAY ON THE SIZE OF THE SOLAR SYSTEM**

We will experience two “visualizations” that illustrate the immense scale of the solar system. One will be a Flash animation that catapults us through the solar system at 300x the speed of light. This animation is at the following website on the earthsci.terc.edu website, visualization *ES2701*. We will also be taking a walk through the solar system where the earth is portrayed as an object the size of a peppercorn. After these two learning experiences you need to complete a 2-3 page essay that covers the following topics:

- 1- An introduction paragraph that includes general information on the solar system including size of solar system, number and names of planets (in order) and a discussion on the theory for formation of the solar system (use your book, pages 801-802 and the tutorial for Chapter 33 at [www.awphysicalscience.com](http://www.awphysicalscience.com)). This section can (should) include images that can be referred to in your discussion.
- 2- Prior to this class have you ever thought about the sized of the solar system? Describe your previous knowledge about the size of the solar system. Describe any learning experiences you may have had that dealt with this concept.
- 3- Describe each visualization. What did the visualizations show you? How did the visualizations demonstrate the immense size of the solar system?
- 4- Describe your response to the two visualizations. Were your surprised about the scale of the solar system? How did these two visualizations affect your preconceptions or previous ideas about the size of the solar system?
- 5- Apply your new knowledge – what does the immense size of the solar system mean for space travel inside and outside of our solar system?

The essay must be typed – 12 font, 1.5 line spacing, 1 inch margins all around.

## **NM STATE SCIENCE STANDARDS**

At the end of your essay, include science standards related to the solar system. Use the same table format that we used for the unit analysis.

## **DUE DATE**

This will be due on **Monday 4/9!**

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Rubric

Name(s): \_\_\_\_\_

Item	Included
Size of planet: radius, mass, volume, density	
Average distance from the Sun	
Surface gravitational	
Length of day	
Length of year	
Atmosphere composition	
Surface temperatures	
Characteristics of the surface	
Namesake	
History of discovery and exploration	
Three references	
Other items – plate tectonics, conditions for a visit, etc.	
Point total for content ( <b>20 pts</b> ) 20 pts – all of the above included in brochure 18 pts – missing 1 items 16 pts – missing 2 items 14 pts – missing 3 items 12 pts – missing 4 items 10 pts – missing 5 items	
Presentation – appearance of brochure, neatness, included images, imaginative, indication of careful, thorough effort ( <b>10 pts</b> )	
<b>Total points</b>	