

# Planetary Real Estate

<http://questgarden.com/18/94/4/060329145856/index.htm>

## Focus on Inquiry

The student will focus on inquiry by gathering information on a planet, comet, moon, or asteroid of their choice and communicating their research by creating a PowerPoint presentation to convince potential “buyers” to move to their planet (comet, moon, or asteroid).

## Overview

Students study components of the solar system using a WebQuest to direct their information search. Each student chooses their own planet, moon, asteroid, or comet to research for information and graphics. They must then add creative design to complete a PowerPoint presentation of their planet, moon, asteroid, or comet to the class. Students then write up a sales pitch in efforts to get people to colonize their property. Students learn from their research and that of others in the classroom.

<b>Duration</b> 1 – 3 weeks	<b>Setting</b> Classroom or lab	<b>Grouping</b> Individual or small groups	<b>PTI Inquiry Subskills</b> 3.1, 3.3, 3.5, 3.6, 4.2, 7.3
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Lesson Components	Estimated Time	Inquiry Subskills Used	Technology Used	Level of Student Engagement	Brief Description
<i>Engage</i>	10 min	3.3, 3.6	None	2	Students observe various objects in the solar system.
<i>Explore</i>	Varies	3.1, 3.5, 3.6, 4.2	Internet: WebQuest and Search Engine; PowerPoint	3	Students research and gather data and graphical representations on a specific celestial body and complete PowerPoint presentations.
<i>Explain</i>	Varies	7.3	PowerPoint	3	Students complete oral presentations and evaluate others' presentations.
<i>Expand</i>	Varies	7.3	Word (optional)	3	Students write a paper to persuade others to colonize their celestial body.
<i>Evaluate</i>	Varies	N/A	None	N/A	Teacher-developed rubrics for presentation and paper.

### Level of Student Engagement

1	Low	Listen to lecture, observe the teacher, individual reading, teacher demonstration, teacher-centered instruction
2	Moderate	Raise questions, lecture with discussion, record data, make predictions, technology interaction with assistance
3	High	Hands-on activity or inquiry; critique others, draw conclusions, make connections, problem-solve, student-centered

## National Science Education Standards – Inquiry

Use appropriate tools and techniques to gather, analyze, and interpret data.



## National Science Education Standards – Earth Science

The earth is the third planet from the sun in a system that includes the moon, the sun, eight other planets, and their moons, and smaller objects such as asteroids and comets. The sun, an average star is the central and largest body in the solar system.

## Louisiana Grade Level Expectations – Inquiry

- Gr. 8, Inquiry GLE#6 – Select and use appropriate equipment, technology, tools, and metric system units of measurement to make observations (SI-M-A3)
- Gr. 8, Inquiry GLE#8 – Use consistency and precision in data collection, analysis, and reporting (SI-M-A3)
- Gr. 8, Inquiry GLE#11 – Construct, use, and interpret appropriate graphical representations to collect, record, and report data (e.g., tables, charts, circle graphs, bar and line graphs, diagrams, scatter plots, symbols) (SI-M-A4)
- Gr. 8, Inquiry GLE#19 – Communicate ideas in a variety of ways (SI-M-A7)



## Louisiana Grade Level Expectations Earth Science

- Gr. 8, GLE#38 – Use data to compare the planets in terms of orbit, size, composition, density, rotation, revolution, and atmosphere (ESS-M-C2)

### Materials List (per group)

- Computer lab with PowerPoint and Internet access for research and presentation
- Additional research materials may be needed, such as reference books
- **Blackline Master #1**
- Optional – Computer with LCD projector capability and viewing screen
- Optional – Scanner

### Advance Preparation

1. Access to computer lab.
2. Set the website: <http://questgarden.com/18/94/4/060329145856/index.htm> on the bookmarks or favorites on each computer for easy student access. You may also write the website URL address shown above on the board or on strips of paper so that students may easily access the webquest.
3. Print out **Blackline Master #1** in color.
4. Familiarize yourself with the webquest by going through the different links to ensure that they are working.
5. List on the board or on paper, the minimum research requirements expected for the students to gather. See the list found in the *Explore* section.
6. Determine if students will work individually or in small groups.

### Other Information

#### Objectives

The learner will

- gather information on planets, comets, moons, and asteroids through the use of a webquest and Internet search.
- create a PowerPoint presentation to convince potential buyers to move to a planet, comet, moon, or asteroid of their choosing.

#### Prior Knowledge Needed by the Students

- None

### Procedure

#### **Engage**

1. Show students pictures of various components of the solar system. See **Blackline Master #1** for the pictures.
2. Assess students' previous knowledge by having the students identify each planet, order the planets, and then group them by their designation as inner planets (between the Sun and the Asteroid Belt) or outer planets (Past the Asteroid Belt to the end of our Solar System).
3. Explain the purpose of the activity to the students.
4. Before allowing students to research their planet, make sure students know that they must cite all sources!

#### **Explore**

1. Allow students time to choose a planet, moon, asteroid, or comet to research for their project. (Step A of "Process" section in WebQuest.)
2. If you have the optional computer with LCD projector capability, show the students how to maneuver through the WebQuest to gather pertinent information.
3. Have the students go to the WebQuest and begin to research the planet, moon, asteroid, or comet they chose. (Step B of "Process" section in WebQuest.)
4. Research should include physical features and properties, number of moons, interesting facts/unusual features, etc.
5. A minimum of 10 to 15 facts should provide a sufficient amount of research to complete this project. The WebQuest gives specific information on setting up the facts collected on each PowerPoint slide found in the section titled "Process" – Step D.

6. Have students also collect pictures or drawings of their property. In addition to the resources found on the WebQuest, students can use the search engines, such as Google or Yahoo, to search for pictures. If you have access to a scanner, students can draw their own property and you can scan them into the computer. (Step C of "Process" section in WebQuest.)

***Explain***

1. Have students complete oral presentations on their planet, comet, moon, or asteroid.
2. Instructions on the oral presentation can also be found on the webquest in the section titled "Process" – Oral Presentation.
3. A management tip - you may want students to complete evaluations of the group or individual presenting so that they are courteous and pay attention while in the audience.

***Expand***

1. Have students write a persuasive paper covering their planet, moon, asteroid, or comet in a sales pitch. ((Step E: "Writing" under "Process" section in WebQuest.)

***Evaluate***

1. Use a teacher-generated rubric for grading presentations based on the research requirements.
2. You may choose to create a rubric to grade the students writing assignment.
3. You may also use a teacher-generated evaluation form for each student to utilize during the presentations and may assign a point value to it.

**Blackline Master**

1. Pictures of planet, moon, asteroid, and comet.

**Supplementary Resources*****Teachers***

None

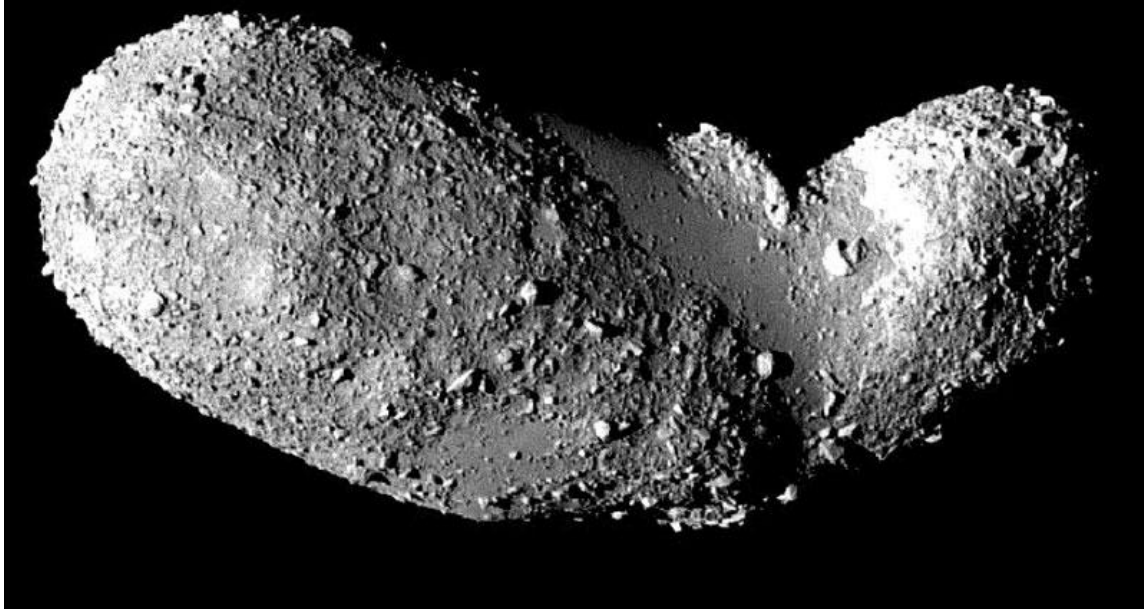
***Students***

Websites can be found on the on the webquest site.

**Copyright Information**

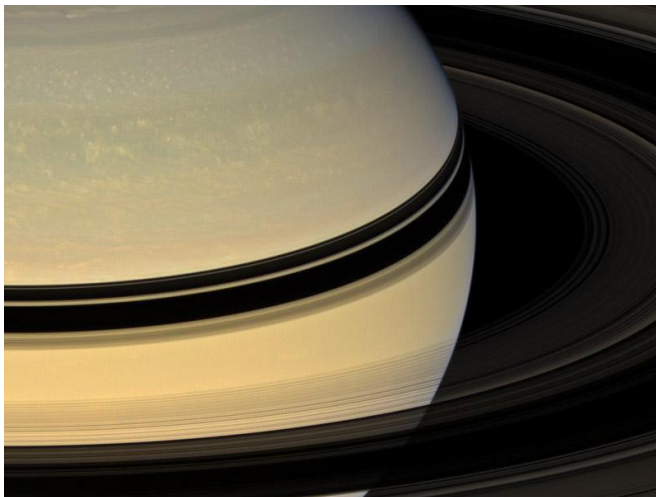
Rachel Jenkins, Peak Advantage Secondary School  
QuestGarden (<http://questgarden.com/>)

These pictures are from the  
**NASA Astronomy Picture of the Day Archive**  
[<http://antwrp.gsfc.nasa.gov/apod/archivepix.html>]



<http://antwrp.gsfc.nasa.gov/apod/ap070422.html>

**Asteroid Itokawa**



<http://antwrp.gsfc.nasa.gov/apod/ap080609.html>

**Saturn's rings**



**Comet McNaught**

[http://apod.nasa.gov/apod/image/0701/CometMcNaught\\_munford.jpg](http://apod.nasa.gov/apod/image/0701/CometMcNaught_munford.jpg)



**Titan, Saturn's Moon**

<http://antwrp.gsfc.nasa.gov/apod/ap990207.html>