

# **TEACHERS' GUIDE FOR Appleseeds, 'Around and About the Planets'**

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**Objectives:** to improve map & globe skills, reading comprehension, and verbal communication skills

Before reading this issue: Assess the students' understanding of the following terms: solar; gravity; revolution; rotation; orbit; asteroid; meteoroids; telescope; nebula; cluster; galaxy; astronomy. Define and discuss where necessary.

Warm-up activity: Ask the students to name as many planets in our solar system as they can. Write the names on the board as students call them out. Add any missing names to the list. Elicit from the class the order of the planets, moving away from the sun. Correct any errors; number the planets (1 -9) in the correct order. Explain to the students that these are the 9 planets as we know them. Astronomers are currently debating the existence of a 10<sup>th</sup> planet.

Challenge the students to create a pneumonic device (you may need to give examples) to help them remember the order of the planets. It can be a rhyme, a poem, a sentence, etc. Students can work in pairs or independently. Allow 5-10 minutes for this activity. Record results on the board. Present the following pneumonic devise to the class:

My Mercury  
Vampire Venus  
Eats Earth  
Meat Mars  
Just Jupiter  
Saturday Saturn  
Under Uranus  
Nancy's Neptune  
Porch Pluto

**'Home, Sweet Home', pp. 2-5, 'What Makes A Planet A Planet?', pp. 6-7**

Have the students make a list of the 4 'inner planets' and the 4 'gas giants'. Why do the planets fall into these categories? Is Pluto a planet? What do the students think it is?

**'The Space Tourist's Guide to the Planets', pp. 8-14**

After reading this article, have students (in groups of 2-4) choose 2 planets. They then make a compare and contrast chart, recording similarities and differences.

### **'Fantastic Journeys: Astro Camp and Beyond', pp. 15-17**

While at Astro Camp, 12 yr. old Jackson Caldwell used a telescope to find nebulas, clusters and double stars.

Instruct students to use these websites

[www.astronomy.com/asy/default.aspx?c=a&id=1091](http://www.astronomy.com/asy/default.aspx?c=a&id=1091) [www.smplanet.com/planets/planetintro.html](http://www.smplanet.com/planets/planetintro.html) <http://library.thinkquest.org/CR0210901/>

to find the definitions or descriptions of the following:

Ring Nebula

Vega

finder scope

constellation

Hercules Cluster

### **'Discovering Planet Earth', pp. 18-21**

After reading the article 'Discovering Planet Earth', students fold a piece of lined paper into 4 boxes. At the top of each box they write the names 'Aristarchus', 'Ptolemy', and 'Copernicus' and 'Tycho Brahe' on the front. List the names 'Johannes Kepler', 'Galileo' and 'IsaacNewton' on the back. On the paper, students summarize the theories of each astronomer under the proper name heading.

### **'Earth's Twin', p. 22**

After reading the article, discuss the similarities and differences between Earth and Venus. Make a chart on the board noting these facts.

### **'Meet Courtney Dressing, Teen Astronomer', pp. 24-25 and 'Carl Sagan Lived A Dream', p. 26-27**

Courtney Dressing and Carl Sagan both knew that they wanted to be astronomers when they grew up. Discuss what they did to work toward their goals. Ask students to write down a goal or dream that they each have, and what they are doing or can do to work toward fulfilling their dreams. Ask for volunteers to read/discuss their dreams and goals aloud with the class.

**”The Sun, Moon, and Stars’, pp. 28-31**

Have students research Greek mythology as it relates to the origins of our solar system on the following website:

<http://library.thinkquest.org/CR0210901/greekmythology3.htm>

After reading this article, lead a class discussion about the differences between Navajo mythology and Greek/Roman mythology, and how these early people explained the planets, sun, moon and stars.