

# Critical Thinking Skills



## The Solar System

Skills For Critical Thinking		Reading Comprehension							Hands-on Activities
		Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	
<b>LEVEL 1</b> Knowledge	<ul style="list-style-type: none"> <li>List Details/Facts</li> <li>Recall Information</li> <li>Match Vocab. to Definitions</li> <li>Define Vocabulary</li> <li>Label Diagrams</li> <li>Recognize Validity (T/F)</li> </ul>	✓	✓	✓	✓	✓	✓	✓	✓
<b>LEVEL 2</b> Comprehension	<ul style="list-style-type: none"> <li>Demonstrate Understanding</li> <li>Explain Scientific Causation</li> <li>Rephrasing Vocab. Meaning</li> <li>Describe</li> <li>Classify into Scientific Groups</li> </ul>	✓	✓	✓	✓	✓	✓	✓	✓
<b>LEVEL 3</b> Application	<ul style="list-style-type: none"> <li>Application to Own Life</li> <li>Model Scientific Process</li> <li>Organize and Classify Facts</li> <li>Utilize Alternative Research Tools</li> </ul>	✓	✓	✓	✓	✓	✓	✓	✓
<b>LEVEL 4</b> Analysis	<ul style="list-style-type: none"> <li>Distinguish Roles/Meanings</li> <li>Make Inferences</li> <li>Draw Conclusions Based on Facts Provided</li> <li>Classify Based on Facts Researched</li> </ul>	✓	✓	✓	✓	✓	✓	✓	✓
<b>LEVEL 5</b> Synthesis	<ul style="list-style-type: none"> <li>Compile Research Information</li> <li>Design and Application</li> <li>Create and Construct</li> <li>Imagine Self in Scientific Role</li> </ul>	✓	✓	✓	✓	✓	✓	✓	✓
<b>LEVEL 6</b> Evaluation	<ul style="list-style-type: none"> <li>State and Defend an Opinion</li> <li>Justify Choices for Research &amp; Topics</li> <li>Defend Selections and Reasoning</li> </ul>	✓	✓	✓	✓	✓	✓	✓	✓

Based on Bloom's Taxonomy

NAME: \_\_\_\_\_



# Introduction to the Solar System

1. Write a journal entry to state which planet you would choose to visit if you could go anywhere in the solar system. Give reasons for your choice.

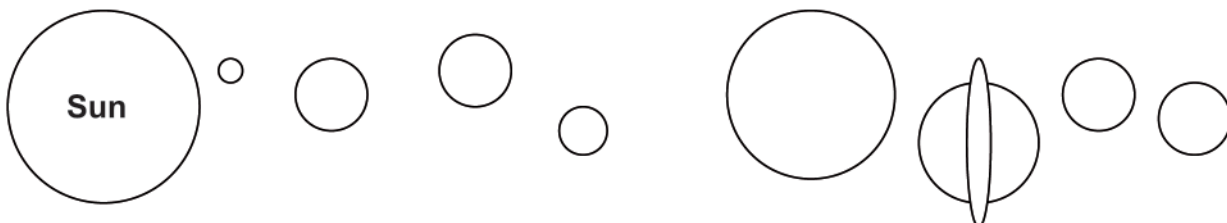
2. Complete each sentence with a word from the list. Use a dictionary to help you.

comets      moons      solar system      sun      planets      asteroids

- a) Planets circle the Sun, and \_\_\_\_\_ circle planets.
- b) The nine \_\_\_\_\_ that orbit the Sun in our solar system are made of rocky materials or gases.
- c) The star at the center of our system is called a \_\_\_\_\_. It gives off heat and light energy.
- d) Also known as "smaller planets", \_\_\_\_\_ are rocks that orbit the Sun mainly between Mars and Jupiter.
- e) Made of ice, gas and dust, \_\_\_\_\_ orbit around the Sun. As they get closer to the Sun, it warms them and causes them to form a head and a tail.
- f) The \_\_\_\_\_ includes the sun and all eight planets that orbit it.

3. Label the diagram using the letters from the list below.

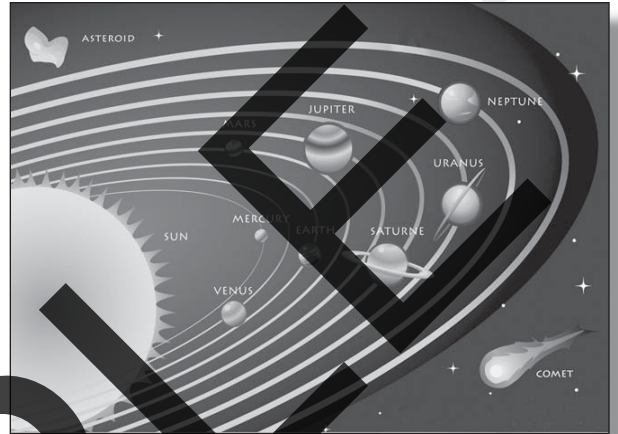
- |                |                   |                 |                  |
|----------------|-------------------|-----------------|------------------|
| <b>E</b> Earth | <b>MA</b> Mars    | <b>S</b> Saturn | <b>N</b> Neptune |
| <b>V</b> Venus | <b>ME</b> Mercury | <b>U</b> Uranus | <b>J</b> Jupiter |






# Introduction: The Solar System

**D**id you know that people once believed that Earth was the center of the solar system? They thought that all of the planets and the Sun revolved around us! Now we know that our solar system has eight planets that travel around the Sun. The planets travel in circular paths called **orbits**. The planets are divided into **inner planets** and **outer planets**. The first four planets, Mercury, Venus, Earth and Mars, are the inner planets. Then, Jupiter, Saturn, Uranus and Neptune are the outer planets. Pluto lost its planetary status in 2006.



The inner and outer planets have a row of asteroids in between them. It is called an **asteroid belt**. Asteroids are pieces of space rock that orbit around the Sun. Scientists think that asteroids are like "space trash", leftover garbage from when the planets were first formed.



**Make a list of all of the things in our solar system that you have read about so far.**

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The eight planets in our solar system are made of either rocky materials or gases. Mercury, Venus, Earth and Mars are the **rocky planets**. They are smaller than planets made of gas. They are also heavier and move more slowly. They have no **rings** around them. The rocky planets have few **moons**. The former planet, Pluto, is also rocky, has no rings and has few moons around it.

Jupiter, Saturn, Uranus and Neptune are the **gas planets**. They are made of gases called **hydrogen** and **helium**. These big planets are often called the "**Gas Giants**". They are lighter than the rocky planets and move faster. Most of these planets have many moons. Did you know that Jupiter has sixty-three moons? All of the gas planets also have rings around them, but Saturn's rings are most well known. You have probably seen pictures of the rings around Saturn before. These rings are made of ice chunks and rock.



# Introduction to the Solar System

1. **Circle** the word True if the statement is true. **Circle** the word False if it is false.

a) Planets that are made of gases tend to move more slowly than the smaller, rocky planets.

**True**                      **False**

b) Mercury, Venus, Earth and Mars are known as *inner planets* because they have rocks inside them.

**True**                      **False**

c) Moons are part of the solar system because they orbit around the Sun.

**True**                      **False**

d) The *gas planets* can have rings and often have many moons.

**True**                      **False**

e) *Asteroids* are known as "space trash" because they are left over from when the planets were formed.

**True**                      **False**

f) The farther a planet is from the Sun, the more difficult it is to visit it.

**True**                      **False**

g) The rings around Venus are made of ice and rock.

**True**                      **False**

h) The inner planets have few moons around them.

**True**                      **False**

i) The Earth is the center of the solar system.

**True**                      **False**

2. a) **Cross out** the words that are NOT part of a solar system.

moon      satellite      planet      comet      asteroid      quasar      sun

b) **Underline** planets that are light and fast.

Mercury      Venus      Saturn      Jupiter      Mars      Neptune

c) **Circle** all of the items in the list that planets can be made of.

helium      rock      dust      fireballs      hydrogen      oxygen      ice