Name_____ Class_____ Date_____

LESSON

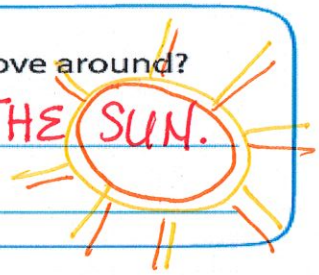
9.1 The Structure of the Solar System

As you are re-reading section 9.1 complete the reading guide below.

Recall

1. What object(s) do the planets in the solar system move around?

The planets move around THE SUN.



Compile

2. Organize facts about the Sun in the following chart.

Facts About the Sun

Diameter:	Mass: contains about 99 percent of	Composition: mostly	Energy: produced by
1.4 million km	the entire solar system	hydrogen gas	nuclear fusion

3. In the passage to the right, highlight and number the characteristics a solar system object must have to be classified as a planet.

Objects That Orbit the Sun

Different types of objects orbit the Sun. These objects include planets, dwarf planets, asteroids, and comets. Unlike the Sun, these objects don't emit light but only reflect the Sun's light.

Planets Astronomers classify some objects that orbit the Sun as planets, as shown in **Figure 2.** An object is a planet only if it (1) orbits the Sun and has a (2) nearly spherical shape. Also, (3) the mass of a planet must be much larger than the total mass of all other objects whose orbits are close by. The solar system has eight objects classified as planets.

Describe

4. How are the inner planets different from the outer planets? **Give 2 ways.**

Inner: small, rocky, closer to sun

Outer: large, gaseous (H + He), farther from sun

Locate

5. Which dwarf planet is farthest from the Sun?

ERIS

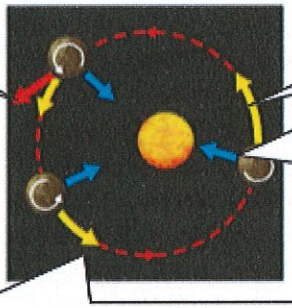
Define

6. What is an astronomical unit and why is it used?

a. the average distance from the Sun to Earth

b. used to measure large distances in space.

7. Fill in the blanks to describe each arrow in the diagram.



Straight line without Sun's gravity

Planet moves faster (notice the longer arrow)

Gravitational pull is always toward the Sun

Planet moves slower (notice the shorter arrow)

Describe

8 Fill in information about the motion of the planets.

Motion of the Planets

Rotation (day)	Revolution (year)
The time that a planet takes to rotate once on its axis	The time that a planet takes to go around the sun one time
Also called: spin	Also called: orbit Shape: ellipse

9. Turn in this paper to the basket, and go to Google Classroom to follow directions there.