

## **NOTES: Our Solar System**

### **A Combination of Systems**

1. Our Solar system includes the sun, the planets, and many other smaller objects.
2. Some systems are organized into smaller systems of their own.
3. The Saturn System - made up of Saturn and the several moons that orbit Saturn.

### **MEASURING INTERPLANETARY DISTANCES**

1. Scientists measure distance in space in astronomical units.
2. ASTRONOMICAL UNIT (AU) - Is the average distance between the sun and the earth, or approximately 150,000,000 km.
3. Another form of measurement in space is by using the speed of light.
4. Light travels at about 300,000 km/s in space. this means that in 1 second light travels 300,000 km.
5. In one minute light travels at 18,000,000 km.
6. This distance is also called a light minute.
7. Light from the earth to the sun takes 8.3 minutes to reach earth.
8. So the distance from the Earth to the sun would be 1 astronomical unit and that is 8.2 light-minutes.
9. Distances in the solar system can be measured in light minutes or light hours.

### **The Discovery of Our Solar System**

1. Until the 17th century the universe was thought to only have 8 bodies and these were the planets Earth, Venus, Mercury, Mars, Jupiter, and Saturn, the sun, and the earth's moon.
2. These bodies are the only ones that can be seen from Earth using a telescope.
3. During the 17th century once the telescope was discovered, 9 more bodies were

found and these were the moons of Jupiter and Saturn.

4. By the 18th century Uranus, along with two of its moons and two more of Saturn's moons were discovered.

5. In the 19th Century Neptune as well as the moons of several other planets were discovered.

66. 20th Century Pluto was discovered.

### **The Inner and Outer Solar Systems**

1. The solar system is divided into two main parts. The inner solar system and the outer system.

2. The inner solar system contains the four planets that are closest to the sun.

3. The outer planets contain the planets that are farthest away from the sun.

#### **the Inner Planets**

1. Known as terrestrial planets.

2. More closely spaced than the outer solar system.

3. Their surfaces are dense and rocky.

4. Each inner planet is unique.

5. The inner planets are (outward from the sun) Mercury, Venus, Earth, and Mars.

#### **The Outer Planets**

1. (Outward from the inner planets) Jupiter, Saturn, Uranus, and Neptune.

2. Outer planets are large and comprised mostly of gases..

3. Because of this Jupiter, Saturn, Uranus, and Neptune are known as gas giants.

4. Several smaller bodies are located beyond the orbit of Neptune, and are made of rock and ice. These may be leftover from the formation of the early solar system.