


Components of the Solar System Learning Targets

Chapter 9



Target	With Help	On My Own	Teach It
1. I know the order of the planets from the sun.			
2. I can identify the physical properties of each planet:			
	Mercury		
	Venus		
	Earth		
	Mars		
	Jupiter		
	Saturn		
	Uranus		
	Neptune		
3. I can compare and contrast the inner and outer planets.			
4. I can explain why the planets stay in orbit around the sun.			
5. I can describe the Galilean moons and their locations.			
6. I can explain the difference between meteors, meteoroids, and meteorites.			
7. I can explain where asteroids are located, their shapes and of what they are made.			
8. I can explain how comets travel and what they are made of.			
9. I can give 3 physical properties of the sun.			
10. I know the criteria astronomers use to classify planets.			

Know the following terms' definitions. **As always, knowing the terms will enable you to answer other questions besides definitions. (The words with asterisks do not have flashcards made yet. You may want to add those 4 to your decks.)**

Asteroid
 Astronomical unit
 Comet
 Dwarf planets
 Ellipse
 Inner planets
 Meteor

Meteorite
 Orbit
 Outer Planets
 Period of revolution
 Period of rotation
 Solar system
 Sun

Telescope
 *Greenhouse effect
 *Galilean moons
 *Meteoroid
 *Impact crater
 Jovian Planets
 Terrestrial Planets

Target 1: List here Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus Neptune

Target 2: List at least 3 for each planet (Here are a few physical properties; you may have written different ones.)

Mercury no atmosphere, closest to sun, shortest year, 59 earth day rotation, cratered like moon, layers, volcanic activity, no moons, largest difference in temperature

Venus hottest, greenhouse effect, dense atmosphere, rotates opposite of other planets, Earth's sister (because of size only), layers, volcanic activity, longest day (day is longer than its year), no moons,

Earth liquid water, one moon, layers, atmosphere, greenhouse effect, volcanic activity, only planet with known life right now

Mars day similar to Earth's, thin atmosphere, dust storms, iron oxide in soil, layers, volcanic activity, 2 moons, largest mountain in solar system

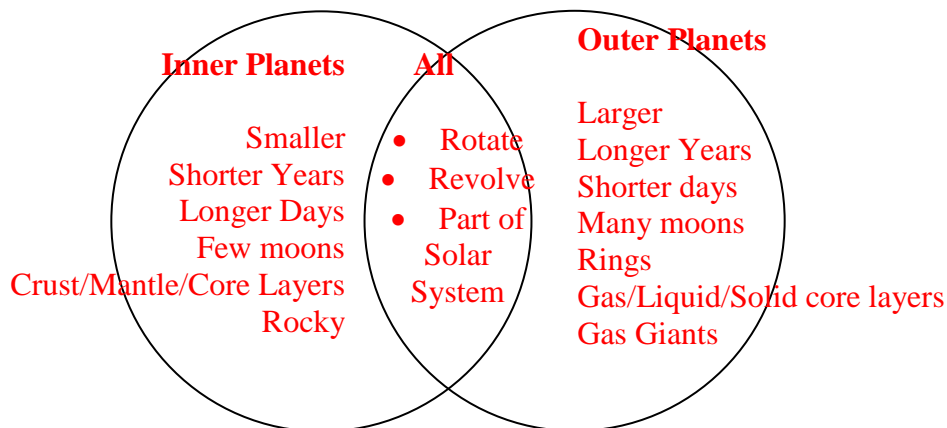
Jupiter largest planet, red spot, hydrogen and helium, Galilean moons, rings, gas/liquid/solid layers, shortest day

Saturn 2nd largest planet, least dense planet (less than water), gas giant made mainly of hydrogen and helium, small solid core, liquid layer, gaseous layer, largest ring system, at least 53 moons with the largest one named Titan

Uranus – gas giant made mostly of hydrogen and helium, methane also in atmosphere that gives the planet its blue color, Rotates top to bottom unlike other planets, at least 27 moons, rings

Neptune –gas giant made mostly of hydrogen and helium, methane also in atmosphere that gives the planet its blue color, at least 13 moons with the largest one named Triton, gas/liquid/solid layers, rings

Target 3: (The following are only samples; there may be more answers.)



Target 4: Gravity holds the planets in orbit around the sun and the fact that the planets want to travel in a straight line (inertia) Because the sun makes up 99% of the solar system's mass, it has a very large gravitational pull that holds the planets and other objects in orbit.

Target 5: The Galilean moons are the four largest moons of Jupiter (Io, Europa, Ganymede, and Callisto) and were first discovered when Galileo Galileo saw them through a telescope.

Target 6:

Meteors are space objects that are falling through a planet or moon's atmosphere. They are called shooting stars even though they are not stars. They give off light because of the great friction caused by the object and the gases in the atmosphere rubbing together and creating fire.

Meteorites are a meteor that impacts the surface of a planet or moon

Meteoroids are smaller objects than asteroids that are out in space.

Target 7: Most asteroids are pieces of rock and ice located in an area between Mars and Jupiter known as the asteroid belt, that orbit the sun. Some are as small as a meter and others are as large as 500 km.

Target 8: Comets are mixtures of rock, ice and dust. They travel in LONG elliptical orbits. There is a solid inner part that is called a nucleus. As the comet gets closer to the sun, the heat from the sun causes the solid part to melt and we see the particles as the sun shines on them. This is the tail. The tail is always pushed away from the sun.

Short Period Comets – come from the Kuiper belt and take about 200 years or less to go around the sun.

Long Period Comets – come from the outer edge of the solar system from an area called the Oort cloud.

Target 9: Mostly made of hydrogen gas, center of our solar system, largest object in our solar system. only star in our solar system, 99% of the mass of the solar system is in the sun, nuclear fusion is the energy produced, applies a gravitational force on all objects in the solar system

Target 10:

1. orbits the sun
2. has a nearly spherical shape
3. the mass must be much larger than the total mass of all other objects whose orbits are classified as planets.