

Junior Space Science Investigator Badge

The Solar System

This sheet provides basic facts about the Solar System to help you and your girls embark on the Space Science Investigator badge.

Words to Know-

Here is some vocabulary to get you started . . .

Solar System: Our star (the Sun) and all the objects that travel in orbit around it

Orbit: The path one object takes around another

Planet: An object in orbit around the Sun that is big enough for its own gravity to make it round, and has cleared the area around its orbit of small objects and debris. Some planets have moons orbiting them.

Asteroid: A small body of rock that orbits the Sun

The Sun: A star made of hot glowing gases at the center of our Solar System

Comet: A small ball of frozen water, gas, rock, and dust. When they come near the Sun, the frozen water turns to gas—and tails, millions of miles long, are formed. That's when we see comets from Earth.

Galaxy: A system of millions to billions of stars, held together by gravity. Our galaxy (the Milky Way) has the mass of nearly one trillion stars like the Sun.

Planetary System: A star and all of the planets, moons, asteroids, and comets that orbit around it

KEY FACTS-

- Our Solar System formed about 4.6 billion years ago, and is located in the Milky Way Galaxy.
- Our Solar System consists of the Sun (our star), eight planets, five dwarf planets, thousands of asteroids and millions of comets.
- The four planets closest to the Sun—Mercury, Venus, Earth and Mars—are called the terrestrial planets because they have solid, rocky surfaces. Two of the outer planets—Jupiter and Saturn—are known as gas giants. The more distant Uranus and Neptune are called ice giants.
- There are many planetary systems in our Galaxy, and more than 3,500 planets orbiting distant stars have been discovered as of June 2016.

FUN FACTS TO SHARE WITH GIRLS-

- The stars in the sky are like our Sun—some smaller, some larger—but all are very far away, so they look tiny. When we look at the stars in the sky, we know now that many of them have their own planets.
- Our Solar System is in the suburbs of the Milky Way. It's about halfway between the center of the galaxy and the visible edge of the galaxy.
- If the entire Solar System weighed as much as 100 pennies, then the Sun's portion would be 99 pennies, and all the planets, moons, asteroids, and dwarf planets' weights together would equal a single penny.

Fun and Educational Links-

If you'd like to know more about the Solar System, check out these helpful links:

NASA's Solar System website: www.girlscouts.org/SpaceScienceNASASolarSystem

The Planets in the Solar System: www.girlscouts.org/SpaceScienceNASAPlanets

For names of the planets, moons and features: www.girlscouts.org/SpaceSciencePlanetaryNames