

The Solar System and Beyond

Sun – the star in the center of our solar system made up of very hot gasses

Solar system – a star and all the planets and other objects that revolve around it

The sun is very large. **1.3 million** Earth's could fit inside the sun.

Sunspots are darker, cooler areas of the sun.

Sunspots can produce brief bursts of energy called **solar flares**.

The sun's **corona** extends **1 million km (600,000 mi)** from the surface of the sun.

The sun is a **yellow star** of medium size, medium brightness, and medium heat.

One way scientists classify stars is by **color**. Star colors range from blue, white, and yellow to orange and red.

Blue stars are the **hottest**. **Red stars** are the **coolest**.

Scientists also classify stars by their **brightness**.

How bright a star appears depends on **two factors**: how far it is from Earth (distance) and how much energy it produces.

A star's **absolute magnitude** measures the amount of energy it produces.

A star's **apparent magnitude** refers to how bright the star appears to be from Earth. This can change with the star's distance.

A **constellation** is a pattern of stars that is named after a mythical or religious object or animal.

The **asteroid belt** is a ring-shaped area where many small, rocky bodies, or asteroids, are located.

The **eight planets** in order from the sun are:

Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.

There are **over 60 moons** in our solar system.

Comets have small, frozen, solid cores.

The **universe** is everything that exists – all the stars, planets, dust, gases, and energy.

A **galaxy** is gas, dust, and a group of stars, including any objects orbiting the stars.

The **Milky Way Galaxy** has more than **100 billion stars** and is one of the largest in the universe.

Scientists estimate there are **more than 100 billion** galaxies in the universe.

Galaxies are classified by their shape. There are **four basic types: spiral, barred spiral, elliptical, and irregular.**

The sun is approximately **93 million miles** from the Earth.

The distance from the sun to Earth is **one astronomical unit.**

It takes **8.3 minutes** for light from the sun to reach the Earth.

One **light year** is the distance light travels in one year.

Light travels approximately **186,000 miles per second**, or the **speed of light!**