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## Sombrero Galaxy

The Sombrero Galaxy is located  
on the southern edge of the  
rich Virgo cluster of galaxies.



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## Sombrero Galaxy

This galaxy is 28 million light-years away. For comparison, it takes sunlight 8.3 minutes to reach the earth.



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Sombrero Galaxy

We live in the Milky Way  
Galaxy.

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## Sombrero Galaxy

A galaxy is any of the very large groups of stars and associated matter that are found throughout the universe.



## Sombrero Galaxy

A galaxy is a vast gravitationally bound system of stars, interstellar gas and dust, plasma, and possibly unseen dark matter. Typical galaxies contain 10 million to one trillion stars, all orbiting a common center of gravity. In addition to single stars and a tenuous interstellar medium, most galaxies contain a large number of multiple star systems and star clusters as well as various types of nebulae. Most galaxies are several thousand to several hundred thousand light years in diameter and are usually separated from one another by distances up to millions of light years.



## Sombrero Galaxy

In 1912, astronomer V.M. Slipher discovered that the hat-like Sombrero Galaxy appeared to be rushing away from us at 700 miles per second. This enormous velocity offered some of the earliest clues that the Sombrero really was another galaxy, and that the universe was expanding in all directions.



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## Bubble Nebula

This NASA Hubble Space Telescope image reveals an expanding shell of glowing gas surrounding a hot, massive star in our Milky Way Galaxy.



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## Bubble Nebula

This shell is being shaped by strong stellar winds of material and radiation produced by a bright star nearby, which is 10 to 20 times more massive than our sun.





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## Bubble Nebula

Fierce winds are sculpting the  
surrounding material –  
composed of gas and dust –  
into the curve-shaped bubble.



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## Bubble Nebula

A nebula is an interstellar cloud of dust, gas and plasma.



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## Bubble Nebula

The glowing gas in the lower right-hand corner is a dense region of material that is getting blasted by radiation from the Bubble Nebula's massive star.



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## Bubble Nebula

This nebula can be found in the Pegasus Constellation. It is 72 million light-years away.



## Saturn

Saturn is the sixth planet from the sun and is the second largest, after Jupiter. More than nine earths would fit across Saturn!



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Saturn

In Roman mythology, Saturn is  
the god of agriculture.

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## Saturn

The rings of Saturn are composed of ice, dust and rock. Some of these particles are as tiny as grains of sand, but some are much larger than skyscrapers. Actually, some are up to a kilometer across, which is more than half a mile.



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## Saturn

Saturn experiences seasonal tilts away from and toward the sun, much like Earth does.





## Saturn

It is quite windy on Saturn. Winds around the planet's equator can reach 1,800 kilometers – or 1,118 miles – per hour. In comparison, the fastest winds on earth only reach about 400 kilometers – or 250 miles – per hour.



## Saturn

Saturn goes around the sun very slowly, but spins on its axis extremely fast. A Saturn year lasts for more than 29 earth years, but a Saturn day only lasts 10 hours and 14 minutes.



## Saturn

Saturn is mainly gas, so it is the only planet in our solar system that is less dense than water. This means that if you could build a ridiculously large bathtub, Saturn would actually float in it.



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## Kepler

Kepler is a Discovery mission to detect the presence of extrasolar planets by observing the slight increase in light detected from the parent star as the orbiting planet passes in front of it.



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## Kepler

Kepler, a NASA Discovery mission, is a spaceborne telescope designed to look for Earth-like planets around stars beyond our solar system.



## Kepler

Kepler will detect planets indirectly, using the “transit” method. A transit occurs each time a planet crosses the line-of-sight between the planet’s parent star that it is orbiting and the observer. When this happens, the planet blocks some of the light from its star, resulting in a periodic dimming. This periodic signature is used to detect the planet and to determine its size and its orbit.



## Kepler

Over a four-year period, Kepler will continuously view an amount of sky about equal to the size of a human hand held at arm's length or about equal to two "scoops" of the sky made with the Big Dipper constellation. In comparison, the Hubble Space Telescope can only view the amount of sky equal to a grain of sand held at arm's length, and then only for about half an hour at a time.