

What is Earth?

Earth is the planet we live on. A **planet** is a large ball of rock or gas that moves around the sun.

The sun, planets, and the planets' moons make up the **solar system**. There are eight planets in the solar system. Earth is different from other planets. It contains a lot of water and life.

In this picture, Earth is mostly blue. The blue part is water. The white parts are clouds. The green and brown parts are land.

Land and water are easy to see in this photograph of Earth taken from space.

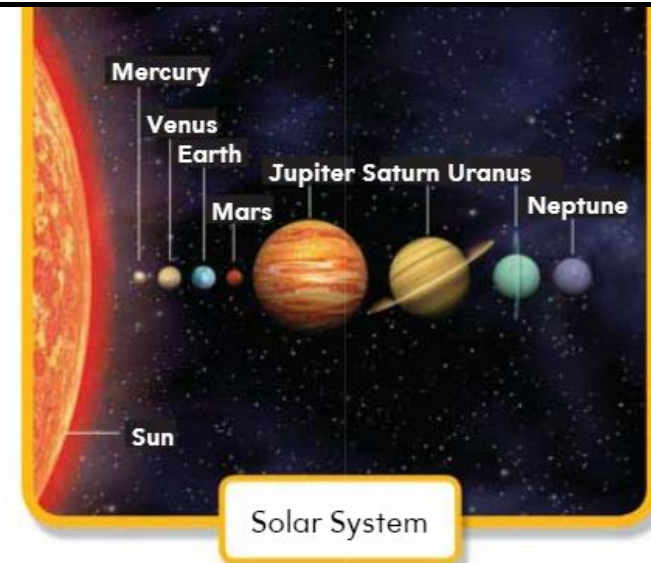
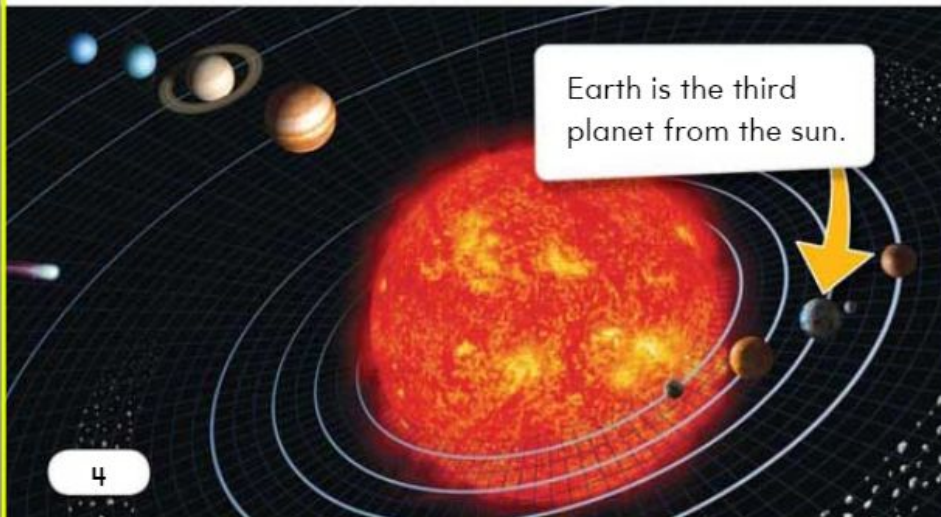
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Where is Earth?

The sun is the center of the solar system. Earth is the third planet from the sun. Earth and other planets move around the sun. An **orbit** is the path a planet takes as it moves around the sun.

It takes Earth one year to go around the sun. The closer a planet is to the sun, the less time it takes to make an orbit. The closer planets have a shorter distance to travel. They move around the sun faster than Earth does.



Earth is one of eight planets in the solar system. Mercury and Venus are closest to the sun. Earth is next. Mars, Jupiter, Saturn, Uranus, and Neptune are farther from the sun.

The sun is a hot ball of gases. The sun gives us light and heat. So, we are able to have life on Earth. Without light and heat from the sun, everything would die.



What do you see in the sky?

When you look up to the sky in the daytime, you can see the sun. The sun is the closest star to Earth. A **star** is a huge ball of hot gases.

Earth is closer to the sun than many planets are. The planets far away from the sun get less light and heat. They are darker and colder than Earth.

The sun, a star, is the center of the solar system.



This constellation is Ursa Major.

Most stars can be seen only at night. They look small because they are very far away.

Some of the stars make up constellations. A **constellation** is a group of stars that form a pattern. Long ago people thought they saw pictures when they looked at the stars. They named constellations after animals, people, or objects.

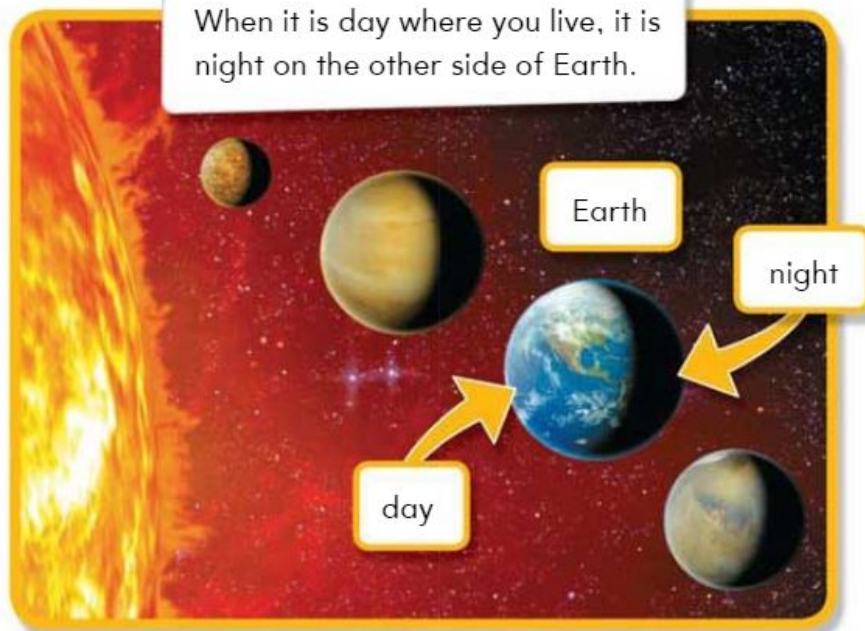




How does the sky seem to change?

Earth **rotates**, or turns. It makes one complete turn every 24 hours. Because Earth rotates, we have day and night.

During the day, the place where you live on Earth faces the sun. At night, the place where you live faces away from the sun.



We can see the moon and stars at night.

As Earth rotates during the day, the sun shines on objects differently. Shadows change. Observe the shadows at your school. In the morning, one side of the school will be in the shade. In the afternoon, the other side of your school will be in the shade.

What can you see in the nighttime sky? The moon and stars shine in the nighttime sky.



Why does the moon look different at different times?

We can see the moon in the sky because it reflects the sun's light. The side of the moon that is facing the sun is lit up.

The moon makes an orbit around Earth. As the moon circles, the sun lights up one side of the moon. Sometimes we can see the side of the moon that is lit. Other times the sun lights the side we do not see. The shapes of the moon we see as it moves are called **phases**.



Sometimes the whole moon looks very dark. This is called a new moon. During this time, the moon is between Earth and the sun. We see the side of the moon that is not being lit. As the moon moves in its orbit around Earth, though, we can see more of it.

We see a full moon when the whole side that is lit up is facing Earth. This happens when Earth is between the moon and the sun. As time goes by, the moon looks smaller and smaller.

These phases of the moon repeat.