

Getting to Know: Earth

In the entire universe, Earth is the only planet we know of that is capable of supporting life. Scientists are actively hunting for other planets similar to our own, because if we can find a one with similar characteristics, there is a chance it could also support life. As of now, Earth is the only planet with life that we know of, but who can say what we will learn tomorrow?



Earth supports a wide variety of life.

Why is Earth unique?

One reason that Earth can support life is its atmosphere and its distance from the Sun. Earth is at just the right distance for moderate temperatures, which help life to flourish. Consider our nearest neighbors: Venus and Mars—Venus has a thick atmosphere and is closer to the Sun than Earth. Average temperatures in Venus' atmosphere are 464°C! Mars has a very thin atmosphere and is farther from the Sun than Earth is. The average temperature of the Martian atmosphere is -63°C! Earth's atmosphere and distance help maintain an average atmospheric temperature of 15°C. Because Earth's temperatures are moderate, water can exist in all three states in the Earth's system—as a solid, liquid, or gas. Water is essential to support life as we know it.

How is water an important feature of Earth?

Earth is not the only body in the solar system that has water. Scientists have discovered ice on Mars and water vapor in Venus' atmosphere. However, Earth is the only body in the solar system in which water is abundant. In fact, more than 70% of Earth's surface is covered in water. All of the organisms on Earth need water to survive.

Water has also played a large role in sculpting Earth's landforms. Earth has a variety of landforms that are not present elsewhere in the solar system. In addition to mountains and valleys, we have canyons and deltas. Water continually shapes Earth's surface.

