

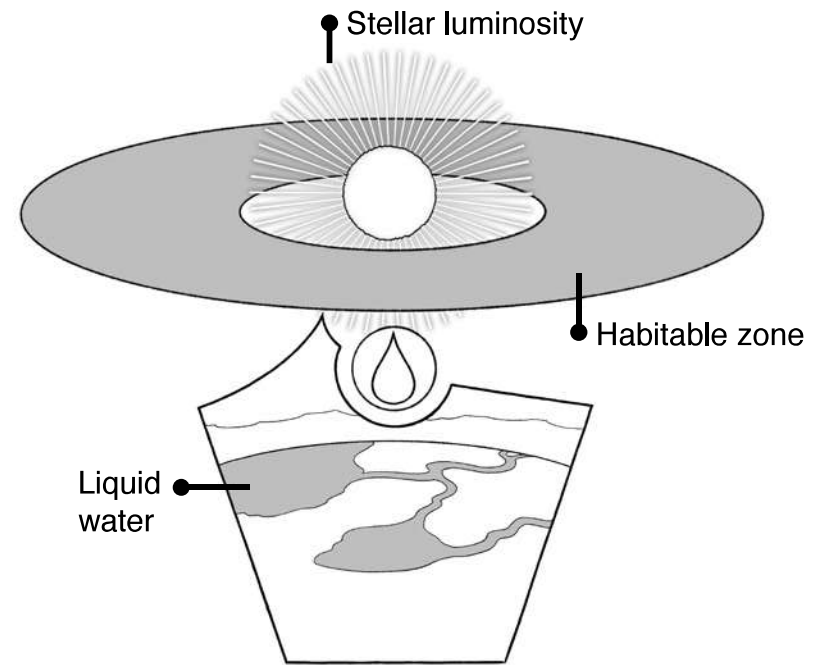
Habitable Zone

When scientists look for planets that might support life, they focus on something called the **habitable zone** — a region around a star where it's not too hot and not too cold for **liquid water** to exist. Liquid water is important because it's essential for life as we know it.

The size and distance of the habitable zone depend on the star's **stellar luminosity**, which means how bright and powerful the star is. A brighter star has a habitable zone that's farther out, while a dimmer star's habitable zone is much closer in.

This is a major factor in our search for other worlds like Earth. Knowing which orbits could support liquid water helps scientists decide which planets to examine more closely. The variety of the other stars we see and of the planets orbiting them also helps us fill in the gaps in our understanding of the habitable zone as a concept.

It's worth noting that as our Sun gets older and moves into the red giant phase, its increasing size and brightness means that the habitable zone will move outward. This means that Earth will likely become uninhabitable, like Mercury and Venus are today, while planets like Mars and the moons of the gas giants could be the habitable worlds of the distant future.



Speaking of the Heliosphere...

Earth sits comfortably in the habitable zone of our Sun. As a result, it is the only planet in the solar system with a temperature range that allows liquid water to exist in large quantities. This liquid water allows life to exist and flourish.



The Ts'msyen/Sm'algyax of the Alexander Archipelago rely on the Earth's water for life. In their language, Ts'msyen/Sm'algyax, *Earth* is called **ha'lidzog**. Scan the QR code to hear it spoken.

