

## Dwarf planets

Dwarf planets are like the little siblings of the big planets in our solar system. They go around the Sun just like Earth and Mars do, but they're much smaller and haven't cleaned up all the space rocks near them. The most famous dwarf planet is Pluto—it used to be called a planet, but now it's part of this special group. Other dwarf planets have fun names like Ceres, Eris, Haumea, and Makemake. Even though they're tiny, they're super cool and full of surprises!

### Haumea

Haumea is an amazing- but small! -planet. It takes 285 earth years for it to orbit and is 43 astronomical units away from the sun. An astronomical unit is the distance between the Sun and the Earth. Talking about the earth, Haumea is only one seventh of the Earth. Now, you might be wondering, what's the temperature? Well, Haumea is too cold for life with a whopping temperature of -240°C. That's *super* cold—way colder than your freezer at home! Haumea is also really fast at spinning. It spins so quickly that a whole day there only lasts about 4 hours! Because of this, it looks stretched out, more like an oval than a ball. And guess what? Haumea even has a ring around it, just like Saturn! Even though it's far away and chilly, Haumea is full of cool facts that make it one of the most interesting dwarf planets out there.

### Ceres

Ceres is the smallest of the dwarf planets and the only one located in the inner part of our solar system, right in the asteroid belt between Mars and Jupiter. Even though it's small, Ceres is really interesting to scientists because it might have water ice beneath its surface. In fact, bright spots seen on Ceres are thought to be salty materials left behind by water that once reached the surface. Ceres was also the very first dwarf planet ever discovered, way back in 1801, and it's the only one visited by a spacecraft so far—NASA's Dawn mission!

### Pluto

Pluto is a tiny, icy world at the far end of our solar system. It was discovered in 1930 by a scientist named Clyde Tombaugh, and for many years, it was called the ninth planet. But in 2006, scientists decided Pluto wasn't really big enough to be a planet anymore, so they gave it the title of "dwarf planet" instead. Pluto lives far away in a part of space called the Kuiper Belt, where lots of other small icy objects float around. Even though Pluto is really small, it has five moons! The biggest one is called Charon, and it's so big that Pluto and Charon actually spin around each other like dance partners. Pluto's surface is covered

in frozen gases like nitrogen and methane, and sometimes it even has a thin, puffed-up atmosphere, but it changes as Pluto moves farther from or closer to the Sun. NASA's New Horizons spacecraft took amazing pictures of Pluto in 2015, showing that Pluto is not just a little icy rock, but a world with mountains, valleys, and frozen plains—super cool for something so far away!

### **Eres**

Eres is a tiny, icy dwarf planet way out in space, like Pluto, far from the Sun. It's so small that it's easy to forget about, but it's still a special little world with a frozen surface. It also has a home in the Kuiper belt, also like Pluto! Eres moves in a unique orbit around the Sun, taking a long time to complete one trip. Despite its size, scientists think Eres might have some cool surprises hidden beneath its icy shell. Even though it's far away, it's a mysterious place that sparks curiosity, and who knows what we might discover about it in the future!

### **Make Make**

Make Make is a tiny, icy dwarf planet that orbits far beyond Neptune, in the outer reaches of our solar system. It's really cold out there, so Make Make's surface is covered with frozen gases like methane and nitrogen. Even though it's small and far from the Sun, it's still a fascinating world. Make Make takes a long time to travel around the Sun, moving in a special orbit that makes it unique. Scientists think there might be interesting things hidden beneath its icy surface, and they're excited to learn more about this mysterious, quiet planet. Who knows what secrets Make Make is hiding? Maybe one day we'll find out!

Dwarf planets may be small, but they are fascinating worlds with many secrets waiting to be uncovered. From Pluto to Eris, each one has its own unique characteristics and mysteries. As scientists continue to explore these distant objects, we learn more about the outer reaches of our solar system. Who knows what new discoveries await as we keep looking up and learning more about these mysterious little planets! Thank you for your time and attention. Have a great day!