

### **The Speed of Light - Nature's Ultimate Speed Limit**

The speed of light is the fastest anything can travel. In a vacuum, like space, light moves at about 299,792 kilometers per second (around 186,000 miles per second). Nothing can go faster. Einstein's theories show that as you move faster and faster, it gets harder and harder to gain more speed. At the speed of light, it would take infinite energy to keep going. This is why humans and spaceships can never travel at light speed. Light itself is made of tiny particles called photons, which have no mass. Because of this, they can move at this incredible speed naturally. The speed of light also helps scientists measure distances in space, using "light-years" to describe how far away stars and galaxies are.