

What Is Astronomy?

Overview

Astronomy is the study of space, celestial bodies, and the universe as a whole. There are many subdisciplines in which astronomers may specialize: stars (including the sun), galaxies, planets, small solar system bodies such as comets and asteroids, or the giant clouds of gas and dust called nebulae that exist in the space between the stars. Some astronomers specialize in cosmology, the study of the origin, history and future of the universe. A few astronomers even spend their time listening for radio signals from distant extraterrestrial civilizations.

Astronomers use many different tools to help them understand the universe. The optical telescope, which sees in visible light, is the most familiar to us, but astronomers also use telescopes that detect ultraviolet, infrared, and radio energy to observe celestial objects. Powerful computers are also used to create models of black holes, the formation of solar systems, and other phenomena that cannot be directly observed.

The study of astronomy can have a direct impact on the lives of people on Earth. Solar astronomers can give warning of eruptions from the sun that can disrupt communications. Astronomers

can watch for comets and asteroids that might come too close to Earth and risk colliding with our planet. But the most powerful impact of astronomy on our lives is probably the sense of awe, wonder, and excitement we feel when we look up at the night sky.