



Science Benchmark Achievements

Elementary Science

The Fourth Day: Astronomy

Ages 8-12

Objectives at this age:

Begin student-created science textbooks for astronomy

Discover the why and how God created the universe

Introduction to basic science astronomy concepts and vocabulary

Introduction to famous scientists: Galileo Galilei, Nicolaus Copernicus, Isaac Newton, Edwin Hubble

Beginning at age 8, children will begin creating a science textbook for each of the scientific disciplines. Even though the textbooks will not be completed until their senior years, students are encouraged to prepare an astronomy journal at this age to begin recording and illustrating their discoveries.

The Sun, Moon, and Stars

- The Sun and Shadows
- The Sun as a timekeeper
- Sunsets: Colors in the Sky
- Solar flares and Sun Spots
- Day and Night: What is moving?
- The earth's motion
- The Solar System: Size of the planets
- Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto
- The Moon: Phases of the moon
- How big is the moon?
- Solar and Lunar eclipses
- Tides and the Moon
- Where do the stars go during the day?
- Ultraviolet light from the sun

The Universe

- Vocabulary words: clusters, eternity, infinity, light year, quasar, red shift, superclusters
- Galaxies: elliptical galaxy, irregular galaxy, spiral galaxy, Milky Way
- Constellations: Big Dipper, Little Dipper, North Star, Zodiac
- Stars: binary star, black hole, neutron star, nova, supernova, white dwarf
- Solar Systems: Asteroids, gravitation, interplanetary dust, orbit
- Comets: elliptical path, Hale-Bopp Comet, Halley's Comet, period, Tycho Brahe's Comet
- Meteors: friction, meteorite, meteoroid, meteor showers
- Space Exploration and Travel