

**New Mexico Science Content Standards, Benchmarks, and Performance Standards
Strands and Benchmarks**

Kindergarten – 4th Grade

Strand II: Content of Science

Standard III (Earth and Space Science): Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.

K-4 Benchmark I: Know the structure of the solar system and the objects in the universe.

Grade Performance Standards

- K** Observe that there are many objects in the night sky and that some are brighter than others.
Describe the location and movements of objects in the sky (e.g., stars, sun, moon).
- 1** Observe the changes that occur in the sky as day changes into night and night into day.
Recognize that the sun, moon, and stars all appear to move slowly across the sky.
- 2** Observe that some objects in the night sky are brighter than others.
Know that the sun is a star.
- 3** Describe the objects in the solar system (e.g., sun, Earth and other planets, moon) and their
features (e.g., size, temperature).
Observe that the pattern of stars stays the same as they appear to move across the sky nightly.
Observe that different constellations can be seen in different seasons.
- 4** Understand that the number of stars visible through a telescope is much greater than the number
visible to the naked eye.
Know that the pattern of stars (e.g., constellations) stays the same although they appear to move
across the sky nightly due to Earth's rotation.

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5th – 8th Grade

Strand II: Content of Science

Standard III (Earth and Space Science): Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.

5-8 Benchmark I: Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.

Grade Performance Standards

5 Know that many objects in the universe are huge and are separated from one another by vast distances.

Understand that Earth is part of a larger solar system, which is part of an even larger galaxy (Milky Way), which is one of many galaxies.

6 Universe

Describe the objects in the universe, including:

- billions of galaxies, each containing billions of stars
- different sizes, temperatures, and colors of stars in the Milky Way galaxy.

Solar System

Locate the solar system in the Milky Way galaxy.

Identify the components of the solar system, and describe their defining characteristics and motions in space, including:

- sun as a medium sized star
- nine planets, their moons, asteroids.

Know that the regular and predictable motions of the Earth-moon-sun system explain phenomena on Earth, including:

- Earth's motion in relation to a year, a day, the seasons.

7 Explain why Earth is unique in our solar system in its ability to support life.

8 Explain how the properties of light (e.g., emission, reflection, refraction) emitted from the sun and stars are used to learn about the universe, including:

- distances in the solar system and the universe
- temperatures of different stars.

Understand how gravitational force acts on objects in the solar system and the universe, including an explanation of the orbits of the planets around the sun.