LINCOLN PUBLIC SCHOOLS
Science Learning Expectations: Grade 4:

EARTH SCIENCE:

The Earth in the Solar System

Mass Standard

Recognize that the earth revolves around (orbits) the sun in a year's time and that the earth rotates on its axis once approximately every 24 hrs. Make connections between the rotation of the earth and day/night, and the apparent movement of the sun, moon, and stars across the sky.
Describe the changes that occur in the observable shape of the moon over the course of a month.

Big Ideas

- The moon's phases are caused by the relative positions of the sun, the moon and Earth.
- The Earth's days and years are caused by the position of the earth and sun, and the Earth's movement.

Key Outcomes

- Students will demonstrate an understanding of the **relationships between earth, moon and sun** by demonstrating and explaining earth's rotation and revolution and the apparent movement across the sky of the sun and moon.

Essential Knowledge and Skills

Students will know:

- How to use scientific inquiry* to access, explore and explain their understanding of core knowledge
- That the combination of the Earth s movement and the moon s orbit around the Earth results in the appearance of cyclical
- That the planets differ in size, characteristics, and composition and that they orbit the sun in our solar system
- That rare alignments of the sun, the moon and Earth cause solar and lunar eclipses
- The moon orbits around the earth once every 29.5 days
- The light we see from the moon is reflected light from the sun
- How much light (the part of the moon) we see depends on the positions of the earth, moon, and sun

* Scientific Inquiry Standards are embedded in each unit of study