

# Ohio Science Standards

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## 5<sup>th</sup> Grade Science

A live presentation of the motions of the Earth and the solar system. *5<sup>th</sup> Grade Science* covers these Ohio Education Standards:

### 5<sup>th</sup> Grade

#### *EARTH AND SPACE SCIENCE (ESS)*

- ✓ **The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.**
  - The distance from the sun, size, composition and movement of each planet are unique. Planets revolve around the sun in elliptical orbits. Some of the planets have moons and/or debris that orbit them. Comets, asteroids and meteoroids orbit the sun.
- ✓ **The sun is one of many stars that exist in the universe.**
  - The sun appears to be the largest star in the sky because it is the closest star to Earth. Some stars are larger than the sun and some stars are smaller than the sun.
- ✓ **Most of the cycles and patterns of motion between the Earth and sun are predictable.**
  - Earth's revolution around the sun takes approximately 365 days. Earth completes one rotation on its axis in a 24-hour period, producing day and night. This rotation makes the sun, stars and moon appear to change position in the sky. Earth's axis is tilted at an angle of 23.5°. This tilt, along with Earth's revolution around the sun, affects the amount of direct sunlight that the Earth receives in a single day and throughout the year. The average daily temperature is related to the amount of direct sunlight received. Changes in average temperature throughout the year are identified as seasons.

#### *PHYSICAL SCIENCE (PS)*

- ✓ **The amount of change in movement of an object is based on the mass\* of the object and the amount of force exerted.**
  - Movement can be measured by speed. The speed of an object is calculated by determining the distance (d) traveled in a period of time (t). Earth pulls down on all objects with a gravitational force. Weight is a measure of the gravitational force between an object and the Earth. Any change in speed or direction of an object requires a force and is affected by the mass\* of the object and the amount of force applied.