

# The Friendly Stars

## Grades PK & K

**Program Description:** In this educational and fun program, the students are given a tour of the day and night sky with the help of an animated talking Sun and his starry friends. Facts about the Sun, life on Earth, the Earth's motions, the planets of the solar system, and the star of the night sky are presented as the Sun and his friendly stars interact with the students. We will get close up views of the planets from spacecraft, search out a few constellations (like the Big Dipper), tell a few constellation stories and see the Earth rotate through an entire night.

### Concepts Covered During Visit

The daytime sky

- Blue
- Sun is visible, but not safe to look at

The sky changes

- Sun seems to move across the sky over time
  - It is the Earth moving, not the Sun

The Sun is a star

- Sun is closest star to the Earth
- Sun and Earth are shaped like balls (circles)
- Sun is made of gases
- It gives light and heat that life on Earth needs

Planets in Solar System

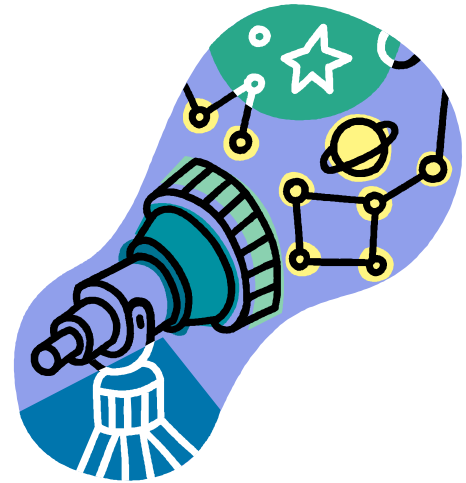
- Rocky planets: Mercury, Venus, Earth, Mars, Pluto
- Gas planets: Jupiter, Saturn, Uranus, Neptune

Nighttime sky

- Sun sets because Earth rotates
- Stars are objects like the Sun
  - Stars are small because far away
  - Stars are balls also, they do not have points
- Groups of stars form constellations

Night ends and day begins

- Earth rotates to give us night and day
- Sun returns, starting cycle again



### Pre-visit activities

1. Discuss that stars can be connected to make pictures (constellations).
2. Have students make their own pictures out of a full page of dots.
3. Discuss that the Sun is a star and compare to other stars.
4. Talk about how the moon changes each night.
5. Discuss if it is possible to see planets in the sky and talk about what they might look like.

### Post-Visit Activities

1. Using an unlabeled star map, have students make their own constellations.
2. Have students make a scrapbook of pictures and articles collected from newspapers and magazines about things discussed in the program.
3. Students can reinforce the idea that as the Earth turns we see different objects, by standing and slowly rotating in place. As they do this they will see different parts of the classroom. Ask the students to pick an object and face it, and then ask how far they have to rotate until they see it again. This is analogous to the part of the Earth that you live on turning to face the Sun once a day.

## Vocabulary

**Astronaut:** Person engaged in or trained for spaceflight.

**Astronomy:** The study of stars, planets, comets, asteroids, galaxies, and other phenomena that occur outside the Earth's atmosphere.

**Constellation:** A formation of stars perceived as a figure or design, especially one of 88 recognized groups named after characters from classical mythology and various common animals and objects.

**Crater:** A hole or depression. Most are roughly circular or oval in outline. On Earth most natural craters are of volcanic origin. On the Moon most are of impact origin.

**Day:** The time between sunrise and sunset.

**Dwarf Planet:** A body that orbits the Sun, round in shape, has not cleared its orbit of debris, and is not a moon. Pluto, Ceres, Makemake, Eris, and Haumea are called this.

**Earth:** Third planet from the Sun and made out of rocks. It's our home planet.

**Energy:** The capacity to do work.

**Galaxy:** A very large group of stars orbiting a central point.

**Jupiter:** Fifth planet from the Sun and made out of gases. It's the largest planet in our Solar System.

**Mars:** Fourth planet from the Sun and made out of rocks. Also known as the "Red Planet".

**Mercury:** Closest planet to the Sun and made out of rocks. It's the smallest planet.

**Milky Way:** The galaxy that contains our Solar System and every star you can see.

**Moon:** A natural satellite orbiting a planet.

**Neptune:** Eighth planet from the Sun and made of gases.

**Night:** The time between sunset and sunrise.

**Orbit:** The path of one object as it moves around another.

**Planet:** A body that is in orbit around the Sun, is round in shape, and has cleared its orbit of debris.

**Rotation:** Turning around a central point.

**Saturn:** Sixth planet from the Sun and made of gases. Also known as the "Ringed Planet".

**Season:** One of the four natural divisions of the year, spring, summer, fall, and winter, in the North and South Temperate zones. Each season, beginning astronomically at an equinox or solstice, is characterized by specific meteorological or climatic conditions.

**Solar System:** A system of planets or other bodies orbiting a star.

**Sky:** The air that covers the Earth.

**Space:** The expanse in which the solar system, stars, and galaxies exist; the universe.

**Spaceship:** A vehicle intended to be launched into space

**Star:** A ball of gases that glows and makes heat.

**Sun:** The "Star" of our Solar System. Where most of our light and heat comes from.

**Sunset:** When the Sun disappears below the horizon in the West.

**Sunrise:** When the Sun first appears in the sky, on the horizon, to the East.

**Twinkle:** To shine with slight, intermittent gleams, as distant lights or stars; flicker; glimmer.

**Venus:** Second planet from the Sun and made of rocks.

**Sunshine State Standards Benchmarks**

SC.K.N.1.5	Recognize that learning can come from careful observation.
SC.K.E.5.2	Recognize the repeating pattern of day and night.
SC.K.E.5.3	Recognize that the Sun can only be seen in the daytime.
SC.K.E.5.4	Observe that sometimes the Moon can be seen at night and sometimes during the day.
SC.K.E.5.6	Observe that some objects are far away and some are nearby as seen from Earth.
SC.K.P.12.1	Investigate that things move in different ways, such as fast, slow, etc.