



Grade Level:
1st-3rd

Subject Area:
Social Studies
Language Arts

WI Model Academic Standards:

Social Studies:
A.4.4, B.4.1

Language Arts:
C4.2; C4.3

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Stories of the Skies

Lesson Guide

Overview:

Students will learn about the night sky and our solar system via a scale model and traditional multicultural stories.

Background:

Astronomy is the scientific study of celestial objects (such as stars, planets, comets, and galaxies) and phenomena that originate outside the Earth's atmosphere (such as the cosmic background radiation).

Archaeologists have uncovered artifacts dating back millennia that demonstrate how early civilizations performed methodical observations of the night sky with the naked eye. They responded to what they saw by creating calendars and rituals, and by developing stories that helped them explain what they perceived. Today, many of these star stories can tell us a great deal about the people who created them, and we tell their stories as a way of exploring multicultural perspectives.

Advancements in modern astronomy began largely with the invention of the telescope, credited to Hans Lippershey of Holland in 1602. It was the great Italian scientist Galileo Galilei who introduced the telescope to the science of astronomy in 1609. Over the subsequent 400 years astronomers have expanded the science to include evolution, physics, chemistry, meteorology, motion of celestial objects, and the formation and development of the universe.

Student Objectives:

1. Identify the eight planets in our solar system and discuss why Pluto is no longer a planet.
2. Understand the difference among planets in terms of size, composition, and distance from the sun.
3. Identify the terrestrial planets and the gas giants.
4. Identify two cultures and one of their astronomy-based stories.

Assessments:

1. Students will name the eight official planets.
2. Students will describe the structure of a solar system.
3. Students will discern between the four terrestrial planets and four gas giants.
4. Students will list two ways in which planets move – they spin (rotate) and orbits stars (revolution).

Program Vocabulary:

Constellation: A configuration of stars which form an identifiable image as seen from the Earth.

Gas Giant: A large planet that is not primarily composed of rock or other solid matter. There are four gas giants in our Solar System: Jupiter, Saturn, Uranus, and Neptune.

Moon: Any natural satellite of a planet.

Orbit: The (usually elliptical) path described by one celestial body in its revolution about another.

Planet: Any of the eight large celestial bodies in the solar system that revolve around the sun.

Solar System: A system of celestial bodies that revolve around the gravitational field of the sun.

Terrestrial Planet: A planet having a compact, rocky surface like the Earth's. This includes the four innermost planets of our solar system: Mercury, Venus, Earth, and Mars.

Enrichment Vocabulary:

Acid	Astronomy	Atmosphere	Axis
Circular Motion	Comet	Core	Density
Equator	Folk Tale	Friction	Galaxy
Gas	Gravity	Hibernate	Lunar Eclipse
Mass	Model	Moon	Motion
Orbit	Phases	Planet	Revolution
Rotation	Scientist	Solar System	Space
Star	Stories	Sun	System
Temperature	Universe	Weight	Wind

Teacher Preparation:

Meet your Museum educator in front of the elevator on the second floor five minutes before your scheduled program start time.