6 Stars and Solar System

Content Area: **Science**
Course(s): **Science 5**
Time Period: **Undefined**
Length: **Undefined**
Status: **Published**

Unit Overview

Essential Questions

What are the Sun-Earth- Moon systems?

Why do the Sun and Moon appear to be the same size ?

What are rotation/revolution?

How can you use a model to represnt the Sun-Earth-Moon and the relationship between the three?

How do shadow sticks create patterns in the sky and how does this connect to what we know about shadows?

How/Why does the Sun's osition in the sky change?

What is gravitational pull and why does it impact us?

Content

Ancient people used myths and legends to explain what they observed about the Sun and Moon as seen from Earth

Scaling is a way to compare the sizes and distances of different objects

The Sun, a star, is the largest star in our solar system

Earth is larger than the Moon

The Sun is much farther away from the Earth than the Moon

The Earth and Moon rotate on an axis

The Moon orbits the Earth while Earth orbits the Sun

The apparent path of the Sun is highest in the sky during summer, lowest during the winter, and highest each day at solar noon

Shadows change according to the time of day and year

The gravitational pull effects us in many ways

Skills

Examine the diameter of the Sun, Moon, and Earth, and their relative distance from each other

Compare the relative distances between two objects based on their apparent and true diameter

Record the times at which the Moon rises and sets, and observe its appearance over a one-to-two- week period

Investigate the relationship between the Sun, Earth, and Moon

Model winter and summer shadows and compare the Sun's apparent position in the sky during each season.

Support and argument that the gravitational force exerted on Earth's objects is directly down

Assessments

Study Guide

Chapter Review

Chapter Test

Benchmark Practice

Test Prep Book

Performance-Based Activities/Labs/hands-on activities

STEM Activity Book

Interactive notebook

Lessons/Learning Scenarios

STC books/lab kits:

Lesson 1:

Students answer a set of questions about the topics and concepts they will study in this lesson

Students read about folklore associated with the topics in this lesson

Students record what they know about relative position,motion,and sizes of the Sun,Earth,Moon and their distances from each other

Investigate the relationship between the relative size of and distances between the Sun, Earth, Moon

Understand the distances as they relate to one another

Lesson 2:

Students discuss what they already know about day,night, and shadows

Viewing the Sun safely

Use a shadow stick and record the length and direction of its shadow at different times of the day

Use a flashlight to match shadow patterns in winter and summer and simulate the Sun at it rises, sets, and moves across the sky during each season

use a spinning globe and a shadow stick to draw general conclusions about the effects of Earth's rotation on shadow length and angle

Standards

SCI.5.5-ESS1	Earth’s Place in the Universe
SCI.5.5-ESS1-2	Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the

	night sky.
SCI.5.5-ESS1-1	Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.

Resources