2017 Science Unit 1: Patterns of Change in the Sky ; Grade 1

Content Area: **Science**
Course(s): **Science 1**
Time Period: **Marking Period 1**
Length: **September-October**
Status: **Published**

Established Goals/Standards

SCI.1.1-ESS1-2	Make observations at different times of year to relate the amount of daylight to the time of year.
SCI.1.1-ESS1-1	Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Essential Questions

- Can we predict how the sky will change over time?
- What is the relationship between the amount of daylight and the time of year?
- What patterns of change can be predicted when observing the sun, moon, and stars?

Enduring Understanding

- Patterns of the motion of the Sun, moon, and stars in the sky can be observed, described, and predicted.
- Science assumes natural events happen today as they happened in the past.

Content

Student will be able to:

1. Organizing data

a With guidance, students use graphical displays (e.g., picture, chart) to organize data from given observations (firsthand or from media), including: i. Objects (i.e., sun, moon, stars) visible in the sky during the day. ii. Objects (i.e., sun, moon, stars) visible in the sky during the night. iii. The position of the sun in the sky at various times during the day. iv. The position of the moon in the sky at various times during the day or night.

2 Identifying relationships a Students identify and describe patterns in the organized data, including: i. Stars are not seen in the sky during the day, but they are seen in the sky during the night. ii. The sun is at different positions in the sky at different times of the day, appearing to rise in one part of the sky in the morning and appearing to set in another part of the sky in the evening. iii. The moon can be seen during the day and at night, but the sun can only be seen during the day. iv. The moon is at different positions in the sky at different times of the day or night, appearing to rise in one part of the sky and appearing to set in another part of the sky.

3 Interpreting data a Students use the identified patterns of the motions of objects in the sky to provide evidence that future appearances of those objects can be predicted (e.g., if the moon is observed to rise in one

part of the sky, a prediction can be made that the moon will move across the sky and appear to set in a different portion of the sky; if the sun is observed to rise in one part of the sky, a prediction can be made about approximately where the sun will be at different times of day). b Students use patterns related to the appearance of objects in the sky to provide evidence that future appearances of those objects can be predicted (e.g., when the sun sets and can no longer be seen, a prediction can be made that the sun will rise again in the morning; a prediction can be made that stars will only be seen at night)

From NJ Model Curricullum:

Explanations of the day-night cycle, the phases of the moon, and the seasons are very challenging for students. To understand these phenomena, students should first master the idea of a spherical earth, itself a challenging task. Similarly, students must understand the concept of "light reflection" and how the moon gets its light from the sun before they can understand the phases of the moon.

Finally, students may not be able to understand explanations of any of these phenomena before they reasonably understand the relative size, motion, and distance of the sun, moon, and the earth

Assessment

Student drawing showing their understanding of the pattern of motion in the sky.

Student written explanation of specific patterns for example why we can see the moon during the night and the day, but the Sun only during the day.

Resources

Teacher generated ActivBoard Flipcharts

United Streaming

You Tube

Mystery Science

NGSS @ nsta.org National Science Teachers Association website

Science Spin

NJ Model Curriculum

https://www.symbaloo.com/mix/ngss7 NGSS symbaloo

Experiments/Observations/Journals

Non-Fiction Science leveled readers

Non-Fiction Books from school library

Scholastic News First Grade Level

Mailbox Magazine activities (core curriculum aligned)

Teacher's Helper activities (core curriculum aligned)

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