

Unit: Sky Patterns

Content Area: **Science**
Course(s): **Science - Grade 1**
Time Period: **4 weeks**
Length: **4 Weeks**
Status: **Published**

Unit Overview

Students study photographs of the sky. They make lists of space objects they can see in the sky during the day and at night. Students act as engineers. They design a playhouse with windows that let the sun shine inside all day long. They make a model and test it. Students play a game called Dial-a-Season. Then they collect and graph data about the amount of daylight in each season. Students look for patterns as they create a flip book to show the moon's path across the sky in one night and a calendar to show the moon's shape at different times of the month. They use the patterns to predict the shape of the moon and where it will be in the sky. Students go stargazing using a series of videos and images. They observe stars in the night sky, and learn about the stars from experts—their classmates!

Transfer

- Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.
- Define a simple problem that can be solved through the development of a new or improved object or tool.
- Make observations (firsthand or from media) to collect data that can be used to make comparisons.

Meaning

Understandings

Students will understand that...

- There are different objects in the sky.
- Where the sun is in the sky.
- How long the sun is in the sky.
- Where the moon is in the sky.

- Where the stars are in the sky.

Essential Questions

Students will keep considering...

- What do you see in the sky?
- Where is the sun in the sky?
- How long is the sun in the sky?
- Where is the moon in the sky?
- Where are the stars in the sky?

Application of Knowledge and Skill

Students will know...

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- There are different objects in the sky.
- Where the sun is in the sky.
- How long the sun is in the sky.
- Where the moon is in the sky.
- Where the stars are in the sky.

Students will be skilled at...

Students will be skilled at...

- Analyzing and interpreting data
- Planning and carrying out investigations

Academic Vocabulary

- pattern
- sunrise
- sunset
- season
- moon phase
- telescope

Learning Goal 1 - Lessons 1, 2, 4

Use observations of the sun, moon, and stars to describe patterns that can be predicted.

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SCI.1-ESS1-1

Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Target 1 - Lesson 1 & 2

Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.

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Target 2 - Lesson 2

Make inferences about the pathway of the sun based on what you know about patterns and the characteristics of the sun.

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Target 3 - Lesson 4

Use observations (firsthand or from media) to describe patterns in the natural world in order to predict the location of the moon in the sky.

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Learning Goal 2 - Lessons 3 & 5

Make observations at different times of year to relate the amount of daylight to the time of year.

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SCI.1-ESS1-2

Make observations at different times of year to relate the amount of daylight to the time of year.

Target 1 - Lesson 3 & 5

Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.

- Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.

Target 2 - Lesson 3

Seasonal patterns of sunrise and sunset can be observed, described, and predicted.

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Target 3 - Lesson 5

Discuss the location of the stars and infer why their location changes.

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Learning Goal 3 - Engineering Design Standard

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

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SCI.K-2-ETS1-1

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Target 1

Asking questions, making observations, and gathering information are helpful in thinking about problems.

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Formative Assessment and Performance Opportunities

- TCI Lesson Game: Students test their understanding of key concepts with an educational game.
- TCI Interactive Tutorial: Students can work independently to check their understanding in a safe environment that provides instant feedback but is not graded.
- TCI Interactive Student Notebook: Students record their understanding of both the reading and activity. Review during the lesson to gauge student understanding.
- TCI Vocabulary Cards: Students check their understanding of key vocabulary terms with digital flip cards.
- Supplemental teacher created performance activities as needed.

Summative Assessment

TCI Assessment: Where are the stars in the sky?

Accommodations/Modifications

- Leveled Readers
- Differentiated Texts
- Small Group Instruction
- Investigation games
- Increase the Home-School Connection
- Use Real Life Observations Along with the Investigation Images
- Explicitly Teach Directions
- Shadow Drawing
- Teach the Seasons and create a seasons chart
- Teach the Word *Phase*
- Create a Moon Flip Book and moon phase chart as a Sample

Unit Resources

- TCI online manual and student text books
- TCI Interactive Student Notebook
- TCI Vocabulary Cards
- TCI Teacher Material Kit
- TCI activity cards
- TCI reading further passages after each lesson

21st Century Life and Careers

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| CAEP.9.2.4.A.1 | Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals. |
| CAEP.9.2.4.A.2 | Identify various life roles and civic and work - related activities in the school, home, and community. |
| CAEP.9.2.4.A.3 | Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes. |
| CAEP.9.2.4.A.4 | Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success. |