

01 Earth Science-Patterns

Content Area: **Science**
Course(s):
Time Period: **Full Year**
Length: **1 Trimester**
Status: **Published**

General Overview, Course Description or Course Philosophy

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

Essential Questions

Can we predict the position of the sun, moon and stars?

Does our shadow move?

Does the amount of daylight change with the seasons?

CONTENT AREA STANDARDS

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

RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)

LA.W.1.7	Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).
LA.W.1.8	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
LA.RI.1.1	Ask and answer questions about key details in a text.
MA.1.MD.C.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
MA.1.OA.A.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
TECH.9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
TECH.9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
TECH.9.4.2.CT.1	Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).

STUDENT LEARNING TARGETS

Declarative Knowledge

Students will understand:

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

Procedural Knowledge

Students will be able to:

- Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- Make observations at different times of year to relate the amount of daylight to the time of year.
- Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).
- With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- Organize data with up to three categories
- Represent data with up to three categories
- Interpret data with up to three categories
- Ask and answer questions about the total number of data points (how many in each category, and how many more or less are in one category than in another).
- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- Reason abstractly and quantitatively.

EVIDENCE OF LEARNING

Formative Assessments

- Whole-Class Conversations
- Turn and Talk Discussions
- Participation
- Lab Experiments
- Science Journal Pages and Drawings

Summative Assessments

Benchmark Assessments

- Multiple Choice Assessment administered at the end of each trimester (T1, T2, T3)

Alternative Assessments

- Oral Presentations
- Questions for Comprehension
- Performance Tasks
- Scientific Journals/Notebooks
- Self-Assessment
- WebQuests

RESOURCES (Instructional, Supplemental, Intervention Materials)

- Brain Pop Jr.
- <https://www.brainpop.com/science/earthsystem/climatechange/>
- [**Scientific Literacy Involves Understanding Global Climate Change & What People Can Do About It**](#)
- Mystery Science Resource Guide (online)
- <https://mysteryscience.com/docs/new-jersey>

INTERDISCIPLINARY CONNECTIONS

- How to books-writing
- Educational Tech Applications
- Read aloud the description on the [Climate Change topic page](#).
- Google

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

See link to Accommodations & Modifications document in course folder.