

1-ESS1-1 Earth's Place in the Universe

Students who demonstrate understanding can:

- 1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.** [Clarification Statement: Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.] [Assessment Boundary: Assessment of star patterns is limited to stars being seen at night and not during the day.]

The performance expectation above was developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices

Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

- Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.

Disciplinary Core Ideas

ESS1.A: The Universe and its Stars

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

Crosscutting Concepts

Patterns

- Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

Connections to Nature of Science

Scientific Knowledge Assumes an Order and Consistency in Natural Systems

- Science assumes natural events happen today as they happened in the past.
- Many events are repeated.

Observable features of the student performance by the end of the grade:

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: <ol style="list-style-type: none"> Objects (i.e., sun, moon, stars) visible in the sky during the day. Objects (i.e., sun, moon, stars) visible in the sky during the night. The position of the sun in the sky at various times during the day. 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: <ol style="list-style-type: none"> Stars are not seen in the sky during the day, but they are seen in the sky during the night. 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. The moon can be seen during the day and at night, but the sun can only be seen during the day. 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).

1-ESS1-2 Earth's Place in the Universe

Students who demonstrate understanding can:

- 1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.** [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.] [Assessment Boundary: Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.]

The performance expectation above was developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices

Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Make observations (firsthand or from media) to collect data that can be used to make comparisons.

Disciplinary Core Ideas

ESS1.B: Earth and the Solar System

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

Crosscutting Concepts

Patterns

- Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

Observable features of the student performance by the end of the grade:

1	Identifying the phenomenon under investigation
a	Students identify and describe* the phenomenon and purpose of the investigation, which include the following idea: the relationship between the amount of daylight and the time of year.
2	Identifying evidence to address the purpose of the investigation
a	Based on the given plan for the investigation, students (with support) describe* the data and evidence that will result from the investigation, including observations (firsthand or from media) of relative length of the day (sunrise to sunset) throughout the year.
b	Students individually describe* how these observations could reveal the pattern between the amount of daylight and the time of year (i.e., relative lightness and darkness at different relative times of the day and throughout the year).
3	Planning the investigation
a	Based on the given investigation plan, students describe* (with support):
i.	How the relative length of the day will be determined (e.g., whether it will be light or dark when waking in the morning, at breakfast, when having dinner, or going to bed at night).
ii.	When observations will be made and how they will be recorded, both within a day and across the year.
4	Collecting the data
a	According to the given investigation plan, students collaboratively make and record observations about the relative length of the day in different seasons to make relative comparisons between the amount of daylight at different times of the year (e.g., summer, winter, fall, spring).