

5-ESS1-2 Earth’s Place in the Universe

California Alternate Assessment for Science—Item Content Specifications

# 5-ESS1-2 Earth’s Place in the Universe

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
| --- | --- | --- |
| Use data to describe similarities and differences in the timing of observable changes in shadows, daylight, and the appearance of stars. | 1. Ability to use data to describe similarities and differences in the timing of observable changes in shadows. 2. Ability to use data to describe similarities and differences in the timing of observable changes in daylight. 3. Ability to use data to describe similarities and differences in the timing of observable changes in the appearance of stars. | Recognize daily changes in the length and direction of shadows. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**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.** [Clarification Statement: Examples of patterns could include the position and motion of Earth with respect to the Sun and selected stars that are visible only in particular months.] *[Assessment Boundary*: *Assessment does not include causes of seasons.]*

## Mastery Statements

Students will be able to:

Identify the change in appearance of a shadow based on changing locations of the Sun

Identify the expected location of a shadow given the position of the Sun

Recognize that stars appear differently in the sky depending on the season

Recognize that stars appear to move across the sky throughout the night

Identify the expected location of a shadow based on the relative time of day (morning, noon, evening)

Recognize when shadows will be longer or shorter based on the time of day or location of the Sun

Recognize that the amount of daylight changes as seasons change

## Possible Phenomena or Contexts

*Note that the list in this section is not exhaustive or prescriptive.*

Possible contexts include the following:

* The length of shadows throughout the day
* The pattern of the change in shadow length throughout the day; can be shown in pictures, videos, or simple graphs and charts
* The pattern of daylight (including number of hours) over the course of a year as shown in a chart or graph
* The path of the Sun across the sky as it rises and sets
* Stars in the sky that are viewable at some times of the year but not others
* The change in the position of a star at different times of the night; can be shown in pictures, videos, or simple graphs and charts
* The movement of shadows cast by an object and the movement of the Sun throughout the day; can be shown in pictures, videos, or simple graphs and charts

## Additional Assessment Boundaries

* Low complexity items should focus on people rather than animals when showing observable changes in shadows.

## Additional References

California Science Test Item Specification for 5-ESS1-2

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-5-ess1-2.docx>

The *2016 Science Framework for California Public Schools Kindergarten through Grade Twelve* <https://www.cde.ca.gov/ci/sc/cf/cascienceframework2016.asp>

Appendix 1: Progression of the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts in Kindergarten through Grade Twelve

<https://www.cde.ca.gov/ci/sc/cf/documents/scifwappendix1.pdf>

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