



Grade 5

3.3.5.B Earth and Space Sciences: Earth's Place in the Universe

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.*

Clarifying 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.

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
Analyzing and Interpreting Data Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. <ul style="list-style-type: none"> Represent data in graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. 	Earth and the Solar System <ul style="list-style-type: none"> The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year. 	Patterns <ul style="list-style-type: none"> Similarities and differences in patterns can be used to sort, classify, communicate and analyze simple rates of change for natural phenomena.

Pennsylvania Context: N/A

PA Career Ready Skills: Identify one's own strengths, needs, and preferences.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.02.01.01.a: Research and describe different types of geographic data used in AFNR systems.
Science, Environmental Literacy and Sustainability (NAEE)	5-8 Strand 1.E. Organizing and analyzing information: Learners classify, organize, and display data and information they collect in ways that help them analyze and interpret their environmental investigations.
PA Core Standards: ELA	CC.1.2.5.G: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. CC.1.5.5.A: Engage effectively in a range of collaborative discussions on grade-level topics and texts, building on others' ideas and expressing their own clearly.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards and Practices: Math	MP.2: Reason abstractly and quantitatively. MP.4: Model with mathematics. CC.2.1.5.B.1: Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals. CC.2.4.5.A.2: Represent and interpret data using appropriate scale.
PA Standards: Social Studies	7.1.5.A: Describe how common geographic tools are used to organize and interpret information about people, places, and environment.
Educational Technology (ISTE)	1.6. Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
Technology and Engineering (ITEEA)	STEL-3D: Explain how various relationships can exist between technology and engineering and other content areas.