



Grade 5

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

Students who demonstrate understanding can support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.

Clarifying Statement: N/A

Assessment Boundary: Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, stage).

| Science and Engineering Practices (SEP) | Disciplinary Core Ideas (DCI) | Crosscutting Concepts (CCC) |
|--|--|---|
| <p>Engaging in Argument From Evidence</p> <p>Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s)</p> <ul style="list-style-type: none"> Support an argument with evidence, data, or a model. | <p>ESS1.A: The Universe and its Stars</p> <ul style="list-style-type: none"> The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth. | <p>Scale, Proportion, and Quantity</p> <ul style="list-style-type: none"> Natural objects exist from the very small to the immensely large. |

Pennsylvania Context: N/A

PA Career Ready Skills: Respond to others given a sense of the others' point of view.

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 (NAAEE) | 5-8 Strand 1.G. Drawing conclusions and developing explanations: Learners synthesize their environmental observations and findings into coherent explanations. |
| 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.3: Construct viable arguments and critique the reasoning of others. MP.4: Model with mathematics. 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) | 1.3. Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others. |
| Technology and Engineering (ITEEA) | STEL-3D: Explain how various relationships can exist between technology and engineering and other content areas. |