



Claim, Measurement Target, and PE Bundle

Grade 5 Overall Claim

The student has demonstrated proficiency in integrating Scientific and Engineering Practices with important Disciplinary Core Ideas and Crosscutting Concepts to scientifically investigate and understand natural phenomena and solve important science and engineering design problems.

Unit 4 Measurement Target: Students are able to apply Science and Engineering Practices with emphasis on **supporting an argument using data represented in graphical displays** related to the **scale of the universe relative to Earth** and **daily and seasonal patterns of observed physical phenomena on Earth** both as a result of its place in the solar system and the **effects of gravitational forces**.

Unit 4 PE Topic Bundle:

- 5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down. **[Clarification Statement: “Down” is a local description of the direction that points toward the center of the spherical Earth.] [Assessment Boundary: Assessment does not include mathematical representation of gravitational force.]**
- 5-ESS1-1. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. **[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).]**
- 5-ESS1-2. 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.]**

The SIPS Grade 5 Science Claim, Unit 4 Measurement Target, and Unit 4 PE Topic Bundle was developed with funding from the U.S. Department of Education under the Competitive Grants for State Assessments Program, CFDA 84.368A. The contents of this paper do not represent the policy of the U.S. Department of Education, and no assumption of endorsement by the Federal government should be made.

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