



Overall Claim and Measurement Targets

Grade 5 Overall Claim

Students demonstrate a sophisticated understanding of the core ideas and applications of practices and crosscutting concepts in the disciplines of science.

Explanatory Statement

Students integrate disciplinary core ideas and crosscutting concepts with scientific practices to investigate and explain how and why phenomena occur, and to design and refine solutions to problems.

Explanatory Statement

Students connect knowledge across the disciplines of science to ask questions, plan and carry out investigations, and analyze and interpret data to support an argument about phenomena in a variety of contexts.

Measurement Target 1 (Topic 1 Bundle): Students are able to investigate and interpret data to draw or support conclusions about the structure and properties of matter, including whether or not matter is conserved, and to identify materials and mixtures based upon their properties or results of a reaction.

- 5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.
- 5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
- 5-PS1-3. Make observations and measurements to identify materials based on their properties.
- 5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

Measurement Target 2 (Topic 2 Bundle): Students are able to develop and use models to describe the scale and movement of matter in ecosystems, and to argue that energy is required by living things for growth and survival.

- 5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.
- 5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
- 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.
- 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Measurement Target 3 (Topic 3 Bundle): Students are able to develop models to describe the interactions of the geosphere, biosphere, hydrosphere, and/or atmosphere to address issues related to protecting Earth's resources and environment.

- 5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.
- 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- 5-ESS2-2. Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.
- 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Measurement Target 4 (Topic 4 Bundle): Students are able to support an argument, using evidence and observable patterns, that the scale of the universe and physical phenomena observed on Earth are a result of its place in the solar system.

- 5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.
- 5-ESS1-1. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth.
- 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.

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