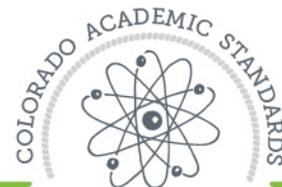


At the end of Eighth Grade, students can...



Science

Eighth Grade



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Science Learning Expectations for Eighth Grade

Physical Science

Determine an object's change in motion due to force; understand that there are different forms of energy, and those forms of energy can be changed from one form to another; distinguish between physical and chemical changes, and understand that mass is conserved during any change; recognize that waves (electromagnetic, sound, seismic, and water) have common characteristics and unique properties.

Life Science

Recognize that organisms reproduce and transmit genetic information (genes) to offspring, which influences individuals' traits in the next generation; determine how human activities can alter ecosystems and their resiliency.

Earth Science

Explain that weather is a result of complex interactions of Earth's atmosphere, land, and water, driven by energy from the Sun, and can be predicted and described through complex models; understand that Earth has a variety of defined climates that have changed over time in particular locations; recognize that the solar system is comprised of various objects that orbit the Sun; and that the relative positions and motions of the Earth, the Moon, and the Sun can be used to explain observable effects (seasons, eclipses, and the phases of the Moon).

Throughout the Eighth Grade, you may find students...

- Identifying and calculating the direction and magnitude of forces that act on an object (force of gravity), and explain the results in the object's change of motion; designing an investigation to collect and analyze speed and acceleration data to determine the forces acting on a moving object; using tools to gather, analyze, and interpret data to describe the different forms of energy and energy transfer.
- Constructing an experiment to gather, analyze, and interpret data showing mass is conserved in a given chemical or physical change (breaking a large rock into smaller rocks, burning a piece of paper); identifying evidence that matter is conserved.
- Using models to investigate the characteristics and behaviors of different types of waves to develop and design a scientific investigation that involves absorption, reflection, and refraction of light.
- Analyzing and interpreting data and using technology resources to investigate the human impact on local ecosystems; using observations, evidence, and data to support claims about genetic reproduction and traits of individuals; using models, diagrams, and computer simulations to predict the physical traits and genetic make-up of offspring based on the genes of the parents.