Grade 3 Science Overview (PA STEELS Standards) [August 2025]

A Guide to learning Science in Grade 3@OJRSD

Grade 3 science helps students think more deeply about the world around them. Through experiments, models, observations, and evidence-based explanations, children strengthen critical thinking, collaboration, and scientific reasoning skills. These experiences prepare them for more advanced science learning in upper elementary grades.

FALL UNITS: Forces, Motion, and Interactions

Energy and Collisions
Students ask questions and make predictions about how energy changes when objects collide—for example, how a moving ball affects another ball when they hit.

Speed and Energy
Students use evidence to explain that faster objects have more energy than slower ones.

Patterns in Motion
By observing and measuring how objects move, students identify patterns that help them predict future motion—such as the path of a rolling car.

Electric & Magnetic Interactions
Students ask questions to explore how magnets and electric forces can cause movement even when objects are not touching.

Balanced and Unbalanced Forces
Through hands-on investigations, students explore how pushing, pulling, or changing direction affects an object's motion depending on whether forces are balanced or unbalanced.

Gravity
Students support the idea that gravity always pulls objects toward Earth, helping them understand why things fall down rather than up.

Engineering & Design
Children apply the engineering design process to solve motion-related challenges—planning, building, testing, and improving solutions.

WINTER UNITS: Earth's Surface, Rocks, Fossils & Community Impact

Rocks, Fossils & Landscapes Over Time
Students examine patterns in rock layers and fossil evidence to explain how landscapes change—sometimes slowly, sometimes through sudden events.

Plate Patterns & Earth Features
Using maps, students analyze data to identify patterns in Earth's major features, including mountains, volcanoes, and plate boundaries.

Weathering & Erosion
Students observe or measure how water, ice, wind, and plants break down rocks and carry sediments away. They compare rates of erosion under different conditions.

Human Influence on the Environment
Students collect, organize, and display data to examine how their own actions affect the local environment—such as waste, water use, or land changes—and explore ways to help their community.

Engineering & Design
Students design, test, and refine solutions to slow erosion or protect natural spaces.

SPRING UNITS: Structures, Systems & Matter in Ecosystems

Where Plants Get What They Need
Students support an evidence-based argument that plants get the materials they need for growth mostly from air and water—not from soil alone.

Structures That Support Survival
Using real examples, students construct arguments explaining how internal and external structures (such as roots, stems, lungs, bones, skin, and sensory organs) help plants and animals survive, grow, behave, and reproduce.

Matter Cycles in Ecosystems
Students develop a model showing how matter moves among plants, animals, decomposers, and the environment—for example, how food energy and nutrients circulate through a forest ecosystem.

How Animals Sense & Respond
Students use models to explain how animals receive information through their senses, process it in their brains, and respond in different ways—such as reacting to sound, light, or touch.

Engineering & Design
Students apply the engineering design process to challenges related to plant growth, animal structures, and ecosystem models.