Haddon Township Science
Grade Five

In fifth grade science classes, students will use a hands-on curriculum designed to provide a basic understanding of landforms, simple machines through use of levers and pulleys, mixtures, solutions, and scientific variables. The New Jersey Core Contents Standards will be explored using a variety of instructional strategies with an emphasis on scientific inquiry, observation, and discovery. Science knowledge will be communicated through discussion and written evaluation. Students will communicate their developing understandings about science through discussions, projects, and written evaluations.

ESSENTIAL LEARNINGS: All fifth grade students will demonstrate an understanding of the following NJ Core Curriculum Content Standards:

Scientific Practices (NJ 5.1)
- Demonstrate understanding and use interrelationships among central scientific concepts to revise explanations and to consider alternative explanations.
- Use mathematical, physical, and computational tools to build conceptual-based models and to pose theories.
- Use scientific principles and models to frame and synthesize scientific arguments and pose theories.
- Design investigations and use scientific instrumentation to collect, analyze, and evaluate evidence as part of building and revising models and explanations.
- Gather, evaluate, and represent evidence using scientific tools, technologies, and computational strategies.
- Use qualitative and quantitative evidence to develop evidence-based arguments.
- Use quality controls to examine data sets and to examine evidence as a means of generating and reviewing explanations.
- Monitor one's own thinking as understandings of scientific concepts are refined.
- Revise predictions or explanations on the basis of discovering new evidence, learning new information, or using models.
- Generate new and productive questions to evaluate and refine core explanations.
- Engage in multiple forms of discussion in order to process, make sense of, and learn from others' ideas, observations, and experiences.
- Engage in productive scientific discussion practices during conversations with peers, both face-to-face and virtually, in the context of scientific investigations and model-building.
- Demonstrate how to safely use tools, instruments, and supplies.

Physical Science (NJ 5.2)
- Calculate the density of objects or substances after determining volume and mass.
- Model and explain how the description of an object's motion from one observer's view may be different from a different observer's view.
- Predict if an object will sink or float using evidence and reasoning.
- Calculate the density of objects or substances after determining volume and mass.
- Calculate the speed of an object when given distance and time.
- Demonstrate and explain the frictional force acting on an object with the use of a physical model.
- Compare the motion of an object acted on by balanced forces with the motion of an object acted on by unbalanced forces in a given specific scenario.
- Determine the identity of an unknown substance using data about intrinsic properties.
- Compare the properties of reactants with the properties of the products when two or more substances are combined and react chemically.

Earth Systems Science (NJ 5.4)
- Examine Earth's surface features and identify those created on a scale of human life or on a geologic time scale.
- Determine if landforms were created by processes of erosion (e.g., wind, water, and/or ice) based on evidence in pictures, video, and/or maps.
- Describe methods people use to reduce soil erosion.
- Predict the types of ecosystems that unknown soil samples could support based on soil properties.
- Explain how chemical and physical mechanisms (changes) are responsible for creating a variety of landforms.
- Locate areas that are being created (deposition) and destroyed (erosion) using maps and satellite images.