



Course: Science

Grade: 2

Course Description: This second grade science program is organized in thematic units aligned with the NJSLS- Science. These units include *Structure and Properties of Matter*, *Interdependent Relationships in Ecosystems*, and *Processes that Shape the Earth*. The course is created to develop an understanding of what plants need to grow and how plants depend on animals for seed dispersal and pollination. Students will also compare the diversity of life in different habitats and create an understanding of observable properties of materials. In addition, students will apply their understanding of the idea that wind and water can change the shape of the land and create engineering design solutions to prevent such change. The course will also include applying learned information to create models to represent the shapes of land and bodies of water. This course emphasizes student engagement through problem solving, discovery, hands on exploration, questioning, and reevaluating of new ideas.

Course Proficiencies: The following is a list of proficiencies that describe what students are expected to know and be able to do as a result of successfully completing this course. The proficiencies are the basis of the assessment of student achievement. The learner will demonstrate the ability to:

1. Explain how land changes and describe what causes the change (NJSLS 2-ESS1-1).
2. Recognize different kinds of land and bodies of water and develop a model to represent their shapes (NJSLS 2-ESS1-1, 2-ESS2-2).
3. Discover how wind and water can change the shape of the land and compare design solutions to slow or prevent such change (NJSLS 2-ESS2-1).
4. Determine and identify where water is found on Earth and explain that it can be solid or liquid. (NJSLS 2-ESS2-2, 2-ESS2-3).
5. Evaluate how materials are similar and different from one another and how their properties relate to their use (NJSLS 2-PS1-1; 2-PS1-2).
6. Observe and construct how an object made of a small set of pieces can be disassembled and made into a new object. (NJSLS 2-PS1-3).
7. Identify and use evidence to argue that some changes caused by heating or cooling can be reversed and some cannot. (NJSLS 2-PS1-4).
8. Identify the many types of living things that live in an ecosystem (NJSLS 2-LS2-1; 2-LS2-1) .
9. . Investigate what plants need to grow and how plants depend on animals for seed dispersal and pollination. (NJSLS 2-LS2-2).
10. Compare and interpret the diversity of life in different habitats through observable properties of materials and through analysis and classification of different materials (NJSLS 2-LS4-1).



11. Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool (NJSLS K-2-ETS1-1).
12. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem (NJSLS K2-ETS1-2).
13. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs (NJSLS K2-ETS1-3).
14. Learn and apply key literacies surrounding technology and information media literacy, including innovation, creativity, critical thinking and problem solving while gaining a global/cultural awareness (NJSLS 9.4).
15. Develop and apply computational and design thinking to address real-world problems and design creative solutions (NJSLS 8.1 and 8.2) .

Assessments:

1. Teacher observations and anecdotal notes
2. Classroom discussion and participation
3. Participation in general classroom assignments
4. Journal writing
5. Group projects
6. Multimedia presentations

Board Adopted Materials:

Open Sci Ed