Winchester Public Schools

Second Grade Science Unit Guide

Weeks	Unit	PE	SEP	DCI	CCC
9 weeks	**Shaping the Land**	**2-ESS1-1.** Use information from several sources to provide evidence that Earth events can occur quickly or slowly. **2-ESS2-1.** Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.* **2-ESS2-2.** Develop a model to represent the shapes and kinds of land and bodies of water in an area. **2-ESS2-3.** Obtain information to identify where water is found on Earth and that it can be solid or liquid. **ETS1-2.** 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. **ETS1-3**. Analyze data from tests of two	**Developing and Using Models Modeling** Develop a model to represent patterns in the natural world. **Constructing Explanations and Designing Solutions** Make observations from several sources to construct an evidence-based account for natural phenomena. Compare multiple solutions to a problem. **Obtaining, Evaluating, and**	**ESS1.C: The History of Planet Earth** ● Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. **ESS2.A: Earth Materials and Systems** ● Wind and water can change the shape of the land. **ESS2.B: Plate Tectonics and Large-Scale System Interactions** ● Maps show where things are located. One can map the shapes and kinds of land and water in any area. **ESS2.C: The Roles of Water in Earth's Surface Processes** ● Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. **ETS1.C: Optimizing the Design Solution** Because there is always more than one	**Patterns** Patterns in the natural world can be observed. **Stability and Change** Things may change slowly or rapidly.

		objects designed to solve the same problem to compare the strengths and weaknesses of how each performs	**Communicating Information** Obtain information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question.	possible solution to a problem, it is useful to compare and test designs.	
8 weeks	**Properties of Materials**	**2-PS1-1.** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. **2-PS1-2**. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. **2-PS1-3.** Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. **2-PS1-4.** Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. **ETS1-1.** Ask questions, make observations, and gather information about a situation people want to change	**Planning and Carrying Out Investigations** Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. **Analyzing and Interpreting Data** Analyze data from tests of an object or tool to determine if it works as intended. **Constructing Explanations and Designing Solutions** Make observations (firsthand or from	**PS1.A: Structure and Properties of Mat**ter ● Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. ● Different properties are suited to different purposes. ● A great variety of objects can be built up from a small set of pieces. **PS1.B: Chemical Reaction**s ● Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. **ETS1.A: Defining and Delimiting Engineering Problems** ● A situation that people want to change or create can be approached as a problem to be solved through	**Patterns** Patterns in the natural and human designed world can be observed. **Cause and Effect** Simple tests can be designed to gather evidence to support or refute student ideas about causes. **Energy and Matter** Objects may break into smaller pieces and be put together into larger pieces, or change shapes. **Structure and Function** The shape and stability of structures

		to define a simple problem that can be solved through the development of a new or improved object or tool. **ETS1-2.** 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. **ETS1-3**. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.	media) to construct an evidence-based account for natural phenomena. **Engaging in Argument from Evidence** Construct an argument with evidence to support a claim. **Asking Questions and Defining Problems** Define a simple problem that can be solved through the development of a new or improved object or tool. **Developing and Using Models Modeling** Develop a simple model based on evidence to represent a proposed object or tool.	engineering. ● Asking questions, making observations, and gathering information are helpful in thinking about problems. ● Before beginning to design a solution, it is important to clearly understand the problem. **ETS1.B: Developing Possible Solutions** ● Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. **ETS1.C: Optimizing the Design Solution** Because there is always more than one possible solution to a problem, it is useful to compare and test designs.	of natural and designed objects are related to their function(s).

7 weeks	**Plants**	**2-LS2-1.** Plan and conduct an investigation to determine if plants need sunlight and water to grow. **2-LS2-2**. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. **ETS1-2**. 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.	**Developing and Using Models** Develop a simple model based on evidence to represent a proposed object or tool. **Planning and Carrying Out Investigations**. Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. Make observations (firsthand or from media) to collect data which can be used to make comparisons.	**LS2.A: Interdependent Relationships in Ecosystems** ● Plants depend on water and light to grow. ● Plants depend on animals for pollination or to move their seeds around. **LS4.D: Biodiversity and Humans** ● There are many different kinds of living things in any area, and they exist in different places on land and in water. **ETS1.B: Developing Possible Solutions** ● Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.	**Cause and Effec**t Events have causes that generate observable patterns. **Structure and Function** The shape and stability of structures of natural and designed objects are related to their function(s).