



HIGHLANDS SCHOOL DISTRICT

9 WEEK PACING GUIDE

GRADE 2 SCIENCE

COURSE Science 2	UNIT 1: How Can We Change Solids and Liquids Number of Weeks __9__	Big Idea(s): Solids can be sorted by color, shape, and hardness. Solids and liquids have different properties. Some solids change and go back when heated and cooled and others change and don't go back.	Essential Question(s): How can we sort gemstones? How are different materials used to make sculptures? What happens to a solid when it is heated and then cooled?	Materials/Resources /Activities: Smithsonian Science for the Classroom Lessons 1-10 (follow teacher's manual for pacing of each lesson) Materials list p. 32 of Teacher Manual
Quarter 1	Science and Engineering Practices	Disciplinary Core Idea	Cross Cutting Concepts	
	Planning and carrying out investigations Analyzing and interpreting data Engaging in argument from evidence Obtaining, evaluating, and communicating information Constructing explanations	PS1.A: 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: Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. ETS1.A: Asking questions, making observations, and gathering information are helpful in thinking about problems. ETS1.C: Because there is always more than one possible solution to a problem, it is useful to compare and test designs.	Scale, proportion, and quantity Patterns Cause and effect Energy and matter	

COURSE Science 2	UNIT 2: How Can Maps Tell Us about Land and Water on Earth? Number of Weeks __9__	Big Idea(s): Maps can show land and water on Earth. Land and water occur in observable patterns on Earth. Solid and liquid water have distinct properties.	Essential Question(s): What do maps tell us? What are the patterns of land and water on Earth? How are solid and liquid water alike and different?	Materials/Resources /Activities: Smithsonian Science for the Classroom Lessons 1-10 (follow teacher's manual for pacing of each lesson) Materials list p. 32 of Teacher Manual
Quarter 2	Science and Engineering Practices	Disciplinary Core Idea	Cross Cutting Concepts	
	Developing and using models Planning and carrying out investigations Analyzing and interpreting data Obtaining, evaluating, and communicating information	ESS2.B: Maps show where things are located. One can map the shapes and kinds of land and water in any area. ESS2.C: Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. PS1.A: 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.	Patterns Scale, proportionality, and quantity	

COURSE Science 2	UNIT 3: How Can We Stop Soil From Washing Away? Number of Weeks __9__	Big Idea(s): Wind and water can change the land. Some events happen quickly; others happen slowly.	Essential Question(s): How can wind and water change the land? What are solutions to erosion problems?	Materials/Resources /Activities: Smithsonian Science for the Classroom Lessons 1-10 (follow teacher's manual for pacing of each lesson) Materials list p. 32 of Teacher Manual
Quarter 3	Science and Engineering Practices	Disciplinary Core Idea	Cross Cutting Concepts	
	Analyzing and interpreting data Constructing explanations Designing solutions Obtaining, evaluating, and communicating information	ETS1.A: A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. Before beginning to design a solution, it is important to clearly understand the problem. Asking questions, making observations, and gathering information are helpful in thinking about problems. ETS1.B: 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: Because there is always more than one possible solution to a problem, it is useful to compare and test designs. ESS2.A: Wind and water can change the shape of the land. ESS1.C: Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.	Stability and change Structure and function Cause and effect System and system models	

COURSE Science 2	UNIT 4: How Can We Find the Best Place for a Plant to Grow? Number of Weeks __9__	Big Idea(s): Plants need many different things to live, grow, and reproduce. A plant has parts that have structures related to their functions. Bees and seeds have structures that help them function as pollinators.	Essential Question(s): Why can a plant survive in one place but not another? How do a plant's parts help it live and grow? How can seeds move to new places?	Materials/Resources /Activities: Smithsonian Science for the Classroom Lessons 1-10 (follow teacher's manual for pacing of each lesson) Materials list p. 32 of Teacher Manual
Quarter 4	Science and Engineering Practices	Disciplinary Core Idea	Cross Cutting Concepts	
	Analyzing and interpreting data Designing solutions Developing and using models Engaging in argument from evidence	LS2.A: Plants depend on water and light to grow. Plants depend on animals for pollination or to move their seeds around. LS4.D: There are many different kinds of living things in any area, and they exist in different places on land and in water. ETS1.A: A situation that people want to change or create can be approached as a problem to be solved through 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: 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 Effect Patterns Structure and function Systems and system models	