

Dennis-Yarmouth Regional School District
Science Scope and Sequence
Grade K

Unit Name	Unit Description / Overview	Stage 1: Desired Results Enduring Understandings - Students will understand that...	Essential Questions	Standards
Master Unit 1 Sunlight Warms Earth's Surface/Energy	Kindergarten students explore the effect of sunlight on Earth's natural surfaces of sand, soil, rock and water. Students learn that surfaces in sunlight are warmer than those surfaces in the shade. In addition, students explore how the color and material of a surface affects how warm it gets after being in sunlight. Students use tools and materials to build a prototype that reduces the warming effect of sunlight.	Sunlight warms Earth's surfaces. Different materials on Earth are warmed by sunlight by different amounts. Collaborative conversations are necessary to review and develop scientific ideas.	Why are different areas of the playground hotter than others on a sunny day? How can we stay cool at the beach on a sunny day?	K-PS3-1. Make observations to determine that sunlight warms materials on Earth's surface. K-PS3-2. Use tools and materials to design and build a model of a structure that will reduce the warming effect of sunlight on an area. SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. SL.K.1.a Follow agreed-upon rules for discussions (e.g. listening to others and taking turns speaking about the topics and texts under discussion). SL.K.1.b Continue a conversation through multiple exchanges.
Master Unit 2 Plant and Animal Structures	In Kindergarten, students build on early experiences observing the world around them. They learn that all animals and plants need food, water and air to grow and thrive and that the fundamental difference between plants and animals is a plant's ability to make it's own food.	All animals need food, water, and air to survive. Animals obtain their food from plants or from other animals. Plants need food, water and light to live and grow. Plants and animals grow and change over time.	What do plants and animals need to survive? How do plants and animals grow and change over time?	K-LS1-1. Observe and communicate that animals (including humans) and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow. K-LS1-2(MA). Recognize that all plants and animals grow and change over time.
Master Unit 3 Matter & Its Interactions	Students build their quantitative knowledge of temperature in relation to its effect on different kinds of materials. They investigate and communicate the idea that different kinds of materials can be solid or liquid depending on temperature.	Students will understand the basic properties of a solid. Students will understand the basic properties of a liquid. Students will understand that with heat or cold that they can change. Matter is present everywhere, and it occurs primarily in three forms: solid, liquid, and gas.	What is a solid? What is a liquid? Can the same material be both solid and liquid at different times? How?	K-PS1-1(MA). Investigate and communicate the idea that different kinds of materials can be solid or liquid depending on temperature.
Master Unit 4 Motion & Stability Forces & Interactions	Students learn that force and motion are all around them! Students investigate motion of objects by changing the strength and direction of pushes and pulls.	Pushing hard on an object could make it move farther. Pulling gently on an object could make it move a lesser distance. The same (above) applies to the force of pulling. When objects collide, it could cause them to slow down, stop, and/or move off in a different direction.	If one pushes hard on an object, what happens? If one pushes gently on an object, what happens? If one pulls hard on an object, what happens? If one pulls gently on an object, what happens? Does how hard one pushes or pulls change the direction of the object(s) that is moving?	K-PS2-1. Compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. PreK-PS2-1(MA). Using evidence, discuss ideas about what is making something move the way it does and how some movements can be controlled. PreK-PS2-2(MA). Through experience, develop awareness of factors that influence whether things stand or fall.

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Master Unit 5 Earth & Space.	In kindergarten, students build on early experiences observing the world around them as they continue to make observations that are more quantitative in nature and help them identify why some changes occur. Students begin to learn to use these observations as evidence to support a claim though growing language skills. Students begin to identify reasons for changes in some common phenomena, such as local weather conditions to describe patterns over time, or by observing nature to gather evidence that plants and animals can change their environment.	Weather does not stay the same, but changes over time. Weather does have a pattern throughout a year (i.e. cold in the Winter, hot in the Summer). Weather patterns can be predicted. Humans can change the outside environment.	Does the weather outside change every day or does it stay the same? If it does change, is it the same at different times of the year? Can you predict what the weather will be like? Can humans effect what happens outside in nature?	K-ESS2-1. Use and share quantitative observations of local weather conditions to describe patterns over time. K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment. K-ESS3-2. Obtain and use information about weather forecasting to prepare for, and respond to, different types of local weather. K-ESS3-3. Communicate solutions to reduce the amount of natural resources an individual uses.