

Dennis-Yarmouth Regional School District
Science Scope and Sequence
Grade 3

Unit Name	Unit Description / Overview	Stage 1: Desired Results Enduring Understandings - Students will understand that...	Essential Questions	Standards
Master Unit 1 Earth's Systems, Human Activity, and Engineering	This unit focuses on weather and climate at the third grade level. Students will learn that weather is the temperature, precipitation, air pressure, and wind speed and direction of a place at any given time. They will learn to differentiate between weather and climate, as they learn that climate is the pattern of weather in a place over a period of time. They will also learn about the different climate zones on the Earth, and man-made objects used to prevent weather-related problems. At the end of the unit, students will use their knowledge to analyze the efficiency of certain weather-related tools and make determinations about how they could be improved.	Bar graphs and pictographs can be used to show data about weather patterns over time (climate). Weather over time makes up the climate of a region. Different regions of the world have different climates. Different design solutions can be used to prevent weather-related damage.	What is weather? How does weather affect our lives? What is climate? What are the regions of the world? How does weather impact the lives of the people who live in those different regions? How can people help protect themselves from weather-related hazards?	3-ESS2-1. Use graphs and tables of local weather data to describe and predict typical weather during a particular season in an area. 3-ESS2-2. Obtain and summarize information about the climate of different regions of the world to illustrate that typical weather conditions over a year vary by region. 3-ESS3-1. Evaluate the merit of a design solution that reduces the damage caused by weather. 3.3-5-ETS1-1. Define a simple design problem that reflects a need or a want. Include criteria for success and constraints on materials, time, or cost that a potential solution must meet. 3.3-5-ETS1-2. Generate several possible solutions to a given design problem. Compare each solution based on how well each is likely to meet the criteria and constraints of the design problem. 3.3-5-ETS1-4(MA). Gather information using various informational resources on possible solutions to a design problem. Present different representations of a design solution.
Master Unit 2 Plant and Animal Life Cycle	This unit is designed to introduce students to the characteristics and life cycles of different types of organisms. Students will create graphic representations, provide evidence from data analysis of inherited traits of plants and animals. Students will distinguish those traits that are inherited from those traits that are affected by the environment.	Each species has a distinct life cycle which includes four stages: birth, growth, reproduction and death. All organisms reproduce; without reproduction that species will die off. Plants and animals have a variety of traits that are inherited from their parents. The environment can have direct effect on the characteristics of a plant or animal.	What happens to plants and animals when the environment changes? Why is it important to understand the components of a life cycle? How do group behaviors help individuals survive? How does the environment influence groups of living things now and in the past? How do the life cycles of different organisms differ?	3-LS1-1. Use simple graphical representations to show that different types of organisms have unique and diverse life cycles. Describe that all organisms have birth, growth, reproduction, and death in common but there are a variety of ways in which these happen. 3-LS4-5(MA). Provide evidence to support a claim that the survival of a population is dependent upon reproduction.
Master Unit 3 Heredity	Grade 3 will be introduced to the topic of Heredity and will learn to recognize that offspring of organisms receive characteristics (traits) from the parents. These are called Genetic traits. They will also learn that other characteristics are acquired by the offspring during its life cycle. These are called Acquired traits.	Reproduction is essential to every kind of organism. Different organisms vary in how they look and function because they have different inherited information. The environment affects the traits that an organism develops. For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.	How do organisms grow and change? What kinds of traits are passed on from parent to offspring? How do differences in organisms help with survival?	3-LS3-1. Provide evidence, including through the analysis of data, that plants and animals have traits inherited from parents and that variation of these traits exist in a group of similar organisms. 3-LS3-2. Distinguish between inherited characteristics and those characteristics that result from a direct interaction with the environment. Give examples of characteristics of living organisms that are influenced by both inheritance and the environment.

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Master Unit 4 Biological Evolution	In life science, Grade 3 students investigate how the variations in characteristics among individuals with the same species may provide advantages to these individuals in their survival and reproduction , even if the habitat changes over time.	The environment affects the traits that an organism develops. For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. Differences in characteristics between individuals of the same species can provide advantages in surviving and reproducing. Patterns of change can be used to make predictions. Cause and effect relationships are routinely identified and used to explain change.	What kinds of traits are passed on from parent to offspring? How do differences in organisms help with survival?	3-LS4-1. Use fossils to describe types of organisms and their environments that existed long ago and compare those to living organisms and their environments. Recognize that most kinds of plants and animals that once lived on Earth are no longer found anywhere. 3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals within the same species may provide advantages to these individuals in their survival and reproduction. 3-LS4-3. Construct an argument with evidence that in a particular environment some organisms can survive well, some survive less well, and some cannot survive. 3-LS4-4. Analyze and interpret given data about changes in a habitat and describe how the changes may affect the ability of organisms that live in that habitat to survive and reproduce.
Master Unit 5 Motion Stability: Forces and Interactions	Students will gain knowledge of multiple forces, including friction, on an object. They will know that balanced forces do not change the motion of the object and unbalanced forces do change the motion of the object. Students will learn about the nature of the forces between two magnets based on their orientations and distance relative to each other.	Balanced and unbalanced forces, as well as friction can change the motion of an object. Magnetic fields can be influenced by the direction, distance, and size of the magnet.	How do forces change the motion of an object? How are forces created by magnets affected by direction and distance? How can a problem be solved by using magnets?	3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. CCR.W.2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection organization and analysis of content. 3.3-5-ETS1-1. Define a simple design problem that reflects a need or a want. Include criteria for success and constraints on materials, time, or cost that a potential solution must meet. 3-PS2-1. Provide evidence to explain the effect of multiple forces, including friction, on an object. Include balanced forces that do not change the motion of the object and unbalanced forces that do change the motion of the object. 3-PS2-3. Conduct an investigation to determine the nature of the forces between two magnets based on their orientations and distance relative to each other. 3-PS2-4. Define a simple design problem that can be solved by applying the use of the interactions between magnets.