

# Old Town School Department's Science Curriculum

Topic, Unit, Theme or Process \_\_\_\_\_ Grade Level/Course 6 Page 1

Essential Understanding \_\_\_\_\_

Essential Question \_\_\_\_\_

Maine LEARNING RESULTS Links (Standard and PI)	Introduce (I) Mastery (M) or Review (R)	Activities	Resources	Assessments
<p><b><u>Matter &amp; Energy</u></b>  <b>Students describe physical and chemical properties of matter, interactions and changes in matter, and transfer of energy through matter.</b></p> <p>d. Explain the relationship of the motion of atoms and molecules to the states of matter for gases, liquids, and solids.</p>	I			



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<p><b><u>Force &amp; Motion</u></b>  <b>Students describe the force of gravity, the motion of objects, the properties of waves, and the wavelike property of energy in light waves.</b></p> <p>a. Describe the similarities and differences in the motion of sound vibrations, earthquakes, and light waves.</p>	I			

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<p><b><u>Cells</u></b>  <b>Students describe the hierarchy of organization and function in organisms, and the similarities and differences in structure, function, and needs among and within organisms.</b></p> <p>a. Describe the basic functions of organisms carried out within cells including the extracting of energy from food and the elimination of wastes.</p> <p>b. Explain the relationship among cells, tissues, organs, and organ <i>systems</i>, including how tissues and organs serve the needs of cells and organisms.</p> <p>c. Compare the structures, <i>systems</i>, and interactions that allow single-celled organisms and multi-celled plants and animals, including humans, to defend themselves, acquire and use energy, self-regulate, reproduce, and coordinate movement.</p> <p>d. Explain that all living things are composed of cells numbering from just one to millions.</p>	<p>M</p> <p>M</p> <p>M</p> <p>M</p>			

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<p><b><u>Heredity &amp; Reproduction</u></b>  <b>Students describe the general characteristics and mechanisms of reproduction and heredity in organisms, including humans, and ways in which organisms are affected by their genetic traits.</b></p> <p>a. Explain that sexual reproduction includes fertilization that results in the inclusion of genetic information from each parent and determines the inherited traits that are a part of every cell.</p>	I			

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<p><b><u>Earth</u></b>  <b>Students describe the various cycles, physical and biological forces and processes, position in space, energy transformations, and human actions that affect the short-term and long-term changes to the Earth.</b></p> <p>d. Describe significant Earth resources and how their limited supply affects how they are used.</p> <p>c. Give several reasons why the climate is different in different regions of the Earth.</p>	<p style="text-align: center;">I</p> <p style="text-align: center;">M</p>			



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<p><b><u>Ecosystems</u></b>  <b>Students examine how the characteristics of the physical, non-living (abiotic) environment, the types and behaviors of living (biotic) organisms, and the flow of matter and energy affect organisms and the ecosystem of which they are part.</b></p> <p>a. List various kinds of resources within different biomes for which organisms compete.</p> <p>b. Describe ways in which two types of organisms may interact (including competition, predator/prey, producer/consumer/decomposer, parasitism, and mutualism) and describe the positive and negative consequences of such interactions.</p> <p>c. Describe the source and flow of energy in the two major food webs, terrestrial and marine.</p> <p>d. Describe how matter and energy change from one form to another in living things.</p> <p>e. Explain that the total amount of matter in the environment stays the same even as its form and location change.</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">M</p> <p style="text-align: center;">M</p> <p style="text-align: center;">M</p> <p style="text-align: center;">M</p>			

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**Essential Question** 1. Explain at least three relationships that exist in nature between two organisms and provide examples of positive and/or negative outcomes of these relationships. 2. What are the four resources that organisms compete for in any given biome? 3. Draw a food web from either a land or water biome that shows the flow of energy. Provide and label two producers, three consumers, and one decomposer. 4. Label and explain briefly what is happening in the cycle shown. See next page for cycle.

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E2 Ecology				