

## Old Town School Department's Science Curriculum

Topic, Unit, Theme or Process All Units Grade Level/Course 5 Page \_\_\_\_\_

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

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

Maine LEARNING RESULTS Links (Standard and PI)	Introduce (I) Mastery (M) or Review (R)	Activities	Resources	Assessments
<p><b>A1 Systems</b></p> <p><b>Students explain interactions between parts that make up whole man-made and natural things.</b></p> <p><input type="checkbox"/> a. Give examples that show how individual parts of organisms, ecosystems, or man-made structures can influence one another.</p> <p><input type="checkbox"/> b. Explain ways that things including organisms, ecosystems, or man-made structures may not work as well (or at all) if a part is missing, broken, worn out, mismatched, or misconnected.</p>		<p>Penobscot River Restoration Curriculum</p> <p>Penobscot River Curriculum and Motion &amp; Design</p>	<p><u>The Atlantic Salmon</u> Bianca Lavies <u>River Life</u> Barbara Taylor <u>Maine Atlantic Salmon: A National Treasure</u> Ed Baum <u>The Life Cycle of a Salmon</u> Ruth Thomson <u>Rivers</u> Andrew Haslam <u>The Moon Book</u> Gail Gibbons <u>What Makes Days and Nights</u> Franklyn Branley <u>The Shortest Day</u> Wendy Pfeffer <u>Wonders of the Seasons</u> Keith Brandt <u>Sunshine Makes the Seasons</u> Franklyn Branley <u>The Reasons for the Seasons</u> Gail Gibbons <u>The Real Reasons for the Seasons</u> Alan Gould, Carolyn Willard &amp; Stephen Pompea</p>	

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<p><b>A2 Models</b></p> <p>Students use <i>models</i> to represent objects, processes, and events from the physical setting, the living environment, and the technological world.</p> <p><input type="checkbox"/> a. Represent the features of a real object, event, or process using <i>models</i> including geometric figures, number sequences, graphs, diagrams, sketches, maps, or three-dimensional figures and note ways in which those representations do (and do not) match features of the originals.</p>		All Units		

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<p><b>A3 Constancy &amp; Change</b></p> <p><b>Students identify and represent basic patterns of change in the physical setting, the living environment, and the technological world.</b></p> <p><input type="checkbox"/> a. Recognize patterns of change including steady, repetitive, irregular, or apparently unpredictable change.</p> <p><input type="checkbox"/> b. Make tables or graphs to represent changes.</p>		All Units		

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<p><b>A4 Scale</b></p> <p><b>Students use mathematics to describe scale for man-made and natural things.</b></p> <p><input type="checkbox"/> a. Measure things to compare sizes, speeds, times, distances, and weights.</p> <p><input type="checkbox"/> b. Use fractions and multiples to make comparisons of scale.</p>		<p>Motion &amp; Design</p>		

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<p><b>B1 Skills and Traits of Scientific Inquiry</b></p> <p><b>Students plan, conduct, analyze data from, and communicate results of investigations, including <i>fair tests</i>.</b></p> <p><input type="checkbox"/> a. Pose investigable questions and seek answers from reliable sources of scientific information and from their own investigations.</p> <p><input type="checkbox"/> b. Plan and safely conduct investigations including simple experiments that involve a <i>fair test</i>.</p> <p><input type="checkbox"/> c. Use simple equipment, tools, and appropriate metric units of measurement to gather data and extend the senses.</p> <p><input type="checkbox"/> d. Use data to construct and support a reasonable explanation.</p> <p><input type="checkbox"/> e. Communicate scientific procedures and explanations.</p>				

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<p><b>B2 Skills and Traits of Technological Design</b></p> <p><b>Students use a design process, simple tools, and a variety of materials to solve a problem or create a product, recognizing the constraints that need to be considered.</b></p> <p><input type="checkbox"/> a. Identify and explain a simple design problem and a solution related to the problem.</p> <p><input type="checkbox"/> b. Propose a solution to a design problem that recognizes constraints including cost, materials, time, space, or safety.</p> <p><input type="checkbox"/> c. Use appropriate tools, materials, safe techniques, and quantitative measurements to implement a proposed solution to a design problem.</p> <p><input type="checkbox"/> d. Balance simple constraints in carrying out a proposed solution to a design problem.</p> <p><b>B2 Continued----</b></p>				

e. Evaluate their own design results, as well as those of others, using established criteria.

f. Modify designs based on results of evaluations.

g. Present the design problem, process, and design or solution using oral, written, and/or pictorial means of communication.

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<p><b>C1 Understanding Inquiry</b></p> <p><b>Students describe how scientific investigations result in explanations that are communicated to other scientists.</b></p> <p><input type="checkbox"/> a. Describe how scientists answer questions by developing explanations based on observations, evidence, and knowledge of the natural world.</p> <p><input type="checkbox"/> b. Describe how scientists make their explanations public.</p>				

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<p><b>C2 Understanding about Science &amp; Technology</b></p> <p><b>Students describe why people use science and technology and how scientists and engineers work.</b></p> <p><input type="checkbox"/> a. Describe how scientists seek to answer questions and explain the natural world.</p> <p><input type="checkbox"/> b. Describe how engineers seek solutions to problems through the design and production of products.</p>				

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<p><b>C3 Science, Technology, and Society</b></p> <p><b>Students identify and describe the influences of science and technology on people and the environment.</b></p> <p><input type="checkbox"/> a. Explain how scientific and technological information can help people make safe and healthy decisions.</p> <p><input type="checkbox"/> b. Give examples of changes in the environment caused by natural or man-made influences.</p> <p><input type="checkbox"/> c. Explain that natural resources are limited, and that reusing, recycling, and reducing materials and using renewable resources is important.</p>		<p>Food/Nutrition</p> <p>Penobscot River/Motion &amp; Design</p> <p>Penobscot River/Motion &amp; Design</p>		

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**Essential Understanding** Students describe the positions and apparent motions of different objects in and beyond our solar system and how these objects can be viewed from Earth.

**Essential Question** Explain how the sun & moon appear to move across the sky. Explain the reason for the seasons.

Maine LEARNING RESULTS Links (Standard and PI)	Introduce (I) Mastery (M) or Review (R)	Activities	Resources	Assessments
<p><b>D1 Universe and Solar System</b></p> <p><b>Students describe the positions and apparent motions of different objects in and beyond our solar system and how these objects can be viewed from Earth.</b></p> <p><input type="checkbox"/> b. Observe and report on observations that the sun appears to move across the sky in the same way every day, but its path changes slowly over the seasons.</p>	M	<p><u>Reasons for the Seasons</u></p> <p><u>How the Earth Works</u> John Farndon</p> <p><u>Season to Season</u> Heinemann First Library</p> <p><u>Earth Cycles</u></p>	<p><u>The Moon Book</u> Gail Gibbons</p> <p><u>What Makes Days and Nights</u> Franklyn Branley</p> <p><u>The Shortest Day</u> Wendy Pfeffer</p> <p><u>Wonders of the Seasons</u> Keith Brandt</p> <p><u>Sunshine Makes the Seasons</u> Franklyn Branley</p> <p><u>The Reasons for the Seasons</u> Gail Gibbons</p> <p><u>The Real Reasons for the Seasons</u> Alan Gould, Carolyn Willard &amp; Shephen Pompea</p>	Tis the Season (map assessment)



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Essential Understanding Students summarize how various forces affect the motion of objects.

Essential Question Explain how a force effects the motion, speed and direction an object will travel.

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<p><b>D4 Force and Motion</b></p> <p><b>Students summarize how various forces affect the motion of objects.</b></p> <p><input type="checkbox"/> a. Predict the effect of a given force on the motion of an object.</p> <p><input type="checkbox"/> b. Describe how fast things move by how long it takes them to go a certain distance.</p> <p><input type="checkbox"/> c. Describe the path of an object.</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">M</p> <p style="text-align: center;">M</p>	<p>Motion &amp; Design kit Teacher's manual</p> <p><u>Science Alive! Motion</u> Darlene Lauw</p> <p><u>Forces and Movement</u> Peter Riley</p>	<p>Motion &amp; Design kit Teacher's manual</p> <p><u>Science Alive! Motion</u> Darlene Lauw</p> <p><u>Forces and Movement</u> Peter Riley</p>	<p>Final Design Challenge</p>

## Old Town School Department's Science Curriculum

Topic, Unit, Theme or Process Penobscot River Restoration Curriculum Grade Level/Course 5 Page \_\_\_\_\_

Essential Understanding Students compare living things based on their behaviors, external features, and environmental needs.

Essential Question Describe the life cycle of either an Atlantic Salmon or American Eel; include changes in external features & behaviors.

Maine LEARNING RESULTS Links (Standard and PI)	Introduce (I) Mastery (M) or Review (R)	Activities	Resources	Assessments
<p><b>E1 Biodiversity</b></p> <p><b>Students compare living things based on their behaviors, external features, and environmental needs.</b></p> <p><input type="checkbox"/> b. Describe the changes in external features and behaviors of an organism during its life cycle.</p>	R	<p>See Penobscot River Restoration Curriculum</p> <p>Salmon lifecycle American Eel lifecycle</p>	<p><u>The Atlantic Salmon</u> Bianca Lavies</p> <p><u>River Life</u> Barbara Taylor</p> <p><u>Maine Atlantic Salmon: A National Treasure</u> Ed Baum</p> <p><u>The Life Cycle of a Salmon</u> Ruth Thomson</p> <p><u>Rivers</u> Andrew Haslam</p>	





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