

Old Town School Department's Science Curriculum

Topic, Unit, Theme or Process _____ Grade Level/Course 8 Page 1

Essential Understanding _____

Essential Question What is matter and what energy does it contain/transfer?

Maine LEARNING RESULTS Links (Standard and PI)	Introduce (I) Mastery (M) or Review (R)	Activities	Resources	Assessments
<p><u>Matter and Energy</u> Students describe physical and chemical properties of matter, interactions and changes in matter, and transfer of energy through matter.</p> <p>h. Describe several different types of energy forms including heat energy, chemical energy, and mechanical energy.</p> <p>i. Use examples of energy transformations from one form to another to explain that energy cannot be created or destroyed.</p> <p>j. Describe how <i>heat</i> is transferred from one object to another by conduction, convection, and/or radiation.</p>	<p style="text-align: center;">M</p> <p style="text-align: center;">M</p> <p style="text-align: center;">M</p>			

Old Town School Department's Science Curriculum

Topic, Unit, Theme or Process _____ Grade Level/Course 8 Page 2

Essential Understanding _____

Essential Question What is matter and what energy does it contain/transfer?

Maine LEARNING RESULTS Links (Standard and PI)	Introduce (I) Mastery (M) or Review (R)	Activities	Resources	Assessments
<p><u>Matter and Energy</u> Students describe physical and chemical properties of matter, interactions and changes in matter, and transfer of energy through matter.</p> <p>a. Describe that all matter is made up of atoms and distinguish between/among elements, atoms, and molecules.</p> <p>b. Describe how physical characteristics of elements and types of reactions they undergo have been used to create the Periodic Table.</p> <p>c. Describe the difference between physical and chemical change.</p> <p>d. Explain the relationship of the motion of atoms and molecules to the states of matter for gases, liquids, and solids.</p> <p>e. Explain how atoms are packed together in arrangements that compose all substances including elements, compounds, mixtures, and solutions.</p> <p>f. Explain and apply the understanding that substances have characteristic properties, including density, boiling point, and solubility and these properties are not dependent on the amount of matter present. .</p> <p>g. Use the idea of atoms to explain the conservation of matter.</p>	<p>M</p> <p>M</p> <p>M</p> <p>M</p> <p>M</p> <p>M</p> <p>M</p>			

Old Town School Department's Science Curriculum

Topic, Unit, Theme or Process _____ Grade Level/Course 8 Page 3

Essential Understanding _____

Essential Question How have different species evolved and in what ways?

Maine LEARNING RESULTS Links (Standard and PI)	Introduce (I) Mastery (M) or Review (R)	Activities	Resources	Assessments
<p><u>Evolution</u> Students describe the evidence that evolution occurs over many generations, allowing species to acquire many of their unique characteristics or adaptations. b. Describe how small differences between parents and offspring can lead to descendants who are very different from their ancestors.</p> <p><u>Biodiversity</u> Students differentiate among organisms based on biological characteristics and identify patterns of similarity. b. Explain how biologists use internal and external anatomical features to determine relatedness among organisms and to form the basis for classification <i>systems</i>. c. Explain ways to determine whether organisms are the same species.</p> <p><u>Heredity & Reproduction</u> 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. 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. c. Describe asexual reproduction as a process by which all genetic information comes from one parent and determines the inherited traits that are a part of every cell.</p>	<p>M</p> <p>M</p> <p>M</p> <p>M</p> <p>M</p>			

