

AMHERST PUBLIC AND PELHAM ELEMENTARY SCHOOLS – CURRICULUM MAP

<b>ELEMENTARY SCIENCE</b> <b>GRADE: 3</b>	<b>UNIT TITLE: MOTION AND DESIGN</b>
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<b>SECTION</b>	<b>LENGTH</b>	<b>CONTENT</b>	<b>SKILLS</b>	<b>METHODS OF ASSESSMENT</b>	<b>FRAMEWORK STRANDS &amp; STANDARDS Grades 3-5</b>
Designing with K’NEX	4 lessons	<ul style="list-style-type: none"> <li>A simple definition of force is a push or a pull.</li> </ul>	<ul style="list-style-type: none"> <li>Build with K’NEX pieces</li> <li>Draw and label on graph paper.</li> <li>Work in a team.</li> </ul>	Student product Self reflection Teacher observation checklist	T/E 2.1 T/E 2.2
Scientific testing	4 lessons	<ul style="list-style-type: none"> <li>How fast or how slow something moves depends on how much mass it has and how much force is acting on it.</li> </ul>	<ul style="list-style-type: none"> <li>Use a stopwatch to gather data.</li> <li>Predict, test, keep accurate records, recognize simple patterns in data, graph and communicate results.</li> </ul>	Student worksheets Teacher observation checklist	Skills of inquiry
Lunar rover challenge	2 lessons	<ul style="list-style-type: none"> <li>Engineers use scientific knowledge to design things people want or need.</li> </ul>	<ul style="list-style-type: none"> <li>Follow design criteria to build a vehicle.</li> <li>Work in a team.</li> </ul>	Student products Teacher observation checklist	T/E 2.1 T/E 2.2 T/E 2.3
Rubber band energy Moving the vehicle with magnets	3 lessons	<ul style="list-style-type: none"> <li>A stretched rubber band has stored energy.</li> <li>A moving object has kinetic energy.</li> <li>Friction is a force that acts to slow or stop a moving object.</li> <li>Magnets have poles that attract and repel.</li> </ul>	<ul style="list-style-type: none"> <li>Follow written directions.</li> <li>Record results.</li> </ul>	Student worksheet End of Unit assessment	PS 5 PS 9

*Massachusetts Science and Technology/Engineering Curriculum Framework, October 2006; Grades 3-5*  
**Physical Sciences (PS),**  
**PS 5** Give examples of how energy can be transferred from one form to another.  
**PS 9** Recognize that magnets have poles that repel and attract each other.

**Technology/Engineering (T/E)**

**T/E 2.1** Identify a problem that reflects the need for shelter, storage, or convenience.

**T/E 2.2** Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists.

**T/E 2.3** Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

**Skills of Inquiry, Experimentation, and Design**

- Ask questions and make predictions that can be tested.
- Select and use appropriate tools and technology (e.g., calculators, computers, balances, scales, meter sticks, graduated cylinders) in order to extend observations.
- Keep accurate records while conducting simple investigations or experiments.
- Conduct multiple trials to test a prediction. Compare the result of an investigation or experiment with the prediction.
- Recognize simple patterns in data and use data to create a reasonable explanation for the results of an investigation or experiment.
- Record data and communicate findings to others using graphs, charts, maps, models, and oral and written reports.