

AMHERST PUBLIC AND PELHAM ELEMENTARY SCHOOLS – CURRICULUM MAP

ELEMENTARY SCIENCE GRADE: 4	UNIT TITLE: ELECTRIC CIRCUITS
--	--------------------------------------

SECTION	LENGTH	CONTENT	SKILLS	METHODS OF ASSESSMENT	FRAMEWORK STRANDS & STANDARDS Grades 3-5
Electric circuits	4 lessons	<ul style="list-style-type: none"> A complete circuit is required for electricity to flow. 	<ul style="list-style-type: none"> Use wires, batteries and bulbs to create basic electric circuits. 	Student worksheets Teacher observation	PS 6.
Trouble shooting Insulators and conductors	3 lessons	<ul style="list-style-type: none"> It is best to follow a logical sequence to solve technical problems. Electricity will flow through some materials and not through other materials. 	<ul style="list-style-type: none"> Follow a flowchart. Make a simple circuit tester. Chart results of an investigation 	Student worksheets Teacher observation	PS 6 PS 7
Switches Circuit diagrams Parallel and series circuits	5 lessons	<ul style="list-style-type: none"> A complete circuit is required for electricity to flow. Series and parallel circuits have different properties. 	<ul style="list-style-type: none"> Wire a simple electric switch. Decipher electric diagrams. Make inferences based on observations. 	Student worksheets Teacher observation	PS 6 PS 7
Magnets and Electromagnets	2-3 lessons	<ul style="list-style-type: none"> Every magnet has a north and south pole. Opposite poles attract; like poles repel. Electric current in a wire generates a magnetic field. If you wrap a current-carrying wire around an iron core, you create a electro-magnet.. 	<ul style="list-style-type: none"> Predict, observe, describe and record results of investigations. Draw conclusions from the results of investigations. 	Student worksheets Teacher observation Pre and post assessments End of unit assessment	PS 8 PS 9 PS 10

Massachusetts Science and Technology/Engineering Curriculum Framework, October 2006; Grades 3-5

Physical Science (PS)

PS 6 Recognize that electricity in circuits requires a complete loop through which an electrical current can pass, and that electricity can produce light, heat, and sound.

PS 7 Identify and classify objects and materials that conduct electricity and objects and materials that are insulators of electricity.

PS 8 Explain how electromagnets can be made, and give examples of how they can be used.

PS 9 Recognize that magnets have poles that repel and attract each other

PS 10 Identify and classify objects and materials that a magnet will attract and objects and materials that a magnet will not attract.

