Southington Public Schools
Curriculum Map

Subject: Science **Grade: 3**

UNIT TITLE	#1 Conservation	#2 Measurement	#3 Properties of Matter	#4 Rocks & Minerals	#5 Human Body
CONTENT	**Conservation of earth materials/resources:** • **Reduce** • **Reuse** • **Recycle**	**Measurement:** • **Importance of standard measures** • **Use tools for standard measures** • **Length, Mass, Volume**	**Matter:** • **Classification/ States** • **Properties** • **Water is Unique in all 3 states**	**Rocks & Minerals** • **Properties** • **Uses** • **Formation**	**Human Body:** • **Structures for Movement** • **Bone & Muscle Functions**
STATE STANDARDS	3.4 Earth materials provide resources for all living things, but these resources are limited and should be conserved. • Decisions made by individuals can impact the global supply of many resources. B7.Describe how earth materials can be conserved by reducing the quantities used, and by renewing and recycling materials rather then discarding them. B INQ.1 Make observations and ask questions about objects. B INQ.2 Seek relevant information in books, magazines and electronic media. B INQ.3 Design and conduct simple investigations.	B INQ.1 Make observations and ask questions about objects. B INQ.2 Seek relevant information in books, magazines and electronic media. B INQ.3 Design and conduct simple investigations. B INQ.4 Employ simple equipment and measuring tools to gather data and extend the senses. B INQ.5 Use data to construct reasonable explanations. B INQ.6 Analyze, critique and communicate investigations using words, graphs and drawings. B INQ.7 Read and write a variety of science-related fiction and non-fiction texts. B INQ.8 Search the Web and locate relevant science information.	3.1 Materials have properties that can be identified and described through the use of simple tests. • Heating and cooling cause changes in some of the properties of materials. B1. Sort and classify materials based on properties such as dissolving in water, sinking and floating, conducting heat, and attracting to magnets. B2. Describe the effect of heating on the melting, evaporation, condensation and freezing of water. B INQ.1 Make observations and ask questions about objects. B INQ.2 Seek relevant information in books, magazines and electronic media.	3.3 Earth materials have different physical and chemical properties. • Rocks and minerals have properties that may be identified through observation and testing; these properties determine how earth materials are used. B5. Describe the physical properties of rocks and relate them to their potential uses. B6. Relate the properties of rocks to the possible environmental conditions during their formation. B INQ.1 Make observations and ask questions about objects. B INQ.2 Seek relevant information in books, magazines and electronic media.	1.2 Living things have different structures and behaviors that allow them to meet their basic needs. 5.2 The sense organs perceive stimuli from the environment and send signals to the brain through the nervous system. A14. Describe the structures that animals, including humans, use to move around. B INQ.1 Make observations and ask questions about objects. B INQ.2 Seek relevant information in books, magazines and electronic media. B INQ.3 Design and conduct simple investigations.

STATE STANDARDS	B INQ.4 Employ simple equipment and measuring tools to gather data and extend the senses. B INQ.5 Use data to construct reasonable explanations. B INQ.6 Analyze, critique and communicate investigations using words, graphs and drawings. B INQ.7 Read and write a variety of science-related fiction and non-fiction texts. B INQ.8 Search the Web and locate relevant science information. B INQ.9 Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials. B INQ.10 Use mathematics to analyze, interpret and present data.	B INQ.9 Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials. B INQ.10 Use mathematics to analyze, interpret and present data.	B INQ.3 Design and conduct simple investigations. B INQ.4 Employ simple equipment and measuring tools to gather data and extend the senses. B INQ.5 Use data to construct reasonable explanations. B INQ.6 Analyze, critique and communicate investigations using words, graphs and drawings. B INQ.7 Read and write a variety of science-related fiction and non-fiction texts. B INQ.8 Search the Web and locate relevant science information. B INQ.9 Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials. B INQ.10 Use mathematics to analyze, interpret and present data.	B INQ.3 Design and conduct simple investigations. B INQ.4 Employ simple equipment and measuring tools to gather data and extend the senses. B INQ.5 Use data to construct reasonable explanations. B INQ.6 Analyze, critique and communicate investigations using words, graphs and drawings. B INQ.7 Read and write a variety of science-related fiction and non-fiction texts. B INQ.8 Search the Web and locate relevant science information. B INQ.9 Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials. B INQ.10 Use mathematics to analyze, interpret and present data.	B INQ.4 Employ simple equipment and measuring tools to gather data and extend the senses. B INQ.5 Use data to construct reasonable explanations. B INQ.6 Analyze, critique and communicate investigations using words, graphs and drawings. B INQ.7 Read and write a variety of science-related fiction and non-fiction texts. B INQ.8 Search the Web and locate relevant science information. B INQ.9 Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials. B INQ.10 Use mathematics to analyze, interpret and present data.
ASSESSMENT	**<u>PERFORMANCE TASK</u>** You are a research scientist working for Consumer Reports. Your job is to determine which brand of paper towel, napkin or facial tissue will be either the strongest, most durable or quickest absorber. You will design and fairly test your 3 sample products using only one criteria	**<u>PERFORMANCE TASK</u>** LINEAR/MASS You are an archeologist and have just discovered a new object during a recent dig. You need to collect data on this new object and report it to the Museum of Natural History. • Estimate its length • Find its actual length • Estimate its mass	**<u>PERFORMANCE TASK</u>** You are a Toys R Us employee. Your job is to identify the materials that can be used in a bathtub toy that meet the safety standards for that toy. Write the steps you will follow to conduct your tests. Do your experiment. Collect your data and create a chart listing the properties	**<u>PERFORMANCE TASK</u>** You are a geologist. Your friend brings you a sample of something found in the yard of a new house he just built. He asks you to find out as much as you can about it. Use any scientific tests you know to determine as much about this material as you can and draw conclusions with how it is	**<u>PERFORMANCE TASK</u>** Bearbuilders, Inc. has chosen you to design a bear that has the ability to move like a human being. What 3 parts of structures would the bear need? How would they work together to allow the bear to move?

ASSESSMENT	listed above. Ex: (just paper towels: which brand of paper towel is the strongest). List all the materials you will use. Write the steps you follow to conduct your test. Do your experiment. Collect your data and display the results in a bar graph. Explain how you made your test fair. Write a letter to the editor of Consumer Reports, sharing the results of your investigation. Please include your recommendation about the best product to buy that will help conserve paper. Describe how your data supports your recommendation.
	<u>OTHER EVIDENCE</u>
	• Student work samples
	• Teacher Observations
	• Verbal responses/Oral interviews
	• Student Daily Water Usage Log
	• Student Weekly Diary of Personal Trash
	• Journal entries: The Journey of a Can, or a plastic milk carton or cardboard box.
	• Venn Diagrams
	• Student Created New Recycled Products and explanation of recycling to younger student of why it was important to use again.
	• Narrative Letter
		• Find its actual mass.
		TEMPERATURE/CAPACITY
		You work for Namco Pools. Your boss wants you to test his pool water to make sure it is safe to swim in.
		• Estimate the temperature of water
		• Find the actual temperature of water
		• Find the capacity of sample of water
		<u>OTHER EVIDENCE</u>
		• Teacher Observations
		• Student Response sheet-Linear measurement #5 student sheet
		• Student Response sheet-Weight Watching #8 student sheet
		• Student Response sheet-Volume and Capacity #11 student sheet
		• Student Response sheet-Temperature #16 student sheet
		• End-of-Module assessment for Measurement #7&8
			of each material and their use. Explain how each property will affect the materials that will be used to make the toy. Please include your recommendation about the best products to use. Describe how your data supports your recommendation.
			<u>OTHER EVIDENCE</u>
			• Classify examples of matter into 3 states
			• Quizzes – Describe the properties of matter
			• Complete CLOZE reading activity
			• Concept Map
			• Reflective journal writing: What would happen if matter did not keep its original properties?
			• Lab activities and demonstrations – explanations
			• Graphic organizers to compare properties of matter
			• Observations – informal and formal
				formed. Record what you learned and how you learned it for your friend.
				
				Your friend tells you he has a lot of this material in his yard and wonders what it could be used for. Using what you discovered about its properties, make some recommendations for using this material. Support your ideas with evidence from your investigation.
				<u>OTHER EVIDENCE</u>
				• Describe physical properties of rocks including size, shape color, diameter, circumference, depth, texture etc.
				• Identify pictorial rep. of rocks and minerals.
				• Test rocks and minerals: (color, luster, streak, hardness and texture).
				• Identify hardness of rocks using Moh's Hardness Scale.
				• Compare and contrast rock samples to determine the type of rock.
					<u>OTHER EVIDENCE</u>
					FOSS Kit
					• Student Response Sheets
					  ○ Bones
					  ○ Joints
					  ○ Muscles
					• Quizzes
					• Test
					• Verbal Response
					• Venn Diagram
					• Journal Response
					• Teacher Observations

	• Earth Day Poster • Design Public Service Announcements about Conservation • Soggy Paper Investigation including data collection and representation, conclusions. • Class Recycling Booklet • CLOZE comprehension • Quizzes • Test	• End-of-Module multiple choice/short answer items. *Use each page after each investigation.	• Create collages, mystery boxes, matter booklets all describing properties of matter. • Measurements: L x W x H of solid objects • Measurements: volume of liquids • Test - written essays/short answer	• Identify uses of rocks and minerals in our daily lives. • Draw and describe the Rock Cycle. • Venn Diagrams • Quizzes • Test • Journal Responses – See Learning Plan • FOSS: Student Response Sheets • Reader responses • Content Vocabulary Quiz	
SKILLS	• Identify natural resources and determine which are renewable and which are not. • Describe the natural resources found in products we use in everyday life. • Identify ways they can conserve water in their daily lives. • Describe ways to conserve natural resources. • Classify trash into 3 categories: recyclable, reusable, and non-recyclable. • Explain how composting reduces waste. • Identify and describe the recycling symbols.	• Explain why it is important to estimate and give examples when you estimate. • Describe when nonstandard measurements can be used. • Measure solids (mass, length, etc.) and liquids (volume) using the metric system units. • Measure the temperature of liquids and air in degrees and Celsius. • Accurately use balances, graduated cylinders, thermometers and rulers/metric tapes. • Estimate and make linear measurements. • Measure and compare body dimensions.	• Observe, describe and classify matter by their properties. • Compare and contrast the different states of matter based on their structure. • Measure solids and liquids. • Compare and contrast two different solids • Compare and contrast two different liquids • Analyze an unknown substance to describe the properties. • Test solid objects to determine if they sink or float or are magnetic. • Test substances (solids) that will dissolve in water. • Describe properties of materials: buoyancy, solubility and attraction to magnets.	• Observe, describe, classify properties of rocks & minerals • Analyze an unknown substance to determine if it's a rock or mineral • Compare and Contrast Rocks and Minerals • Read and determine important information from non-fiction about rocks and minerals. • Use measurement tools to describe rocks and draw pictures of rocks & minerals. • Sort rocks and minerals based their properties. • Perform simple tests on minerals and rocks; streak, color, luster, hardness, magnetism and describe the results. • Determine if calcite is in rock samples.	• Observe the human body in action (jumping rope). • Describe the functions of the skeleton/support, protection and movement. • Investigate joints and discover the advantages of an articulated skeleton. • Build an operating model to demonstrate how muscles and tendons work to move legs and feet. • Make models of the leg, arm and thumb and describe functions. • Investigate hand and foot response to visual stimuli. • Investigate the effect of practice on response time.

SKILLS	• Identify what products can and should be recycled. • Explain how various products are recycled. • Write a narrative letter about how they can conserve. • Explain to a younger student why it is important to recycle. • Compare and contrast how we dispose of trash: landfill or 3R's (reduce, reuse, recycle) or combustion. • Create something new or useful from something that was going to be trashed. • Create ways/products to remind everyone to save energy & conserve our natural resources. • Investigate which paper products are the most absorbent. • Describe different properties of packaging materials. • Create a bar graph of the data from the personal inventory of items considered trash: (paper, plastic, metal, glass) and also one of the amount of water used for a week.	• Make and use a paper meter tape. • Measure and describe the relationship between a person's arm span and their height. • Use a balance to determine and compare the mass of objects.	• Demonstrate and explain the processes that allow water to exist in all three states of matter. • Describe how heat energy affects water. • Investigate what happens to other materials that are heated. • Investigate what happens to other materials that are cooled.	• Compare and contrast different types of rocks. • Describe the 3 different types of rocks and how they are formed. • Draw and describe the rock cycle. • Describe how rocks & minerals are used in our world	