WESTBROOK SCHOOL DEPARTMENT

Curriculum

Content Area:	SCIENCE AND TECHNOLOGY	Grade Level:	4
MLR Content Standard:	**A. UNIFYING THEMES: Students will be able to apply the concepts of systems, models, constancy and change and scale to further science and technological understanding**		
MLR Performance Indicators	**WSD Benchmarks** The student will	**Instruction Level***	**Common Assessment**
Instruction Levels: I = Introduced; R = Reinforced; E = Evaluated through a Documented Classroom Activity; D = District Common Assessment			
A1a,b	Identify simple machines (lever, pulley, wheel and axle, inclined plane and gears) and describe their functions. •Lever, pulley, wheel and axlel, inclined plane and gears	I,R,E	
A2b	Use models to represent and understand how simple machines are used in the real world. •Pupils are to develop concept and understand how simple machines are used in the real world. •They are not expected to memorize these characteristics but to develop an understanding that simple machines make work easier	R,E	
A3	Identify basic patterns of change (force, speed, direction of rotation). •Introduce the idea that the examples of levers can be found in the interaction of the skeletal and muscular system ie. the arm. •Collect data to make a table or graph to represent and examine changes	R,E	

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MLR Content Standard:	**B. THE SKILLS AND TRAITS OF SCIENTIFIC INQUIRY AND TECHNOLOGICAL DESIGN: Students will have the ability to plan, conduct, analyze data from and communicate results of in-depth scientific investigations and use a systematic process, tools, equipment, and a variety of materials to create a technological design producing a solution to meet a specified need.**		
MLR Performance Indicators	**WSD Benchmarks** The student will	**Instruction Level***	**Common Assessment**
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B1	Conduct an experiment using the scientific method (question, hypothesis, materials, procedure, observation, and conclusion).	R,E	
B2	Use simple tools to solve a problem or create a product.	R,E	

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MLR Content Standard:	**C. THE SCIENTIFIC AND TECHNOLOGICAL ENTERPRISE: Students will understand the history and nature of scientific knowledge and technology, the processes of inquiry and technological design, and the impacts science and technology have on society and the environment.**		
MLR Performance Indicators	WSD Benchmarks The student will	Instruction Level*	Common Assessment
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C1	Explain how scientists conduct investigations, develop explanations, and communicate with other scientists and the importance of following directions carefully (scientific method).	R,E	
C2	Describe how the technology of simple machines is used by people.	I,R,E	
C3b	Describe how science and technology affect changes in human populations.	R	
C3c	Give examples of how changes in the environment can be natural or caused by humans.	R,E	
C3e	Describe how simple machines have improved quality of life.	R,E	
C3f	Provide examples of where science and technology have not been made available to all of the people in the world.	R	
C4a	Describe how science and technology have been practiced by different types of men and women for a long time.	I,R,E	
C4b	Describe that although science has helped us learn much about the natural world, there is much more that remains to be understood.	R,E	

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Content Area:	SCIENCE AND TECHNOLOGY	Grade Level:	4
MLR Content Standard:	**D. THE PHYSICAL SETTING: Students will understand the universal nature of matter, energy, force and motion, and will be able to identify how these relationships are exhibited in Earth Systems, in the solar system and throughout the universe.**		
MLR Performance Indicators	**WSD Benchmarks** The student will	**Instruction Level***	**Common Assessment**
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D2	Describe properties, processes, and cycles that affect the Earth: •Explain the effects of the rotation of Earth on the day/night cycle and how that cycle affects local temperature. •Describe the various forms water takes in the air and how that relates to weather. •Explain how wind, waves, water, and ice reshape the surface of Earth (erosion). •Differentiate between weather and climate. •Explain the influence the ocean has on weather and the role the water cycle plays in weather. •Explain how uneven heating of the Earth causes air movement. •Demonstrate how water vapor in the air moves from one place to another and can form clouds or fog, which are tiny droplets of water or ice and can fall to Earth as rain, sleet, hail or snow.	R,E	
D2	Identify that chuncks of rocks come in many sizes and shapes, from boulders to grains of sand and even smaller: •Smaller rocks including sand come from the breakage and weathering of bedrock and larger rocks.	I,R,E	
D2	Identify that rock is composed of different combinations of minerals.	R,E	

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D2d	Describe the kinds of materials that form soil: •Soil is made partly from weathered rock, partly from plant remains - and also contains many living organisms.	R,E	
D3	Describe properties of water before and after it undergoes a change or interaction: •Describe what happens when an object or process gives off heat and is near a cool object (condensation and evaporation). •Use the change of states of water in the water cycle to describe how heating and cooling can change the properties of materials, but the total amount of material remains the same through these processes.	R,E	
D4	Summarize how various forces affect the motion of objects: •Demonstrate that energy is required to make things work or move. •Predict the effect of a given force on the motion of an object. •Describe the relationship between how fast things move and how long it takes them to go a certain distance. •Identify a force as a push or a pull. •Give examples of how gravity pushes and pulls objects (tides).	R,E	

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Content Area:	SCIENCE AND TECHNOLOGY	Grade Level:	4
MLR Content Standard:	**E. THE LIVING ENVIRONMENT: Students will understand that cells are the basic unit of life, that all life as we know it as evolved through genetic transfer and natural selection to create a great diversity of organisms and that these organisms create an interdependent web through which matter and energy flow. They will understand their similarities and differences as humans to the other organisms and their interconnections to these webs.**		
MLR Performance Indicators	**WSD Benchmarks** The student will	**Instruction Level***	**Common Assessment**
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E1	Compare living things based on their behaviors, external features and environmental needs: •Describe what all living things need to survive (food, air, water). •Record changes in a particular plant when grown food seeds or bulbs. •Show how living things can be sorted in many ways, depending on which features are used to decide into which group they belong.	R,E	
E2	Describe ways organisms depend upon, interact within, and change the living and non-living environment:	R,E	

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MLR Performance Indicators	WSD Benchmarks The student will	Instruction Level*	Common Assessment
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E2	Give examples of ways the environment affects organisms, biomes, and ecosystems: •State that living things need energy to carry out life processes. •Explain the competitive, interdependent, cyclic nature of living things in our environment. •Explain that energy from the sun is used by plants to make their food and that animals cannot make their own food. •Explain that when animals eat plants that energy the energy stored in the food is passed to them. •Give examples of living things that are classified as producers, consumers, decomposers. •Describe food chains and food webs. •Explain that producers and consumers may compete with each other for resources in an ecosystem. •Predict possible effects if one part of the food chain is missing. •Explain the sun's role in the food web.	R,E	

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