

Curriculum

Content Area:	SCIENCE AND TECHNOLOGY	Grade Level:	8
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
<i>Instruction Levels: I = Introduced; R = Reinforced; E = Evaluated through a Documented Classroom Activity; D = District Common Assessment</i>			
A2a	Students will construct a diagram (3-d or 2-d) model of currently accepted idea of atomic structure.	R,E	
A2a	Analyze a model that identifies scientific atomic concepts.	R,E	
A2b	Make a timeline highlighting the changes in atomic theory (structure) models changed over time.	R,E	
A2b	Construct, describe, or interpret an atomic structure model.	R,E	
A3a	Arrange, in proper order, a series of illustrations that depict stages of succession.	R,E	
A3b	Make a photographic journal (using a digital camera) illustrating the seasonal change of a vernal pool.	R,E	
A4b	Use portions, averages, and ranges to describe small and large extremes of scale.	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.		
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B1	Plan, conduct, analyze data from, & communicate results of investigations, including simple experiments.	R,E	
B2a	Identify a problem that can be solved using technology (Inventions)	R,E	
B2b	Design a solution/product using technology. (Inventions)	R,E	
B2c	Communicate the solution with diagrams and/or models. (Inventions)	R,E	
B2d	Implement proposed design. (Inventions)	R,E	
B2e	Evaluate completed design or product. (Inventions)	R,E	
B2f	Suggest improvements for their own and others design. (Inventions)	R,E	
B2g	Communicate the process of technological design, including review and description of completed design. (Inventions)	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.		
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C1a	Identify the type of question needed to follow out the scientific method.	I,R,E	
C1b	Provide an example of how current scientific knowledge guide scientific investigations.	I,R,E	
C1c	Explain why it is important to identify and control variables and replicate trials in experiments.	I,R,E	
C1d	Use math in many aspects of scientific inquiry.	I,R,E	
C1e	Explain how technology improves accuracy and allows scientists to analyze and share results.	I,R,E	
C1f	Explain how scientific evidence proves theories and changes them.	I,R,E	
C1g	Describe how theories change over time.	I,R,E	
C1h	Describe how solving one scientific problem leads to new investigations.	I,R,E	
C3a	Write a summary report about a genetic disorder (defend/debate genetic engineering as a cure for disorders).	R,E	
C3b	Participate in a simulation which will demonstrate limiting factors.	R,E	
C4b	Describe how science requires openness to new ideas.	R,E	
C4e	Identify an individual that has contributed to the science community and describe their contributions.	R,E	

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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.		
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D2c	Describe how limiting resources affects the environment (living and non-living).	R,E	
D3a	Describe that all matter is made up of atoms and distinguish between elements, atoms, and molecules.	R,E	
D3b	Compare atomic structure between elements which influences their reactivity and to the development of the Periodic Table of Elements.	R,E	
D3c	Describe the differences between physical and chemical change.	R,E	
D3d	Compare the independent properties of two substances.	R,E	
D3e	Prove mathematically the Law of Conservation of Mass.	R,E	
D3f	Describe several different types of energy forms: (kinetic, chemical, thermal, heat, electrical/atoms).	R,E	
D3h	Illustrate states of matter denoting the transfer of heat (Food Pyramid).	R,E	

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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 has 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.		
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E1a	Prepare a flow chart to illustrate similarities and differences between different types of living organisms.	R,E	
E1b	Make a list of similarities that makes one organism related to another.	R,E	
E1c	Give the definition of a species sexually and asexually reproducing organisms.	R,E	
E1d	Make a visual comparison (illustration) between organisms within a species that highlights how their external structures help them survive and reproduce in their environment.	R,E	
E2a	List the resources that an organism competes for within a particular biome.	R,E	
E2b	Prepare a report identifying two types of organisms, how they interact and what kinds of effects those interactions have.	R,E	
E2c	Identify the organism within two different food webs and describe the flow of energy within those food webs.	R,E	
E2d	Describe the law of conservation of matter and how it relates to the environment (Flow Chart, Power Point).	R,E	
E4a	Describe how fertilization passes genetic information from parent to offspring (Re-Bops)	R,E	

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E4b	Identify risks to healthy development of an embryo.	R,E	
E4c	Find similarities and differences in how genetic information is transferred in sexual vs. asexual reproduction.	R,E	
E5a	Explain how the layers of sedimentary rock contain fossil evidence of life changing on Earth.	R,E	
E5b	Describe how mutations lead to variations amongst populations.	R,E	
E5c	Describe the theories of natural selection and how it supports an organism's survival in a changing environment.	R,E	
E5d	Explain how new varieties of plants and animals have been developed.	R,E	

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