

Martensdale-St. Marys Community School

Science Curriculum

Standard 1: Students can understand and apply skills used in scientific inquiry.

Grade:4

Benchmark: The student will:	Grade Level Objectives	Instructional Strategies	Assessments	Instructional Timeline
A. Students can understand and apply skills used in scientific inquiry	A.1.1.4 Identify and generate questions that can be answered through scientific investigations	Observations, experiments	Teacher observation	
	A.1.2.4 Recognize that scientist perform different types of investigations	Describing objects, events, and organisms, classifying them, experimenting	Teacher observation, written exam	
	A.1.3.4 Plan and conduct scientific investigations	Experimenting, observing, making accurate measurements, identifying and controlling variables	Teacher observation, checklist	
	A.1.4.4 Incorporate mathematics in science inquiries (T)	Gather, organize, and present data on experiments, observations	Teacher observation, checklist	
	A.1.5.4 Follow appropriate procedures when conducting investigations. (c)	Experimenting/demonstrating/videos on safety skills	Teacher observation, checklist	

B. Students can analyze and interpret information from scientific studies	B.1.1.4 Use appropriate tools and techniques to gather, process, and analyze data (C) (T)	Doing many experiments using rulers, thermometers, balances, spring scales, magnifiers and microscopes	Written exam, teacher observation	
	B.1.2.4 Use evidence to develop reasonable explanations (C)	Understand experiments using charts, graphs for data. Ask questions about their evidence- they could observe and record observations in a journal and compare with peers	teacher observation	
	B. 1.3.4 Communicate scientific procedures and explanations (C) (HN)	Observe others work and procedures using graphs, charts, journals, actual product (experiment) – presentations, inventions, kids explain their own experiment	Teacher observation, checklist, students present final product	

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Standard 2: Students can understand concepts and relationships in life science.

Grade:4

Benchmarks: The student will:	Grade Level Objectives	Instructional Strategies	Assessments	Instructional Timeline
A. understand the structures of living things	A.2.1.4: understand and apply knowledge of organisms and their environments (HN)	Explore the outdoor environments/habitats, kids create their own habitat	Checklist on created habitat	
	A.2.2.4: understand and apply knowledge of personal health and wellness issues (G) (C) (T) (PS)	Guest speakers, videos, body exercising experiments, reading popular health magazines (gather facts)	Teacher observation, checklist	
B. understand life cycles	B.2.1.4: understand and apply knowledge of basic human body systems and how they work together. (C) (T)(G)(MCG)(PS)	Understanding all systems throughout the body by displaying posters, presentations, videos, guest speaker, other fun resources (magazines, internet, newspaper)	Written exam, checklist	
C. understand environmental interaction and adaptations	C.2.1.4: understand and apply knowledge of environmental stewardship (MCG) (HN) (PS)	Exploring many different environments- interviewing/ask people in the area how things have changed over time and journaling about the environment and its natural resources.	Teacher observation, checklist	

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Standard 3: Students can understand concepts and relationships in Earth/Space sciences.

Grade:4

Benchmark: The student will:	Grade Level Objectives	Instructional Strategies	Assessments	Instructional Timeline
A. Students can understand ideas about Earth's composition and structure	A.3.1.4 Understand and apply knowledge of properties and uses of earth materials (HN)	Exploring earth's materials such as soil	Teacher observation, checklist	
B. Students can understand life cycles	B.3.1.4 Understand and apply knowledge of processes and changes on or in the earth's land, oceans, and atmosphere (HN)	Videos, guest speaker, charting earth's changes by each process of change	Written exam, checklist	
	B.3.2.4 Understand and apply knowledge of fossils and evidence they provide of past life on earth (T) (HN) (MCG)	Experiments: make own fossil. Use technology to gather more information based on animals/plants that lived long ago- compare to today by making chart & how things changed	Teacher observation, checklist	
	B.3.3.4 Understand and apply knowledge of weather and weather patterns (T) (G) (C)	Many experiments with water and temperature. Gather many weather related books (incorporate into reading centers)	Written exam	

C. Students can understand concepts relating to the universe	C.3.1.4 Understand and apply knowledge of the properties, movements, and locations of objects in our solar system. (T) (G)	Create own calendar of moon phase, solar system website games to learn more about the solar system, sun, and moon. Gather many related books (incorporate into reading centers) star lab	Written exam	

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Standard 4: Students can understand concepts and relationships in physical science.

Grade:4

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. understand and apply concepts related to mechanics, forces, and motion.	A.1.1.4: understand and apply knowledge of how forces are related to an object's motion	Experiments using graphs, observing changes	Teacher observation, written exam	
B. understand and apply the concept of energy	B.1.1.4: understand and apply knowledge of sound, light, electricity, magnetism, and heat (T) (C)	Videos, presentations, experiments, related reading books (incorporate into reading centers)	Presentation checklist	

C. understand and identify properties and changes of matter	C.1.1.4: understand and apply knowledge of the concept of conservation of mass/matter (HN)	Experiments and understanding terms	Written exam	
	C.1.2.4: understand and apply knowledge of states of matter and changes in states of matter (HN)	Making charts/tables, presentations	Chart/table/presentation checklist	
	C.1.3.4: understand and apply knowledge of how to describe and identify substances based on characteristic properties	Doing experiments with mixtures and recording changes	Teacher observation, checklist, written exam	