

Martensdale-St. Marys Community School

Science Curriculum

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

Grade: Anatomy

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can understand and apply the process and skills of scientific inquiry.	<ul style="list-style-type: none"> <i>i.</i> Identify questions and concepts that guide scientific investigations. <i>ii.</i> Design and conduct scientific investigations. <i>iii.</i> Understand about scientific inquiry. <i>iv.</i> Use technology and mathematics to improve investigations and communications. 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Structured Inquiry 	<ul style="list-style-type: none"> • Project • Report 	
B. Students can analyze and interpret scientific information.	<ul style="list-style-type: none"> <i>i.</i> Formulate and revise scientific explanations and models using logic and evidence. <i>ii.</i> Recognize and analyze alternative explanations and models. <i>iii.</i> Communicate and defend a scientific argument. 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Structured Inquiry 	<ul style="list-style-type: none"> • Project • Report 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Anatomy

<i>Benchmarks: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
<p>A. Students can make inferences and predictions from data.</p> <p>B. Students can analyze scientific investigations.</p> <p>C. Students can analyze and evaluate the adequacy and accuracy of information.</p>	<p><i>i.</i> Understand and apply knowledge of the cell. (G) (MCGF)</p> <p><i>ii.</i> Understand and apply knowledge of the molecular basis of heredity. (C)</p> <p><i>iii.</i> Understand and apply knowledge of biological evolution.</p>	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Discussion • Case Studies • Dissection 	<ul style="list-style-type: none"> • Essays • Assigned Questions • Homework • Lab. Reports • Model Evaluations 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Anatomy

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and predictions from data.	N/A			
B. Students can analyze scientific investigations.				
C. Students can analyze and evaluate the adequacy and accuracy of information.				

***Martensdale- St. Marys Community School
Science Curriculum***

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

Grade: Anatomy

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and inferences and predictions from data.	N/A			
B. Students can analyze scientific information.				
C. Students can analyze and evaluate the adequacy and accuracy of information.				

Martensdale-St. Marys Community School

Science Curriculum

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

Grade: Biology

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can understand and apply the process and skills of scientific inquiry.	<ul style="list-style-type: none"> <i>i.</i> Identify questions and concepts that guide scientific investigations. (HN) (MCGF) <i>ii.</i> Design and conduct scientific investigations. <i>iii.</i> Understand about scientific inquiry. <i>iv.</i> Use technology and mathematics to improve investigations and communications. (T) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Lab Report 	
B. Students can analyze and interpret scientific information.	<ul style="list-style-type: none"> <i>i.</i> Formulate and revise scientific explanations and models using logic and evidence. <i>ii.</i> Recognize and analyze alternative explanations and models. <i>iii.</i> Communicate and defend a scientific argument. (PS) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Lab Report • Drill and Practice 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Biology

<i>Benchmarks: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
<p>A. Students can make inferences and predictions from data.</p> <p>B. Students can analyze scientific investigations.</p> <p>C. Students can analyze and evaluate the adequacy and accuracy of information.</p>	<p><i>i.</i> Understand and apply knowledge of the cell. (T)</p> <p><i>ii.</i> Understand and apply knowledge of the molecular basis of heredity. (C) (HN)</p> <p><i>iii.</i> Understand and apply knowledge of biological evolution. (MCGF)</p> <p><i>iv.</i> Understand and apply knowledge of the inter-dependence of organisms.</p> <p><i>v.</i> Understand and apply knowledge of matter, energy, and organization in living systems. (G)</p> <p><i>vi.</i> Understand and apply knowledge of the behavior of organisms.</p>	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Discussion • Case Studies • Experimental Inquiry • Model Building 	<ul style="list-style-type: none"> • Essays • Assigned Questions • Homework • Lab. Report • Model Evaluation 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Biology

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and predictions from data. B. Students can analyze scientific investigations. C. Students can analyze and evaluate the adequacy and accuracy of information.	<i>i.</i> Understand and apply knowledge of energy in the earth system. <i>ii.</i> Understand and apply knowledge of Geochemical cycles. <i>iii.</i> Understand and apply knowledge of the origin and evolution of the earth system. (PS) <i>iv.</i> Understand and apply knowledge of the origin and evolution of the universe. (T) (HN)	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Discussion • Case Studies • Model Building 	<ul style="list-style-type: none"> • Essays • Assigned Questions • Homework • Model Evaluation 	

***Martensdale- St. Marys Community School
Science Curriculum***

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

Grade: Biology

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
<p>A. Students can make inferences and predictions from data.</p> <p>B. Students can analyze scientific information.</p> <p>C. Students can analyze and evaluate the adequacy and accuracy of information.</p>	<p>i. Understand and apply knowledge of the structure of atoms. (HN)</p> <p>ii. Understand and apply knowledge of the structure and properties of matter.</p> <p>iii. Understand and apply knowledge of chemical reactions. (C)</p> <p>iv. Understands and applies knowledge of interactions of energy and matter.</p>	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Discussion • Demo 	<ul style="list-style-type: none"> • Essays • Assigned Questions • Homework 	

Martensdale-St. Marys Community School

Science Curriculum

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

Grade: Chemistry

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can understand and apply the process and skills of scientific inquiry.	<ul style="list-style-type: none"> <i>i.</i> Identify questions and concepts that guide scientific investigations. (HN) (MCGF) <i>ii.</i> Design and conduct scientific investigations. <i>iii.</i> Understand about scientific inquiry. <i>iv.</i> Use technology and mathematics to improve investigations and communications. (T) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Lab Report 	
B. Students can analyze and interpret scientific information.	<ul style="list-style-type: none"> <i>i.</i> Formulate and revise scientific explanations and models using logic and evidence. <i>ii.</i> Recognize and analyze alternative explanations and models. <i>iii.</i> Communicate and defend a scientific argument. (PS) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Lab Report • Drill and Practice 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Chemistry

<i>Benchmarks: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and predictions from data.	N/A			
B. Students can analyze scientific investigations.				
C. Students can analyze and evaluate the adequacy and accuracy of information.				

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Chemistry

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and predictions from data. B. Students can analyze scientific investigations. C. Students can analyze and evaluate the adequacy and accuracy of information.	N/A			

***Martensdale- St. Marys Community School
Science Curriculum***

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

Grade: Chemistry

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
<p>A. Students can make inferences and inferences and predictions from data.</p> <p>B. Students can analyze scientific information.</p> <p>C. Students can analyze and evaluate the adequacy and accuracy of information.</p>	<p>i. Understand and apply knowledge of the structure of atoms. (HN)</p> <p>ii. Understand and apply knowledge of the structure and properties of matter. (C)</p> <p>iii. Understand and apply knowledge of chemical reactions. (C) (MCGF)</p> <p>iv. Understand and apply knowledge of conservation of energy and increase in disorder.</p> <p>v. Understands and applies knowledge of interactions of energy and matter. (G)</p>	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Discussion • Case Studies • Experimental Inquiry • Problem Solving 	<ul style="list-style-type: none"> • Essay • Assigned Questions • Homework • Lab Reports • Drill and Practice 	

Martensdale-St. Marys Community School

Science Curriculum

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

Grade: Ecology

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can understand and apply the process and skills of scientific inquiry.	<ul style="list-style-type: none"> <i>i.</i> Identify questions and concepts that guide scientific investigations. <i>ii.</i> Design and conduct scientific investigations. <i>iii.</i> Understand about scientific inquiry. <i>iv.</i> Use technology and mathematics to improve investigations and communications. (T) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Project • Report 	
B. Students can analyze and interpret scientific information.	<ul style="list-style-type: none"> <i>i.</i> Formulate and revise scientific explanations and models using logic and evidence. <i>ii.</i> Recognize and analyze alternative explanations and models. <i>iii.</i> Communicate and defend a scientific argument. (PS) (G) (MCGF) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Project • Report • Drill and Practice 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Ecology

<i>Benchmarks: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
<p>A. Students can make inferences and predictions from data.</p> <p>B. Students can analyze scientific investigations.</p> <p>C. Students can analyze and evaluate the adequacy and accuracy of information.</p>	<p><i>i.</i> Understand and apply knowledge of the molecular basis of heredity.</p> <p><i>ii.</i> Understand and apply knowledge of biological evolution.</p> <p><i>iii.</i> Understand and apply knowledge of the inter-dependence of organisms. (C)</p> <p><i>iv.</i> Understand and apply knowledge of matter, energy, and organization in living systems.</p> <p><i>v.</i> Understand and apply knowledge of the behavior of organisms. (G) (HN) (MCGF)</p>	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Discussion • Case Studies • Experimental Inquiry • Panels 	<ul style="list-style-type: none"> • Peer Review • Essays • Assigned Questions • Homework • Lab. Report • Project 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Ecology

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and predictions from data. B. Students can analyze scientific investigations. C. Students can analyze and evaluate the adequacy and accuracy of information.	<i>i.</i> Understand and apply knowledge of energy in the earth system. <i>ii.</i> Understand and apply knowledge of Geochemical cycles. <i>iii.</i> Understand and apply knowledge of the origin and evolution of the earth system.	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Discussion • Case Studies • Experimental Inquiry • Panels 	<ul style="list-style-type: none"> • Peer Review • Essays • Assigned Questions • Homework • Lab Report • Project 	

***Martensdale- St. Marys Community School
Science Curriculum***

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

Grade: Ecology

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and predictions from data.	N/A			
B. Students can analyze scientific information.				
C. Students can analyze and evaluate the adequacy and accuracy of information.				

Martensdale-St. Marys Community School

Science Curriculum

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

Grade: Physics

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can understand and apply the process and skills of scientific inquiry.	<ul style="list-style-type: none"> <i>i.</i> Identify questions and concepts that guide scientific investigations. <i>ii.</i> Design and conduct scientific investigations. <i>iii.</i> Understand about scientific inquiry. (C) <i>iv.</i> Use technology and mathematics to improve investigations and communications. (T) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Lab Report 	
B. Students can analyze and interpret scientific information.	<ul style="list-style-type: none"> <i>i.</i> Formulate and revise scientific explanations and models using logic and evidence. <i>ii.</i> Recognize and analyze alternative explanations and models. <i>iii.</i> Communicate and defend a scientific argument. (PS) 	<ul style="list-style-type: none"> • Structured Overview • Case Studies • Experimental Inquiry 	<ul style="list-style-type: none"> • Lab Report • Drill and Practice 	

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Physics

<i>Benchmarks: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
A. Students can make inferences and predictions from data.	N/A			
B. Students can analyze scientific investigations.				
C. Students can analyze and evaluate the adequacy and accuracy of information.				

***Martensdale-St. Marys Community School
Science Curriculum***

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

Grade: Physics

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
<p>A. Students can make inferences and predictions from data.</p> <p>B. Students can analyze scientific investigations.</p> <p>C. Students can analyze and evaluate the adequacy and accuracy of information.</p>	<p><i>i.</i> Understand and apply knowledge of energy in the earth system. (C)</p> <p><i>ii.</i> Understand and apply knowledge of the origin and evolution of the earth system.</p> <p><i>iii.</i> Understand and apply knowledge of the origin and evolution of the universe. (HN)</p>	<ul style="list-style-type: none"> • Structured Overview • Discussion • Case Studies • Problem Solving • Tutorial Groups 	<ul style="list-style-type: none"> • Learning Journals • Essay • Report 	

***Martensdale- St. Marys Community School
Science Curriculum***

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

Grade: Physics

<i>Benchmark: The student will:</i>	<i>Grade Level Objectives</i>	<i>Instructional Strategies</i>	<i>Assessments</i>	<i>Instructional Timeline</i>
<p>A. Students can make inferences and predictions from data.</p> <p>B. Students can analyze scientific information.</p> <p>C. Students can analyze and evaluate the adequacy and accuracy of information.</p>	<p>i. Understand and apply knowledge of motions and forces. (T)</p> <p>ii. Understand and apply knowledge of conservation of energy and increase in disorder. (T)</p> <p>iii. Understands and applies knowledge of interactions of energy and matter. (T) (MCGF)</p>	<ul style="list-style-type: none"> • Structured Overview • Peer Partner Learning • Experimental Inquiry • Problem Solving • Discussion 	<ul style="list-style-type: none"> • Drill and Practice • Essay • Assigned Questions • Homework 	