

## Diocese of Knoxville Science Curriculum Standards: Grade 3 through Grade 5

THIRD GRADE (3 <sup>rd</sup> )							
Physical Science							
PS3.1: Matter and Its Interactions							
Essential Question: How can matter be observed, measured, described and changed?							
Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
PS3.1.1 Matter	Develop a model of matter (solids, liquids, and gases) to describe that matter is made up of particles too small to be seen and can be classified using observations of their properties (hardness, flexibility, visibility, holds a shape or takes shape of container, has mass). (ETS1)	<p><b>RI.3.1</b> Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as a basis for the answers.</p> <p><b>W.3.7</b> Perform short, focused research projects that build knowledge about a topic.</p> <p><b>M.3</b> Reason abstractly and quantitatively</p> <p><b>M.3.5.5</b> Measure and estimate liquid volumes and masses of objects using standard units of grams, kilograms, liters. Add subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g. by using drawings to represent the problem.</p>			mass		
PS3.1.2 Physical and Chemical Changes of Matter	Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	<p><b>RI.3.8</b> Describe the logical connection between particular sentences and paragraphs in a text.</p> <p><b>W.3.8</b> Recall experiences or gather information from provided sources (print and</p>					

		digital) to answer a question or write a response. Take brief notes on sources and sort evidence into provided outlined categories.					
PS3.1.3 Matter	Interpret data from observations and measurements to describe and compare the physical properties of matter including length, mass, temperature, and volume.	RI.3.3 Describe the logical connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. RI.3.8 Describe the logical connection between particular sentences and paragraphs in a text. SL3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.					

**Grade 3 PS3.2**

**Motion and Stability: Forces and Interactions**

**Essential Question: What are the causes and effects of magnetic force?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary/ Scientists	Assessment/Content Notes	Date Taught
PS3.2.1 Force Between Magnets	Conduct an investigation to determine the cause and effect relationship of magnets; the distance between objects affects the strength of the force and the orientation affects the direction of the magnetic force	M.3.1 Reason abstractly and quantitatively W.3.8 Recall information from experiences or gather information from print and digital sources, take brief notes on sources and sort evidence into provided categories.					
PS3.2.2 Solving Problems Using	Solve a design problem by applying the use of the interactions between two magnets. (ETS1)	W.3.8 Recall information from experiences or gather information from print and digital sources, take brief				Examples of problems could include constructing a latch to keep a door shut and creating a device to keep tow	

<b>Magnets</b>		<b>notes on sources and sort evidence into provided categories.</b>				moving objects from touching each other.	
<b>PS3.2.3 Motion &amp; Stability</b>	<b>Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.</b>	<b>SL3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.</b> <b>RI.3.8 Describe the logical connection between particular sentences and paragraphs in a text. (e.g., comparison, cause/effect, first/second/third in a sequence)</b> <b>W.3.7 Conduct short research projects that build knowledge about a topic</b>				Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all. Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it but they add to give zero net force on the object.	
<b>PS3.2.3A Motion &amp; Stability</b>	<b>Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.</b>	<b>SL3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.</b> <b>RI.3.8 Describe the logical connection between particular sentences and paragraphs in a text. (e.g., comparison, cause/effect, first/second/third in a sequence)</b>				Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and 2 children on a see-saw.	
<b>PS3.2.3B Motion &amp; Stability</b>	<b>Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</b>	<b>SL3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.</b>				Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between 2 permanent magnets, the force between an electromagnetic and steel paperclips, and the	

						force exerted by one magnet versus the force exerted by 2 magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.	
<b>PS3.2.3A Motion &amp; Stability</b>	<b>Conduct an investigation to determine the cause and effect relationship of magnets; the distance between objects affects the strength of the force and the orientation affects the direction of the magnetic force. (ETS1) (ETS2)</b>						

**Grade 3  
PS3.3  
Energy  
Essential Question: How is energy transferred between objects through the use of electricity or magnets?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>PS3.3.1 Static Electricity</b>	<b>Observe and predict that energy can be transferred from place to place using static electricity.</b>						
<b>PS3.3.2 Energy</b>	<b>Apply scientific ideas to design, test, and refine a device that converts energy from one form (heat, light, sound, and motion) to another using open or closed circuits. (ETS1) (ETS2).</b>						
<b>PS3.3.3 Energy</b>	<b>Ask testable questions and make predictions about the changes in motion and position that occur when magnets exert forces on other magnets, causing energy</b>	<b>SL.3.3 Ask and answer questions about information from a speaker RI. 3.1 Ask and answer questions to demonstrate</b>					

	transfer between them even when the objects are not touching.	understanding of a text, referring explicitly to the text as a basis for the answers.					

**Grade 3**  
**II. Life Science**  
**LS3.1 From Molecules to Organisms: Structures and Processes**  
**Essential Question: What structures enable organisms to survive in their environment?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
LS 3.1.1 Structural Adaptations	Construct an argument that aquatic and land animals, plants, and algae have internal and external structures that function to support survival, growth, behavior, and reproduction.	RI.3.7 Use information gained from illustrations (e.g. maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where when, why, and how key events occur). SL.3.6 Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace, add visual displays when appropriate to emphasize or enhance certain facts or details. M.3. Number and operations in base 10. Number and operations in fractions				Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. Changes organisms go through during their life form a pattern.	
LS3.1.2 Life cycles	Identify the different life stages through which plants and animals pass.						

**Grade 3**  
**LS3.2: Ecosystems**  
**Interactions, Energy and Dynamics**  
**Essential Question: Why do animals form groups?**

Code	Standards & Objectives	Literacy & Math Standards	Resources Activities	Catholic Identity	Academic Vocabulary	Assessment/Content Notes	Date Taught
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					<b>&amp; Scientists</b>	
<b>LS 3.2.1 Populations and Communities</b>	<b>Construct an argument to explain why some animals benefit from forming groups.</b>	<b>RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. RI.3.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons. M.3.1 Model with mathematics M.3 Number and operations in base ten.</b>				Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size.

**Grade 3**  
**LS3.3 Heredity: Inheritance and Variation of Trait**  
**Essential Question: Where do organisms get their unique characteristics?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy and Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>LS3.3.1 Heredity</b>	<b>Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exist in a group of similar organisms.</b>	<b>RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea. RI.3.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using</b>				Patterns as the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.	

		<p>language that pertains to time, sequence, and cause/effect.</p> <p><b>W.3.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</b></p> <p><b>SL.3.4 Report on a topic, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.</b></p> <p><b>M.3. Reason abstractly and quantitatively.</b></p> <p><b>M.3.2 Model with mathematics</b></p> <p><b>M.3.3.1 Construct and analyze frequency tables, scaled bar graphs, pictographs, and line plots from a data set with several categories. (Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.</b></p>					
<b>LS3.3.2 Heredity</b>	<b>Use evidence to support the explanation that traits can be influenced by the environment.</b>	<p><b>RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.</b></p> <p><b>RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.</b></p> <p><b>RI.3.3 Describe the relationship between a series of historical events, scientific ideas or</b></p>				Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and a pet dog that is given too much food and little exercise may become overweight.	

		<p>concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.</p> <p><b>W.3.2</b> Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <p><b>SL.3.4</b> Report on a topic, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.</p> <p><b>M.3.</b> Reason abstractly and quantitatively.</p> <p><b>M.3.2</b> Model with mathematics</p> <p><b>M.3.3.1</b> Construct and analyze frequency tables, scaled bar graphs, pictographs, and line plots from a data set with several categories. (Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.</p>					
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**Grade 3**  
**LS3.4: Biological Change: Unity and Diversity**  
**Essential Question: How do changes in ecosystems effect the survival of living organisms?**

Code	Standards & Objectives	Literacy and Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
LS3.4.1	Analyze and interpret data from fossils to provide evidence of the organisms	RI.3.1 Ask and answer questions to demonstrate understanding of a text,				Examples of data could include type, size, and distributions of fossil	

	<p><b>and the environments in which they lived long ago.</b></p>	<p>referring explicitly to the text as the basis for the answers.  <b>RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.</b>  <b>RI.3.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.</b>  <b>W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons.</b>  <b>W.3.2 Write informative/explanatory pieces or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.</b>  <b>SL.3.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.</b>  <b>M.3. Reason abstractly and quantitatively.</b>  <b>M.3.2 Model with mathematics</b>  <b>M.3.3.1 Construct and analyze frequency tables, scaled bar graphs, pictographs, and line plots from a data set with several categories. (Generate measurement data by measuring lengths using rulers marked with halves and fourths</b></p>				<p>organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.</p>	
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		of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. <b>M.3.5 Use appropriate tools strategically.</b>					
<b>LS3.4.1 A Survival</b>	Use evidence to support the explanation that some kinds of animals survive well, survive less well, and some cannot survive at all in an environment that has changed.						
<b>LS3.4.2 Plant and Animal Adaptations</b>	Engage in an argument from evidence that plants and animals have adaptations to help them survive in land and aquatic biomes.					Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages I surviving, finding mates, and reproducing. Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.	
<b>LS3.4.3 Effects of Biodiversity Changes</b>	Use text evidence to construct an explanation for the idea that when an environment’s biodiversity changes it will influence human’s resources					Examples of environmental changes could include changes in land characteristics, water distribution, temperature,	

	such as food, energy, and medicine.					food, and other organisms.	
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**Grade 3**  
**III. Earth and Space Science**

**ESS3.1**  
**Essential Question: What are the ways in which planets are categorized by their physical properties?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
ESS3.1.1 Planets	Use data and categorize the planets in the solar system by their physical properties.						

**Grade 3**  
**ESS3.2: Earth's Systems**

**Essential Question: What is the relationship between the water cycle, weather, and climate?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
ESS3.2.1 Water Cycle	Explain how different forms of water (vapor, rain, ice, snow) are related to weather and temperature.	RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.					
ESS3.2.2 Types of Clouds	Associate major cloud types (stratus, cumulus, cirrus, cumulonimbus) with particular weather conditions.	W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.					
ESS3.2.3	Collect and analyze data	RI.3.9 Compare and contrast					

<p><b>Predicting Weather</b></p>	<p>(average temperature, precipitation, wind direction, wind speed) to describe and predict weather and climate using tables, graphs and tools (thermometer, rain gauge, wind vane, anemometer).</p>	<p>the most important points and key details presented in two texts on the same topic.  <b>M.3.3.1</b> Construct and analyze frequency tables, scaled bar graphs, pictographs, and line plots from a data set with several categories. (Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.  <b>M.3.5</b> Use appropriate tools strategically.  <b>M.3.2</b> Measure and estimate liquid volumes and masses of objects using standard units of grams, kilograms, and liters. Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g. by using drawings to represent the problem.</p>					
<p><b>ESS3.2.4 Climates</b></p>	<p>Synthesize weather data to describe climates (polar, temperate, and tropical) in different regions of the world.</p>	<p><b>M.3.2</b> Measure and estimate liquid volumes and masses of objects using standard units of grams, kilograms, and liters. Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g. by using drawings to represent the</p>					

		<b>problem</b> <b>W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.</b>					
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**Grade 3**  
**ESS3.3: Earth and Human Activity**  
**Essential Question: How do natural disasters impact humans and the environment?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
ESS3.3.1 Impact of Natural Disasters	Research and design a model to explain how natural disasters (fires, landslides, earthquakes, volcanic eruptions, floods) impact humans and the environment.	W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons. W.3.7 Conduct short research projects that build knowledge about a topic					
ESS3.3.2 Effects of Natural Disasters	Design and test solutions to reduce the impact of natural disasters (fires, landslides, earthquakes, volcanic eruptions, floods) on the environment. (ETS1)					Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.	

**Grade 3**  
**IV. Engineering, Technology and Applications of Science**  
**ETS3.1: Engineering Design**  
**Essential Question: How do scientists investigate questions?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
ETS3.1.1 Identify a Real-World Problem	Define a simple design problem reflecting a need or a want that includes specified criteria for success and limits on materials, time, or cost that a potential						

	<b>solution must meet.</b>						
<b>ETS3.1.2 Designing Solutions to a Real- World Problem</b>	<b>Create a plan with peers and utilize information (Internet research, market research, and field observations) to test and solve a problem.</b>						

**Grade 3**  
**ETS3.2: Links Among Engineering, Technology, Science and Society**  
**Essential Question: How can technology help us?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>ETS3.2.1 Use of Technology</b>	<b>Identify and demonstrate how technology can be used for different purposes. (radio, cell phone).</b>						

**FOURTH GRADE (4<sup>th</sup>)**

**I. Physical Science**  
**PS4.3.1 Energy**  
**Essential Question: What are some forms of energy?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>PS4.3.1 Speed and Energy</b>	<b>Use evidence to explain the cause and effect relationship between the speed of an object and the energy of an object.</b>	<b>RI.4.1 Refer to details in a text when explaining what the text says explicitly and when drawing inferences from the text. RI.4.3 Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on</b>					

		<p>specific information in the text.</p> <p><b>RI.4.9 Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</b></p> <p><b>W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</b></p> <p><b>W.4.14 Recall relevant information from experiences or gather information from print and digital sources; take notes and categorize information, and provide a list of sources</b></p> <p><b>W.4.15 Draw evidence from literary or information texts to support analysis, reflection, and research.</b></p>					
<b>PS4.3.2 Potential and Kinetic Energy</b>	<b>Observe and explain the relationship between potential energy and kinetic energy.</b>	<p><b>W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic.</b></p> <p><b>W.4.14 Recall relevant information from experiences or gather information from print and digital sources; take notes and categorize information, and provide a list of sources</b></p>					
<b>PS4.3.3 Types of Energy</b>	<b>Ask questions and predict outcomes about the changes in energy (motion, position, sound, heat) that occur when objects collide.</b>	<b>W.4.14 Recall relevant information from experiences or gather information from print and digital sources; take notes and categorize information, and provide a list of sources</b>				Emphasis is on the change in speed, not on the forces, as objects interact.	

**Grade 4**  
**PS4.4 Waves and their Application in Technologies for Information, Transfer**  
**Essential Question: How does energy travel?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
PS4.4.1 How Sound Waves Travel	Develop a model of a simple wave to communicate that waves travel in regular patterns of motion and use the model to explain how waves can differ in amplitude and wavelength.	<p><b>RI.4.1</b> Refer to details in a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p><b>RI.4.3</b> Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.</p> <p><b>RI.4.9</b> Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</p> <p><b>W.4.2</b> Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <p><b>W.4.14</b> Recall relevant information from experiences or gather information from print and digital sources; take notes and categorize information, and provide a list of sources</p> <p><b>W.4.15</b> Draw evidence from literary or information texts to support analysis, reflection, and research</p>					

		<b>M4.1.7 Solve multi-step word problems posed with whole numbers and having whole numbers using the four operations including problems in which remainders must be interpreted. Represent these problems with equations with a letter standing for an unknown quantity.</b>					
<b>PS4.4.2 How Light Waves Travel</b>	<b>Develop a model to demonstrate that light must bounce off an object and enter the eye for the object to be seen.</b>	Same as above <b>M.4 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.</b>					
<b>PS4.4.3 Tech. and the Human Senses</b>	<b>Research how technologies enhance human senses.</b>	<b>W.4.13 Perform short, focused research projects that build knowledge through investigation of different aspects of a topic.</b>					

**II. Life Science**  
**LS4.1 From Molecules to Organisms: Structures and Processes**  
**Essential Question: How are living things adapted to their environment?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>LS4.1.1 Structures and Functions of Plants and Animals (Writing)</b>	<b>Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</b>	<b>W.4.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</b>				Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.	

**Grade 4**  
**LS4.2 Ecosystems: Interactions, Energy, and Dynamics**  
**Essential Question: How do organisms survive and interact with the environment?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
4LS4.2.1 Photosynthes is	Support an argument with evidence that plants get the materials they need for growth and reproduction chiefly through a process in which they use carbon dioxide from the air, water, and energy from the sun to produce sugars, plant materials, and waste (oxygen).	SL.4.5 Use audio recordings and visual displays to presentations when appropriate to enhance the development of the main idea or themes.					
LS4.2.2 Food Chains	Develop models of terrestrial and aquatic food chains to describe the movement of matter among producers, herbivores, carnivores, omnivores, and decomposers.	M.4 Model with mathematics					
LS4.2.3 Food Webs	Obtain information about the roles of organisms (producers, consumers, decomposers), evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.	W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic. W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources W.4.9 Draw evidence form literary or informational texts to support analysis, reflection, and research.					
LS4.2.4 Ecosystems	Develop and use models to determine the effects of introducing a species to, or removing a species from, an	M.4 Reason abstractly and quantitatively					

	ecosystem and how either one can damage the balance of an ecosystem.						
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**Grade 4**  
**LS4.4 Biological Change: Unity and Diversity**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
LS4.4.1 Fossils	1) Build on prior knowledge about what is a fossil, and ways a fossil can provide information about the past and changes through time.	W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic. W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources W.4.9 Draw evidence form literary or informational texts to support analysis, reflection, and research. M.4 Reason abstractly and quantitatively				Identify evidence from patterns in rock formation and fossils in rock layers to support an explanation for changes in a landscape over time. Examples of evidence from patterns could include rock layers and marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut though the rock.	

**Grade 4**  
**III. Earth and Space Science**  
**ESS4.1: Earth’s Place in the Universe**  
**Essential Question: How do the Sun, Earth, and Moon interact?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
ESS4.1.1 Earth, Moon, and Sun Patterns	Use a model to explain how the orbit of the Earth, moon, and sun cause observable patterns: a. day and night; b. changes in length and direction of	M.4 Model with mathematics					

	shadows over a day.						
<b>Grade 4</b> <b>ESS4.2 Earth Systems</b> <b>Essential Question: How does the Earth change over time?</b>							
Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
ESS4.2.1 Weathering and Erosion	Generate and support a claim with evidence that over long periods of time erosion (weathering and transportation) and deposition have changed landscapes and created new landforms.	RI.4.5 Describe the overall structure (e.g. chronology, comparison, cause/effect, problem/solution of events ideas, concepts or information in a text. W.4.1.2 Provide reasons that are supported by facts and details. W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic.					
ESS4.2.2 Mechanical Weathering	Make observations and analyze data to provide evidence that rocks, soils, and sediments are broken into smaller pieces through mechanical weathering (frost wedging, abrasion, tree root wedging) and are transported by water, ice, wind, gravity, and vegetation.	RI.4.5 Describe the overall structure (e.g. chronology, comparison, cause/effect, problem/solution of events ideas, concepts or information in a text. RI.4.7 Interpret information presented visually, orally, or quantitatively (e.g. charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages). W.4.1.2 Provide reasons that are supported by				Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycle of heating and cooling, and volume of water flow.	

		facts and details. M.4.4.1 Know relative sizes of measurement units within one system of units and record measurement equivalents in a two column table.					
ESS4.2.3 Earth's Physical Features	Analyze and interpret maps of Earth's mountain ranges, deep ocean trenches, and the placement of volcanoes and earthquakes to describe patterns of these features and their locations relative to boundaries between continents and oceans.	M.4.4.2 Use the four operations to solve word problems involving distance, intervals of time, liquid volumes, masses of objects, and money including simple fractions and decimals, and problems that require measurements given in a larger unit in terms of a smaller unit. .Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.				Maps can include topographic maps of Earth's land and ocean floor, as well as, maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.	
ESS4.2.4 Ecosystems (Writing) *addressed in standard LS4.2.4	Construct scientific arguments to support a claim that living things affect the physical characteristics of their regions.						
ESS4.2.5 Layers of the Earth	Identify the four layers of the Earth (crust, mantle, outer core and inner core) and the thickness, composition and physical states of these layers						
<b>Grade 4</b> <b>ESS4.3: Earth and Human Activity</b> <b>Essential Question: How do nature and humans affect the environment?</b>							
<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>

					<b>&amp; Scientists</b>		
<b>ESS4.3.1 Renewable and Non- Renewable Resources</b>	<b>Obtain and combine information to describe that energy and fuels are derived from natural resources and that some energy and fuel sources are renewable (sunlight wind, water) and some are not (fossil fuels, minerals).</b>	<b>RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</b>				Examples of renewable energy resources could include wind energy, water behind dams, and sunlight; nonrenewable energy resources are fossil fuels and fissile materials. Examples of environmental effects could include loss of habitat due to dams, loss of habitat due to surface mining, and air pollution from burning of fossil fuels.	
<b>ESS4.3.2 Humans Impacting the Earth</b>	<b>Research and explain how human activity (farming, mining, and building) can affect the land and ocean in positive and negative ways.</b>	<b>W.4.7. Conduct short research projects that build knowledge through investigation of different aspects of a topic. RI.4.9 Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</b>					
<b>ESS4.3.3 Natural Disasters</b>	<b>Evaluate the design of a solution (earthquake resistant building, improved monitoring of volcanic activity) on its potential to reduce the impacts of an earthquake, flood, tsunami, or volcanic eruption on humans.</b>						

**Grade 4  
IV. Engineering, Technology and Applications of Science  
ETS4.1: Engineering Design  
Essential Question: How do we solve scientific problems?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
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						<b>&amp; Scientists</b>	
<b>ETS4.1.1</b> <b>Solve a Problem</b>	<b>Generate several possible solutions to a design problem. Compare each solution based on how well each is likely to meet the criteria and constraints of the design problem.</b>						
<b>Grade 4</b>							
<b>ETS4.2: Links Among Engineering, Technology, Science, and Society</b>							
<b>Essential Question: How do tools and technology improve science methods and investigations?</b>							
<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>ETS4.2.1</b> <b>Appropriate Tools and Measurements</b>	<b>Use appropriate tools and measurements to design and build a model to answer a scientific question or to explain phenomena.</b>						
<b>ETS4.2.2</b> <b>Scientific Process</b>	<b>Determine the effectiveness of multiple solutions to a design problem given the criteria and the constraints.</b>						
<b>ETS4.2.3</b> <b>Technology Improvements</b>	<b>Explain how engineers have improved existing technologies to increase their benefits, to decrease known risks, and to meet societal demands (artificial limbs, seatbelts, cell phones).</b>						
<b>FIFTH GRADE (5<sup>th</sup>)</b>							
<b>I. Physical Science</b>							
<b>PS5.1: Matter and Its Interactions</b>							
<b>Essential Question: How can properties of matter change as a result of interactions with energy or other types of matter?</b>							
<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>PS5.1.1</b>	<b>Analyze and interpret data from</b>	RI.5.7 Draw on information				Develop a model to describe	

<p><b>Changes of State</b></p>	<p><b>observations and measurements of the physical properties of matter to explain the common phenomena involving phase changes between a solid, liquid or gas.</b></p>	<p>from multiple print or digital sources demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.  W.5.7. Conduct short research projects that use several sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.  W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.  M.5 Reason abstractly and quantitatively  M.5 Model with mathematics  M.NBT.5.1 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10  M.NBT5.8.7 Apply and extend previous understanding of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p>				<p>that matter is made of particles too small to be seen. Examples of evidence could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, and evaporating salt water.</p>	
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		<p>M.MD.5.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05m). And use these conversions in solving multi-step, real-world problems.</p> <p>M.D.5.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <p>M.D5.4 Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft., and improvised units.</p> <p>M.P.5. Use appropriate tools strategically</p>					
<b>PS5.1.2 Conservation of Matter</b>	<b>Design an experiment to determine that the amount of matter (mass) is conserved when it changes form, even in transitions that seem to vanish</b>	<p>M.5 Model with mathematics</p> <p>M.MD.5.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05m). And use these conversions in solving multi-step, real-world problems.</p> <p>W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.</p>				<p>The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. Examples of reactions or changes could include phase changes, dissolving, and mixing that form new substances.</p>	
<b>PS5.1.3 Solubility</b>	<b>Design and conduct controlled scientific investigations to test how different variables</b>	<p>M.P.5. Use appropriate tools strategically</p> <p>M.5 Model with mathematics</p>				<p>Make observations and measurements to identify materials based on their</p>	

	(temperature, particle size, and stirring) affect the rate of dissolving solids into liquids.	W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.				properties. Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.	
<b>PS5.1.4 Experiment Mixing Substances</b>	<b>Plan and conduct an investigative experiment to determine whether the mixing of two or more substances results in new substances with new properties.</b>	W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.					

**PS5.2: Motion and Stability: Forces and Interactions**  
**Essential Question: How do forces interact to produce motion?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>PS5.2.1</b>	<b>Plan and conduct controlled scientific investigations to test the effects of balanced and unbalanced forces on the speed and direction of motion of objects.</b>	RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.					
<b>PS5.2.2</b>	<b>Make observations and</b>	W.5.1 Write opinion pieces					

<b>Motion</b>	<b>measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.</b>	on topics or texts, supporting a point of view with reasons and information.					
<b>PS5.2.3 Gravitational Force</b>	<b>Explain the cause and effect relationship of two factors (mass and distance) that affect gravity.</b>					Support an argument that the gravitational force exerted by Earth on objects is directed down. "Down" is a local description of the direction that points toward the center of the spherical Earth.	
<b>PS5.2.5 Pattern of Change</b>	<b>Explain a system's pattern of change as it moves in one direction (ball rolling down a hill), shifts back and forth (swinging pendulum), or goes through cyclical patterns (day and night).</b>						

**Grade 5**  
**II. Life Science**

**LS5.1 From Molecules to Organisms: Structures and Processes**  
**Essential Question: How do animals process information using their basic structures?**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>LS5.1.1 Information Processing</b>	<b>Construct an argument that animals receive different types of information through their senses, process the information, and store some information as memories to guide their actions.</b>	RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information.					

		M.P.2 Reason abstractly and quantitatively.					
<b>LS5. 1.2 Structures and Functions of Cells</b>	<b>Distinguish between the basic structures and functions of plant and animals cells.</b>	M.P.5. Use appropriate tools strategically M.5 Model with mathematics					
<b>LS5.1.3 Body Systems</b>	<b>Describe the basic human body structures and their functions.</b>	RI.5.7 Draw on information from multiple print or digital sources demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. W.5.7. Conduct short research projects that use several sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.					
<b>LS5.2: Ecosystems: Interactions, Energy, and Dynamics</b>							
<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
LS5.2.1	<b>Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</b>	RI. 5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. SL.5.5 Include multimedia				Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food, Examples of	

		components (e.g., graphics sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.				systems could include organisms, ecosystems, and the Earth.	
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**LS5.3: Heredity: Inheritance and Variation of Traits**  
**Essential Question: How does the environment and heredity determine the characteristics of living organisms?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
LS5.3.1 <b>Inherited and Acquired Traits</b>	<b>Distinguish between inherited characteristics and those characteristics that result from a direct interaction with the environment. Apply this concept by giving examples of characteristics of living organisms that are influenced by both inheritance and the environment.</b>	RI.5.7 Draw on information from multiple print or digital sources demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. W.5.7. Conduct short research projects that use several sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.					
LS5.3.2 <b>Inherited Traits</b>	<b>Provide evidence, including through the analysis of data that plants and animals have traits inherited from parents and that variations of these traits exist in a group of similar organisms.</b>	M.5 Model with mathematics M.MD.5.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05m). And use these conversions in solving multi-step, real-world					

problems.  
W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

**LS5.4: Biological Change: Unity and Diversity**  
**Essential Question: How and why have organisms changed over time?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
LS5.4.1 Fossils	Analyze and interpret data from fossils to describe types of organisms and their environments that existed long ago, compare similarities and differences of those to living organisms and their environments, and recognize that most kinds of animals (and plants) that once lived on Earth are now extinct.						
LS5.4.2 Adaptations	Use evidence to construct an explanation for how variations in characteristics among individuals within the same species may provide advantages to these individuals in their survival and reproduction.	W.5.7. Conduct short research projects that use several sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.					
LS5.4.3 Interdependence	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.						

**III. Earth and Space Science**  
**ESS5.1: Earth's Place in the Universe**  
**Essential Question: What is the earth's place in the universe, and how does the earth interact with the bodies surrounding it?**

Code	Standards & Objectives	Literacy & Math Standards	Resources	Catholic Identity	Academic Vocabulary & Scientists	Assessment/Content Notes	Date Taught
ESS5.1.1 <b>Apparent Brightness</b>	<b>Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.</b>	RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. W.5.1 Write opinion pieces on topics or texts,					
ESS5.1.2 <b>Galaxies</b>	<b>Research and illustrate that the Earth and the solar system are part of the Milky Way galaxy, and compare the Milky Way to other galaxies in the universe.</b>	RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. W.5.1 Write opinion pieces on topics or texts, W.5.7. Conduct short research projects that use several sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.					
ESS5.1.3 <b>Bodies In Our Solar System</b>	<b>Use data and categorize different bodies in our solar system including moons, asteroids, comets and meteoroids according to their physical properties and motion.</b>	M.5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context					

		of the situation.					
<b>ESS5. 1.4 Relationship between the Sun, Earth, and Moon</b>	<b>Construct and interpret a model to explain the cause and effect relationship between the positions of the sun, earth, and moon and resulting eclipses, position of constellations, and appearance of the moon (full, new, first quarter, third quarter).</b>						
<b>ESS5.1.5 Earth's Seasons and Days</b>	<b>Relate the tilt of the Earth's axis, as it revolves around the sun, to the varying intensities of sunlight at different latitudes. Evaluate how this causes changes in day-lengths and seasons.</b>						
<b>ESS5.1.6 Constellation s</b>	<b>Use tools to describe how stars and constellations (Ursa Major, Ursa Minor, Polaris, Orion) appear to move from the Earth's perspective throughout the seasons.</b>						
<b>ESS5.1.7 Using Astronomy to Navigate (ETS2)</b>	<b>Construct scientific arguments to support claims about the importance of astronomy in navigation and exploration.</b>						
<b>ESS5.1.8 Rock formations</b>	<b>Use evidence to determine how rock strata were formed using the presence and location of fossils.</b>						

## ESS5.2: Earth Systems

### Essential Question: How is Earth's surface changing over time?

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>ESS5.2.1. Earth's Atmosphere</b>	<b>Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere</b>						

	<b>interact.</b>						
<b>ESS5.2.2 Earth's Geological Features</b>	<b>Compare geologic events and internal forces responsible for the Earth's major geologic features.</b>						
<b>ESS5.2.3 Classifying Rocks and Mineral</b>	<b>Classify rocks and minerals based on their properties and how they were formed.</b>						

**IV. Engineering, Technology and Applications of Science**

<b>Code</b>	<b>Standards &amp; Objectives</b>	<b>Literacy &amp; Math Standards</b>	<b>Resources</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary &amp; Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>ETS5.1.1 Creating Design Solutions</b>	<b>Research, test, and communicate a design solution to a design problem with sufficient precision to ensure a successful solution. Include potential impacts on people and the natural environment that may limit possible solutions.</b>						
<b>ETS5.1.2 Engineering Process</b>	<b>Plan and carry out tests on one or more elements of a model or prototype in which variables are controlled and failure points are considered to identify which elements need to be improved. Apply the results of tests to redesign the model or prototype.</b>						

**ETS5.2: Links Among Engineering, Technology, Science, and Society**  
**Essential Question: How are tools and technology used to construct a prototype or make observations?**

<b>Code</b>	<b>Standards and Objectives</b>	<b>Literacy and Math Standards</b>	<b>Resources/A ctivities</b>	<b>Catholic Identity</b>	<b>Academic Vocabulary/ Scientists</b>	<b>Assessment/Content Notes</b>	<b>Date Taught</b>
<b>ETS5.2.1 Appropriate</b>	<b>Choose and safely use appropriate measuring tools,</b>						

<b>Tools and Measurement</b>	<b>simple hand tools, and fasteners, used to construct a prototype of a new or improved technology</b>						
<b>ETS5.2.2 Tools and Machines in Science</b>	<b>Describe how human beings have made tools and machines (X-ray cameras, microscopes, satellites, and computers) to observe and do things that they could not otherwise sense or do at all, or as quickly or efficiently.</b>						