

Michigan District Lutheran School Curriculum *SCOPE & SEQUENCE*

Grade Level: 2	Curricular Area: Science			
<p><b>Unit 1: Science Processes</b></p> <ul style="list-style-type: none"> <li>• <b>Inquiry and Reflection</b></li> </ul>	<p><b>Unit 2: Physical</b></p> <ul style="list-style-type: none"> <li>• <b>Motion of Objects</b></li> <li>• <b>Energy</b></li> <li>• <b>Properties of Matter</b></li> <li>• <b>Changes in Matter</b></li> </ul>	<p><b>Unit 3: Life</b></p> <ul style="list-style-type: none"> <li>• <b>Organization of Living Things</b></li> <li>• <b>Heredity</b></li> <li>• <b>Evolution</b></li> <li>• <b>Ecosystems</b></li> </ul>	<p><b>Unit 4: Earth</b></p> <ul style="list-style-type: none"> <li>• <b>Solid Earth</b></li> <li>• <b>Earth Systems</b></li> <li>• <b>Fluid Earth</b></li> <li>• <b>Earth in Space and Time</b></li> </ul>	<p><b>Unit 5: Health</b></p>



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**Michigan District Lutheran School Curriculum *Outcomes***

**Curricular Area: Science (2<sup>rd</sup> grade)**

**Unit 1:**

**Science Processes: Inquiry and Reflection**

**Outcomes:**

**R II.1 All students will show how science and technology affect our society.**

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities(I.F.)
<p>S.IR.02.01 Make purposeful observation of the natural world using the five senses.</p> <p>S.IR.02.02 Generate questions based on observations.</p> <p>S.IR.02.03 Plan and conduct simple investigations.</p> <p>S.IR.02.04 Manipulate simple tools that aid observation and data collection.</p> <p>S.IR.02.05 Make accurate measurements with appropriate units for the measurement tool.</p> <p>S.IR.02.06 Construct simple charts and graphs from data and observations.</p> <p>S.IR.02.07 Communicate and present findings of observations.</p> <p>S.IR.02.08 Develop research strategies and skills for information gathering and problem solving.</p> <p>S.IR.02.09 Recognize that science investigations generally work the same way in different places.</p> <p>S.IR.02.10 Recognize that when science investigations are done the same way, very similar results are expected.</p> <p>S.IR.02.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities.</p> <p>S.IR.02.12 Identify technology used in everyday</p>	<p>S.IR.02.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation. Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.</p> <p>S.IR.02.2 Reflecting knowledge is the application of scientific knowledge to new and different situations. Reflecting knowledge requires careful analysis of evidence that guides decision-making and the application of science throughout history.</p>	



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life. S.IR.02.13 Describe the effect humans and other organisms have on the balance of the natural world.		
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**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

<b>Unit Name: Unit 1 Science Processes: Inquiry and Reflection</b>	<b>Curricular Area: Science</b>				
<b>Teacher Name:</b> _____	<b>School Year:</b>				
<b>Grade Level: 2</b>	<b>Dates Taught (month/day/initials):</b>				
<b>Michigan Standards, Benchmark, or <i>GLCE</i></b> <i>(Italics indicate the one used.)</i>					
S.IR.02.01 Make purposeful observation of the natural world using the five senses.					
S.IR.02.02 Generate questions based on observations.					
S.IR.02.03 Plan and conduct simple investigations.					
S.IR.02.04 Manipulate simple tools that aid observation and data collection.					
S.IR.02.05 Make accurate measurements with appropriate units for the measurement tool.					
S.IR.02.06 Construct simple charts and graphs from data and observations.					
S.IR.02.07 Communicate and present findings of observations.					
S.IR.02.08 Develop research strategies and skills for information gathering and problem solving.					
S.IR.02.09 Recognize that science investigations generally work the same way in different places.					
S.IR.02.10 Recognize that when science investigations are done the same way, very similar results are expected.					
S.IR.02.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities.					
S.IR.02.12 Identify technology used in everyday life.					
S.IR.02.13 Describe the effect humans and other organisms have on the balance of the natural world					



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**Unit 2:**

**Physical: Motion of Objects , Energy, Properties of Matter, Changes in Matter**

**Outcomes:**

**1A: Students will recognize that the same material can exist in different states.**

**2A Students will be able to describe the effects of heat and its sources**

**2B Students will be able to describe the sources of light and its property.**

**2C Students know that sounds are caused by vibrations that cause waves.**

**3A Students will understand the types of forces that act on an object and its effects can be demonstrated, measured and predicted.**

**3B Students will understand the affects of gravity**

**3C Students will describe the interaction of magnetic materials with other magnetic/non magnetic materials**

**3D Students will describe how and why things move and how it can be changed.**

**3E Students will identify and use simple machines.**

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities (I.F.)
<p>P.PM.02.14 Describe objects and substances according to their properties.</p> <p>P.PM.02.15 Compare weight and volume of objects.</p> <p>P.PM.02.16 Classify objects as single substances or mixtures.</p>	<p>P.PM.02.1 All objects and substances have physical properties.</p> <p>P.PM.02.4 Some objects are composed of a single substance, while other objects are composed of more than one substance.</p>	<ul style="list-style-type: none"><li>• Thank God for machines and inventors.</li><li>• Tie in with repentance- changing your ways to follow God’s path.</li><li>• Though we can’t see God, we can see what He has done. Link to the fact we can’t see the power of the magnet, but we see its affects.</li><li>• Read about the walls of Jericho tumbling down.</li><li>• Samson pulls the temple pillars down</li><li>• Discuss musical instruments from Bible (David and his lyre, Gideon and the trumpets, Joshua and the horns, etc.)</li><li>• “Blessed are those who hear the word of God and keep it.” Rev. 1:3</li><li>• God leads Moses through desert as pillar of light</li><li>• God creates light</li><li>• Play Amy Grant’s “Thy Word”</li></ul>



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		<ul style="list-style-type: none"><li>• Jesus heals the blind man.</li><li>• Elijah and the prophets of Baal, fire consumed sacrifice.</li><li>• Creation: God made the firmament, water and land.</li></ul>
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**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

<b>Unit Name: Unit 2 Physical: Motion of Objects , Energy, Properties of Matter, Changes in Matter</b> <b>Teacher Name: _____</b> <b>Grade Level: 2</b>		<b>Curricular Area: Science</b>  <b>School Year:</b>			
<b>Michigan Standards, Benchmark, or <i>GLCE</i></b> <i>(Italics indicate the one used.)</i>	<b>Dates Taught</b> (month/day/initials):				
P.PM.02.14 Describe objects and substances according to their properties.					
P.PM.02.15 Compare weight and volume of objects.					
P.PM.02.16 Classify objects as single substances or mixtures.					



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### Unit 3

#### Life: Organization of Living Things, Heredity, Evolution, Ecosystems

##### Outcomes:

- 1A Students will be able to classify living and non-living things
- Students will be able to identify needs, parts and function of plants.
- 2A: Students will be able to identify plants needs.
- 2B Students will be able to identify the parts of plants and their functions.
- 2C Students will understand that plants are adapted to their function in specific environments.
- 2D Students will list ways in which seeds can be spread.
- 2E Students will be able to describe how plants change as they grow and mature.
- 2F Students will name the uses of plants.
- 3A Students will be able to list animals' basic needs.
- 3B Students will be able to give examples of vertebrae characteristics
- 3C Students will identify characteristics of selected invertebrates
- 3D Students will be able to describe how animals change as they grow and mature.
- 3E Students will be able to recognize that animals have specific habitats and ability to adapt to environmental changes
- 4A Students will recognize the ecosystem of salt water
- 4B Students will recognize the ecosystem of fresh water
- 4C Students will recognize the ecosystem of the rainforest
- 4D Students will recognize the ecosystem of the Deciduous and coniferous forests
- 4E Students will recognize the ecosystem of the desert
- 4F Students will recognize the ecosystem of grassland
- 4G Students will recognize the ecosystem of Polar region
- 4H Students will recognize that plants and animals need each other

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities (I.F.)
<p>L.OL.02.17 Identify the needs of familiar plants.</p> <p>L.OL.02.18 Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.</p> <p>L.OL.02.19 Describe the function of the following plant parts, stem, root and leaf.</p>	<p>L.OL.02.1 Animals need air, water, and a source of energy (food). Plants also require air water, and a source of energy (light to make food). Plants and animals break down food to produce growth and repair.</p> <p>L.OL.02.2 Plants and animals have life cycles. Both plants and animals begin life and develop into adults, reproduce, and eventually die. The details of this life cycle are different for different organisms.</p>	<p>Recognize that God showed a plan and a purpose in the order of his creation.</p> <p>Praise God for the beauty and variety of His creation</p> <p>Sing a creation song</p> <p>God created the balance between plants and animals.</p>



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<p>L.OL.02.20 Classify familiar plants on the basis of observable physical characteristics including roots, leaves, stems and flowers.</p> <p>L.EV.02.21 Distinguish characteristics and functions of observable parts in a variety of plants that allow them to live in their environment.</p> <p>L.EV.02.22 Identify individual differences in organisms of the same kind.</p> <p>L.EV.02.23 Explain how physical characteristics (traits) or adaptation of animals (sharp teeth or claws for catching and killing prey or color for camouflage) help them to survive in their environment.</p>	<p>L.OL.02.3 Organisms have different structures that serve different functions in growth, survival and reproduction.</p> <p>L.OL.02.4 Organisms can be classified on the basis of observable characteristics.</p> <p>L.EV.02.1 Different kinds of organisms have characteristics that help them to live in different environments.</p> <p>L.EV.02.2 Individuals of the same kind differ in their characteristics, and sometimes the differences give individuals an advantage in surviving and reproducing.</p>	<p>Lead the children to grow in awe and wonder of God’s creation.</p> <p>Read “3 in 1” by Marxhausen</p> <p>Make a leaf rubbing and write a Bible verse on it.</p> <p>God created a variety of plants to survive in a variety of conditions.</p> <p>Tie in with Matthew 6 (Lilies of the field)</p> <p>Parable of the sower</p> <p>Plant flowers/seeds/bulbs to beautify the church and school grounds.</p> <p>Bring in Middle Eastern foods/goods</p> <p>God provides for all living creatures</p> <p>Have a “pet day” to bring in many of the animals God put in our care.</p> <p>Make a book of animals praising God for His variety.</p> <p>Story of Noah’s ark.</p> <p>Plagues of Moses: flies, gnats, locusts</p> <p>Witness the miracle of watching a frog’s lifecycle. (tadpole to frog)</p> <p>Conduct a nature walk to observe God’s creation of one or more particular habitat</p> <p>Moses parts the Red Sea</p>
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**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

<b>Unit Name: Unit 3 Life: Organization of Living Things, Heredity, Evolution, Ecosystems</b> <b>Teacher Name: _____</b> <b>Grade Level: 2</b>		<b>Curricular Area: Science</b>  <b>School Year:</b>			
<b>Michigan Standards, Benchmark, or <i>GLCE</i></b> <i>(Italics indicate the one used.)</i>	<b>Dates Taught</b> (month/day/initials):				
L.OL.02.17 Identify the needs of familiar plants.					
L.OL.02.18 Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.					
L.OL.02.19 Describe the function of the following plant parts, stem, root and leaf.					
L.OL.02.20 Classify familiar plants on the basis of observable physical characteristics including roots, leaves, stems and flowers.					
L.EV.02.21 Distinguish characteristics and functions of observable parts in a variety of plants that allow them to live in their environment.					
L.EV.02.22 Identify individual differences in organisms of the same kind.					
L.EV.02.23 Explain how physical characteristics (traits) or adaptation of animals (sharp teeth or claws for catching and killing prey or color for camouflage) help them to survive in their environment.					



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**Unit 4: Earth: Solid Earth , Earth Systems, Fluid Earth, Earth in Space and Time**

**Outcomes:**

- 1A Students will be able to identify the different properties of rocks**
- 1B Students will discover that the first layer of the earth is covered with different types of soil.**
- 1C Students will learn that erosion/weathering is a natural, ongoing process.**
- 1D Students will acknowledge that it is necessary to conserve the earth’s resources.**
- 1E Students will realize that fossils give us clues about the past.**
- 1F Students will compare the size and life style of different dinosaurs.**
- 2A – Students will describe weather conditions.**
- 2B – Students will use tools to measure weather.**
- 2C – Students will trace the path of water through the water cycle.**
- 2D – Students will describe the positive and negative effects of humans on the environment.**
- 2E – Students will describe seasonal changes in Michigan weather.**
- 2F – Students will explain safety precautions during severe weather.**
- 4A: Students will learn why there is day and night.**
- 4B Students will learn characteristics of the sun.**
- 4C Students will learn the qualities of the moon.**
- 4D Students will learn what stars are made of.**

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities (I.F.)
<p>E.ES.02.24 Identify the sun as the most important source of heat which warms the land, air, and water of the Earth.</p> <p>E.ES.02.25 Demonstrate the importance of sunlight and warmth in plant growth.</p> <p>E.ES.02.26 Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (cloudy, partly cloudy, foggy) precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm).</p> <p>E.ES.02.27 Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind.</p>	<p>E.ES.02.1 The sun warms the land, air and water and helps plants grow.</p> <p>E.ES.02.2 Weather changes from day to day and over the seasons.</p> <p>E.ES.02.3 Scientists use tools for observing, recording, and predicting weather changes.</p> <p>E.SE.02.3 Earth materials that occur in nature include rocks, minerals, soils, water, and the gases of the atmosphere. Some Earth materials have properties which sustain plant and animal life.</p> <p>E.FE.02.1 Water exists on Earth in three states: liquid, solid, gas. It can go back and forth from one</p>	<ul style="list-style-type: none"> <li>• Sing “Rock of Ages</li> <li>• Parable of the sower</li> <li>• Sing “My Hope is Built on Nothing Less”</li> <li>• Israelites make bricks from mud and hay. Bring in supplies to make these and compare it with/ without the hay.</li> <li>• Joshua and the Levites built a altar before entering the promised land</li> <li>• Jacob uses a rock for a pillow</li> <li>• God wrote the 10 commandments on stone</li> </ul>



<p>E.ES.02.28 Describe severe weather events.</p> <p>E.ES.02.29 Describe precautions that should be taken for human safety during severe weather conditions (thunderstorms, lightning, tornadoes, high winds, blizzards, hurricanes).</p> <p>E.ES.02.30 Identify the tools that might be used to measure temperature, precipitation, cloud cover and wind.</p> <p>E.ES.02.31 Observe and collect data of weather conditions over a period of time.</p> <p>E.SE.02.32 Describe how Earth materials (air, water, soil) help support the growth of plant and animal life.</p> <p>E.FE.02.33 Describe the properties (visible, flowing, melting, dew) of water as a liquid (lakes, rivers, streams, oceans).</p> <p>E.FE.02.34 Describe the properties (hard, visible, freezing, ice) of water as a solid (ice, snow, iceberg, sleet, hail).</p> <p>E.FE.02.35 Describe the properties (invisible) of water as a gas (water vapor).</p>	<p>form to another.</p>	<ul style="list-style-type: none"> <li>• We praise God when we take care of His creation. Clean up playground or school grounds from litter. Collect cans/bottles to go toward chapel offerings.</li> <li>• Dr. Von Fange “<u>Helping Children Understand Genesis and the Dinosaurs</u>”</li> <li>• God led the Israelites by a pillar of cloud during the day.</li> <li>• Jesus ascends beyond the clouds.</li> <li>• “He makes the sun to rise on the good and on the evil, and sends rain on the just and on the unjust” Matt. 5:45</li> <li>• Track the weather in the Middle east and compare to Michigan</li> <li>• He makes the sun to rise on the good and on the evil, and sends rain on the just and on the unjust (Matt. 5:45).</li> <li>• Ecclesiastes 3 – “There is a time and season for everything under Heaven”.</li> <li>• God keeps us safe from storms.</li> <li>• Martin Luther prayed for protection during a storm.</li> <li>• Jesus calms the storm.</li> <li>• Creation Day 1</li> <li>• Give examples of creatures God made that come out at night.</li> </ul>
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		<ul style="list-style-type: none"><li>• Wise men followed the star to Bethlehem</li><li>• Abraham's descendants will be as numerous as the stars in the sky</li><li>• Joseph's dream when the stars bow down to the moon</li><li>• Creation day four</li></ul>
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**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

<b>Unit Name: Unit 4 Earth: Solid Earth , Earth Systems, Fluid Earth, Earth in Space and Time</b> <b>Teacher Name: _____</b> <b>Grade Level: 2</b>		<b>Curricular Area: Science</b>  <b>School Year:</b>			
<b>Michigan Standards, Benchmark, or <i>GLCE</i></b> <i>(Italics indicate the one used.)</i>	<b>Dates Taught</b> (month/day/initials):				
E.ES.02.24 Identify the sun as the most important source of heat which warms the land, air, and water of the Earth.					
E.ES.02.25 Demonstrate the importance of sunlight and warmth in plant growth.					
E.ES.02.26 Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (cloudy, partly cloudy, foggy) precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm).					
E.ES.02.27 Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind.					
E.ES.02.28 Describe severe weather events.					
E.ES.02.29 Describe precautions that should be taken for human safety during severe weather conditions (thunderstorms, lightning, tornadoes, high winds, blizzards, hurricanes).					
E.ES.02.30 Identify the tools that might be used to measure temperature, precipitation, cloud cover and wind.					
E.ES.02.31 Observe and collect data of weather conditions over a period of time.					
E.SE.02.32 Describe how Earth materials (air, water, soil) help support the growth of plant and animal life.					
E.FE.02.33 Describe the properties (visible, flowing, melting, dew) of water as a liquid (lakes, rivers, streams, oceans).					
E.FE.02.34 Describe the properties (hard, visible, freezing, ice) of water as a solid (ice, snow, iceberg, sleet, hail).					
E.FE.02.35 Describe the properties (invisible) of water as a gas (water vapor).					



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**Unit 5:  
Health**

**Outcomes:**

- 5A - Describe the basic structure and function of the human digestive system.**
- 5B - Describe the basic structure and function of the human skeletal and muscular systems.**
- 5C - Describe the basic structure and function of the human circulatory and respiratory systems.**
- 5D - Describe the basic structure and function of the human nervous system.**
- :5E - Recognize that personal behaviors (good nutrition, exercise, sleep and the proper hygiene) influence your health.**

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities (I.F.)
<p>GLCEs found at  <a href="http://www.michigan.gov/mde/0,1607,7-140-28753_33232-156852--,00.html">http://www.michigan.gov/mde/0,1607,7-140-28753_33232-156852--,00.html</a></p>		<p>Conclude that God made all human life and each one of us is unique and wonderful.</p> <p>Give examples of how God made your body parts to work together.</p> <p>Bible verse: Psalm 139:14</p> <p>Give examples of how God made your body parts to work together.</p> <p>Bible verse: Psalm 139:14</p> <p>Give examples of how God made your body parts to work together.</p> <p>Bible verse: Psalm 139:14</p> <p>Give examples of how God made your body parts to work together.</p> <p>Bible verse: Psalm 139:14</p> <p>Express God's desire for us to take care of the body that He has given us.</p> <p>Write a prayer thanking God for food.</p>



		<p>Pray for someone who is sick or thank God for healthy bodies.</p> <p>Exercise to Bible action songs.</p> <p>Bible verse: “ Do you not know that your body is a temple of the Holy Spirit, who is in you, whom you have received from God? You are not your own; you were bought at a price. Therefore honor God with your body." 1 Corinthians 6:19-20</p> <p>Daniel’s diet while in Babylon</p>
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