Michigan District Lutheran School Curriculum *SCOPE & SEQUENCE*

Grade Level: 3	**Curricular Area: Science**			
Unit 1: **Science Processes** • **Inquiry and Reflection**	**Unit 2:** **Physical** • **Motion of Objects** • **Energy** • **Properties of Matter** • **Changes in Matter**	**Unit 3:** **Life** • **Organization of Living Things** • **Heredity** • **Evolution** • **Ecosystems**	**Unit 4:** **Earth** • **Solid Earth** • **Earth Systems** • **Fluid Earth** • **Earth in Space and Time**	**Unit 5:** **Health**

Michigan District Lutheran School Curriculum *Outcomes*

Curricular Area: Science (3rd 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.)**
S.IR.03.01 Make purposeful observation of the natural world using the five senses. S.IR.03.02 Generate questions based on observations. S.IR.03.03 Plan and conduct simple and fair investigations. S.IR.03.04 Manipulate simple tools that aid observation and data collection. S.IR.03.05 Make accurate measurements with appropriate units for the measurement tool. S.IR.03.06 Construct simple charts and graphs from data and observations. S.IR.03.07 Summarize information from data tables and graphs to answer scientific questions. S.IR.03.08 Communicate and present findings of observations and investigations. S.IR.03.09 Develop research strategies and skills	S.IR.03.1 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. S.IR.03.2 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.	•

for information gathering and problem solving. S.IR.03.10 Compare and contrast sets of data from multiple trials of a science investigation, to explain reasons for differences. S.IR.03.11 Use data/samples as evidence to separate fact from opinion. S.IR.03.12 Identify the need for evidence in making scientific decisions. S.IR.03.13 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities. S.IR.03.14 Identify technology used in everyday life. S.IR.03.15 Identify current problems that may be solved through the use of technology. S.IR.03.16 Describe the effect humans and other organisms have on the balance of the natural world. S.IR.03.17 Describe how people have contributed to science throughout history and across cultures.		

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

Unit Name: Unit 1 Science Processes: Inquiry and Reflection **Teacher Name: _____** **Grade Level: 3**	**Curricular Area: Science** **School Year:**				
Michigan Standards, Benchmark, or *GLCE* *(Italics indicate the one used.)*	**Dates Taught (month/day/initials):**				
S.IR.03.01 Make purposeful observation of the natural world using the five senses.					
S.IR.03.02 Generate questions based on observations.					
S.IR.03.03 Plan and conduct simple and fair investigations					
S.IR.03.04 Manipulate simple tools that aid observation and data collection.					
S.IR.03.05 Make accurate measurements with appropriate units for the measurement tool.					
S.IR.03.06 Construct simple charts and graphs from data and observations					
S.IR.03.07 Summarize information from data tables and graphs to answer scientific questions.					
S.IR.03.08 Communicate and present findings of observations and investigations					
S.IR.03.09 Develop research strategies and skills for information gathering and problem solving					
S.IR.03.10 Compare and contrast sets of data from multiple trials of a science investigation, to explain reasons for differences.					
S.IR.03.11 Use data/samples as evidence to separate fact from opinion.					
S.IR.03.12 Identify the need for evidence in making scientific decisions.					
S.IR.03.13 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.					
S.IR.03.14 Identify technology used in everyday life.					

S.IR.03.15 Identify current problems that may be solved through the use of technology					
S.IR.03.16 Describe the effect humans and other organisms have on the balance of the natural world.					
S.IR.03.17 Describe how people have contributed to science throughout history and across cultures					

Unit 2:
Physical: **Motion of Objects** , **Energy**, **Properties of Matter**, **Changes in Matter**

Outcomes:
PME IV.1 All students will measure and describe the things around them.
PME IV.1 All students will identify and describe forms of energy.
PCM IV.2 All students will investigate, describe and analyze ways in which matter changes.
PMO IV.3 All students will describe how things around us move, explain why things move as they do, and demonstrate and explain how we control the motion of objects.
PWV IV.4 All students will explain shadows, color, and other light phenomena.

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities (I.F.)**
P.EN.03.18 Identify forms of energy: light and sound. P.EN.03.19 Demonstrate that light shines in a straight line. P.EN.03.20 Explain how shadows are made by placing an object in a path of light. P.EN.03.21 Explain what happens to light when it travels from one substance to another. P.EN.03.22 Recognize that all sounds are the results of vibrations. P.EN.03.23 Distinguish the effect of fast or slow vibrations as pitch. P.PM.03.24 Determine objects which absorb or reflect light. P.MO.03.25 Compare and contrast the motion of objects in terms of direction.	P.EN.03.1 Heat, electricity, light, and sound are forms of energy. P.EN.03.3 Light travels in straight lines. Shadows result from light not being able to pass through an object. When light travels at an angle from one substance to another in air and water, it changes direction. P.EN.03.5 Vibrating objects produce sound. The pitch of sound varies by changing the rate of vibration. P.PM.03.2 Objects vary to the extent they absorb and reflect light energy. P.MO.03.3 A force is either a push or a pull. The motion of objects can be changed by forces. The size of the change is related to the size of the force. The change is also related to the weight (mass) of the object on which the force is being exerted. When an object does not move in response to a force, it is because another force is being applied by the environment.	• Sponsor "The Great Ice Cube Race". Have students invent a container that will keep an ice cube from melting. Why do some things work better than others? Why do you think God created or empowers us to create so many kinds? What did people use to preserve before refrigeration? Which kinds of preservatives show God's power most clearly? Why? • Have each student write an unrhymed poem to praise God for insulation. Post the poems and find pictures to illustrate them.

P.MO.03.26 Explain how the speed of an object changes based on the distance it travels divided by the amount of time it took to cover the distance. P.MO.03.27 Describe how a push or a pull is a force. P.MO.03.28 Compare and contrast the motion of objects in terms of direction. P.MO.03.29 Explain how forces are needed to change the motion of an object. P.MO.03.30 Describe that the change in motion of an object may be related to the strength of the force acting upon the moving object or to the mass of the object. P.MO.03.31 Explain that when an object does not move in response to a force, it is because another force is being applied by the environment.		

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

Unit Name: Unit 2 Physical: **Motion of Objects** , **Energy**, **Properties of Matter**, **Changes in Matter** **Teacher Name: _____** **Grade Level: 3**	**Curricular Area: Science** **School Year:**				
Michigan Standards, Benchmark, or *GLCE* *(Italics indicate the one used.)*	**Dates Taught** (month/day/initials):				
P.EN.03.18 Identify forms of energy: light and sound.					
P.EN.03.19 Demonstrate that light shines in a straight line.					
P.EN.03.20 Explain how shadows are made by placing an object in a path of light.					
P.EN.03.21 Explain what happens to light when it travels from one substance to another.					
P.EN.03.22 Recognize that all sounds are the results of vibrations					
P.EN.03.23 Distinguish the effect of fast or slow vibrations as pitch					
P.PM.03.24 Determine objects which absorb or reflect light.					
P.MO.03.25 Compare and contrast the motion of objects in terms of direction.					
P.MO.03.26 Explain how the speed of an object changes based on the distance it travels divided by the amount of time it took to cover the distance.					
P.MO.03.27 Describe how a push or a pull is a force.					
P.MO.03.28 Compare and contrast the motion of objects in terms of direction.					
P.MO.03.29 Explain how forces are needed to change the motion of an object.					

P.MO.03.30 Describe that the change in motion of an object may be related to the strength of the force acting upon the moving object or to the mass of the object.					
P.MO.03.31 Explain that when an object does not move in response to a force, it is because another force is being applied by the environment.					

Unit 3

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

Outcomes:
LO III.2 All students will use classification systems to describe groups of living things.
LH III.3 All students will investigate and explain how characteristics of living things are passed on through generations.
LE III.4 All students will compare ways that living organisms are adapted (suited) to survive and reproduce in their environment and explain how species change through time.
LE III.4 All students will explain how scientists construct and scientifically test theories concerning he origin of life and evolution of species.
LE III.5 All students will explain how parts of an ecosystem are related and how they interact.
LE III.5 All students will explain how energy is distributed to living things in an ecosystem.

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities (I.F.)**
L.OL.03.32 Identify the needs of familiar animals. L.OL.03.33 Describe the life cycle of familiar animals including the following stages: egg, young, adult; egg, larva, pupa, adult. L.OL.03.34 Identify and compare structures in familiar animals used for controlling body temperature, support, movement, food-getting, and protection. L.OL.03.35 Classify familiar animals on the basis of observable physical characteristics (backbone, skin, shell, limbs, scales.	L.OL.03.1 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 building material for growth and repair. L.OL.03.2 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. L.OL.03.3 Organisms have different structures that serve different functions in growth, survival, and reproduction. L.OL.03.4 Organisms can be classified on the basis of observable characteristics.	• Create and debate hypothetical situations in which human goals conflict with nature's status quo. Assign some students to one side and some to the other for the debate. Let the rest of the class serve as the jury. Do any of your Christian beliefs affect your opinions/decisions on the issue/ How? • Since God made the world, some things have changed. Many populations have become extinct. Talk about possible reasons for the changes. What role do people play in this process? What role does God play?

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

Unit Name: Unit 3 Life: **Organization of Living Things**, **Heredity**, **Evolution**, **Ecosystems** **Teacher Name: _____** **Grade Level: 3**	**Curricular Area: Science** **School Year:**				
Michigan Standards, Benchmark, or *GLCE* *(Italics indicate the one used.)*	**Dates Taught** (month/day/initials):				
L.OL.03.32 Identify the needs of familiar animals.					
L.OL.03.33 Describe the life cycle of familiar animals including the following stages: egg, young, adult; egg, larva, pupa, adult.					
L.OL.03.33 Describe the life cycle of familiar animals including the following stages: egg, young, adult; egg, larva, pupa, adult.					
L.OL.03.34 Identify and compare structures in familiar animals used for controlling body temperature, support, movement, food-getting, and protection					
L.OL.03.35 Classify familiar animals on the basis of observable physical characteristics (backbone, skin, shell, limbs, scales.					

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

Outcomes:
EG V.1 All students will describe the earth's surface.
EG V.1 All students will describe and explain how the earth's features change over time.
EG V.1 All students will analyze effects of technology on the earth's surface and resources.
EH V.2 All students will describe how water moves.
EH V.2 All students will describe the characteristics of water and demonstrate where water is found on earth.
EH V.2 All students will analyze the interaction of human activities with the hydrosphere.
EAW V.3 All students will investigate and describe what makes up weather and how it changes from day to day, from season to season and over long periods of time.
EAW V.3 All students will analyze the relationships between human activities and the atmosphere.
ES V.4 All students will compare and contrast our planet and sun to other planets and star systems.
ES V.4 All students will describe and explain how objects in the solar system move.

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities (I.F.)**
E.ES.03.36 Identify natural resources (metals, fuels, fresh water, farmland, and forests). E.ES.03.37 Classify renewable and non-renewable resources. E.ES.03.38 Describe ways humans are protecting, extending, and restoring resources (recycle, reuse, reduce, renewal). E.ES.03.39 Describe the consequences of continued urban sprawl, deforestation, strip mining, and increased volumes of garbage and waste. E.ES.03.40 Recognize that paper, metal, glass, and some plastics can be recycled. E.ES.03.41 Describe ways humans are dependent on the natural environment (forests, water, clean	E.ES.03.7 The supply of many natural resources is limited. Humans have devised methods for extending their use of natural resources through recycling, reuse, and renewal. E.ES.03.8 Humans depend on their natural and constructed environment. Humans change environments in ways that are helpful or harmful for themselves and other organisms. E.SE.03.1 The surface of Earth changes. Some changes are due to slow processes, such as erosion and weathering, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes. E.SE.03.3 Earth materials that occur in nature include rocks, minerals, soils, water, and the gases of the atmosphere. Some Earth materials have	• Find surface temperatures of other planets. What accounts for these temperatures? What did God do in His creation to keep earth at a temperature that will support life? Thank God for His wisdom in creating our planet for us! • "Praise God for Seasons" can be the title of a science center for the entire year. Keep changing the items and activities to illustrate God's wisdom. • Illustrate how the rotation of the earth causes day and night. What if God had not made nighttime? Lead them in a "thank-you time" for God's wisdom. • What holds airplanes up? What would happen to airplanes if there were no air pressure? Thank God for the creation of air pressure. • Research the Sea of Galilee and the Dead Sea. Why didn't Jesus go fishing in the

air, earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry). E.ES.03.42 Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable and non-renewable resources). E.SE.03.44 Identify and describe natural causes of change in the Earth's surface (erosion and weather, gravity and glaciers, volcanoes landslides, and earthquakes). E.SE.03.45 Recognize and describe different types of earth materials (mineral, rock, clay, boulder, gravel, sand, soil). E.SE.03.46 Recognize the difference and relationship between rocks and minerals. E.SE.03.47 Identify Earth materials used to construct some common objects. E.SE.03.48 Describe how materials taken from the Earth can be used for transportation, building materials and fuels for heating and transportation. E.ST.03.49 Explain how fossils are formed and preserved. E.ST.03.50 Compare and contrast life forms found in fossils and organisms that exist today.	properties which sustain plant and animal life. E.SE.03.4 Some Earth materials have properties that make them useful either in their present form or designed and modified to solve human problems. They can enhance the quality of life as in the case of materials used for building or fuels used for heating and transportation. E.ST.03.3 Fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time.	Dead Sea? • Write a Gospel message and attach it to a helium balloon. Include return address so students can plot air currents and name the direction. This is also a way to share the joy of Jesus with someone. • Use a piece of weathered wood or driftwood as the base for an art/craft project. Include a discussion about how the forces of water, wind, and ice produce beauty in God's world. • Let groups of students work together to find examples of wind, water, or ice erosion on your playground. Take pictures and post them. What damage does erosion do? Why should any one care? Discuss what you learn in light of Christian stewardship and God's role for us as caretakers of His Creation.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

Unit Name: Unit 4 **Teacher Name: _____** **Grade Level: 3**	**Curricular Area: Science** **School Year:**				
Michigan Standards, Benchmark, or *GLCE* *(Italics indicate the one used.)*	**Dates Taught** (month/day/initials):				
E.ES.03.36 Identify natural resources (metals, fuels, fresh water, farmland, and forests).					
E.ES.03.37 Classify renewable and non-renewable resources.					
E.ES.03.38 Describe ways humans are protecting, extending, and restoring resources (recycle, reuse, reduce, renewal).					
E.ES.03.39 Describe the consequences of continued urban sprawl, deforestation, strip mining, and increased volumes of garbage and waste.					
E.ES.03.40 Recognize that paper, metal, glass, and some plastics can be recycled**.**					
E.ES.03.41 Describe ways humans are dependent on the natural environment (forests, water, clean air, earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry).					
E.ES.03.42 Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable and non-renewable resources).					
E.SE.03.44 Identify and describe natural causes of change in the Earth's surface (erosion and weather, gravity and glaciers, volcanoes landslides, and earthquakes).					
E.SE.03.45 Recognize and describe different types of earth materials (mineral, rock, clay, boulder, gravel, sand, soil).					
E.SE.03.46 Recognize the difference and relationship between rocks and minerals.					
E.SE.03.47 Identify Earth materials used to construct some common objects.					

E.SE.03.48 Describe how materials taken from the Earth can be used for transportation, building materials and fuels for heating and transportation.					
E.ST.03.49 Explain how fossils are formed and preserved.					
E.ST.03.50 Compare and contrast life forms found in fossils and organisms that exist today					

Unit 5:
Health

Outcomes:

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities (I.F.)**
GLCEs found at http://www.michigan.gov/mde/0,1607,7-140-28753_33232-156852--,00.html	.	