

**SAS Pacing Guide (Sept. 2017 – June 2018 )**

**Grade: 3**

**Subject: Science**

Pacing (Month)	Essential Standards	Unit Topic(s) and Essential Questions	Student Target Outcomes and Goals <i>SWBAT</i>	Focus Topics/Skills	Assessment	Resources	Catholic Identity
September	3-LS1 3-LS3 3-LS4	<p>Types of Living Things</p> <p>What are some types of living things?</p> <p>How do living things grow and change?</p> <p>Plants</p> <p>What do plants need to live?</p> <p>What are some types of plants?</p> <p>How do plants make food?</p>	<p>Compare living and nonliving things.</p> <p>Describe how cells make up organisms.</p> <p>Describe the steps in the life cycle of a plant.</p> <p>Describe the steps in the life cycle of an animal.</p> <p>Identify the basic needs of living things.</p> <p>Describe the structure and function of roots, stems, and leaves.</p> <p>Explain the process of photosynthesis.</p>	<p>Use a hand lens or a stereoscope to examine some living things.</p> <p>List the steps in complete metamorphosis.</p> <p>Define: Organism Cell Life cycle Metamorphosis Larva Pupa Inherit</p> <p>Examine roots, stems, and leaves with a hand lens.</p> <p>Define: Root Nutrient Stem leaf seed Photosynthesis Chlorophyll</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Hands-on-Activities</p> <p>Projects</p> <p>Labs</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Botanical Garden</p>	<p>Gn 1 -God's Creation</p> <p>National Directory for Catechesis -Protect all life and care for God's creation.</p> <p>Psalm 139:14 -"I am the vine, you are the branches..."</p> <p>Natural laws are established by God.</p>

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<b>October</b>	3-LS1 3-LS3 3-LS4	<p>Animals</p> <p>What do animals need?</p> <p>What are vertebrates?</p> <p>What are invertebrates?</p>	<p>Explain what animals need to live and grow.</p> <p>Explain the difference between vertebrates and invertebrates.</p> <p>Describe the five major groups of vertebrates.</p> <p>Describe the main groups of invertebrates.</p> <p>Explain why invertebrates are important.</p>	<p>List the traits of each group of vertebrates.</p> <p>Classify pictures of vertebrates into the major groups</p> <p>Observe a small vertebrate and write a report about it.</p> <p>Observe an invertebrate and write a report about it.</p> <p>Define: Oxygen Vertebrates Mammals Bird Reptile Amphibian Fish Invertebrate</p>	<p>Teacher observation</p> <p>Tests</p> <p>Reports</p> <p>Hands-on-Activities</p> <p>Projects</p> <p>Labs</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Field trip to the Zoo</p>	<p>Gn 1 -God’s Creation</p> <p>National Directory for Catechesis -Protect all life and care for God’s Creation.</p> <p>St. Francis of Assisi is the patron saint of animals.</p> <p>A sign used by early Christians was a fish. In greek, the letters for “Jesus Christ, Son of God, the Savior” spell FISH.</p>

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<b>November</b>	3-LS2 3-LS4	<p>Living Things Interact</p> <p>Where are living things found?</p> <p>What are some types of ecosystems?</p> <p>How do living things survive in ecosystems?</p> <p>How do ecosystems change?</p>	<p>Describe the parts of an ecosystem.</p> <p>Describe some types of ecosystems.</p> <p>Explain how organisms adapt to their environments.</p> <p>Explain how ecosystems change over time.</p> <p>Explain how animals respond to changes in their environment.</p> <p>Explain how people change ecosystems.</p>	<p>Make a model of an ecosystem.</p> <p>Do research and write a report on the ecosystem you live in.</p> <p>Observe and describe a school/backyard ecosystem.</p> <p>Define:                      Environment                      Ecosystem                      Population                      Community                      Habitat                      Desert                      Grassland                      Forest                      Adaptation                      Instinct                      Hibernate                      Migrate                      Camouflage                      Mimicry                      Resource</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Reports</p> <p>Models</p> <p>Hands-on-Activities</p> <p>Projects</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>A world map</p> <p>Field trip</p> <p>In- school Presentation by the Zoo on Biomes of the World</p>	<p>Laudato Si Encyclical Letter of Pope Francis -Protect all living things and the environment.</p> <p>Our responsibility to the Earth and all creation.</p>

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<b>December</b>	3-LS1 3-LS3 3-LS4	<p>Living Things Depend on One Another</p> <p>How do plants and animals interact?</p> <p>What are food chains?</p> <p>What are food webs?</p>	<p>Describe how living things get energy.</p> <p>Explain how animals depend on plants.</p> <p>Describe the three kinds of consumers.</p> <p>Describe how energy from food is passed to living things in a food chain.</p> <p>Describe a food web.</p> <p>Explain how food webs can change.</p>	<p>Observe the teeth of different kinds of animals and tell what kinds of food they would eat.</p> <p>Give example of herbivore, Carnivores, and omnivores.</p> <p>Draw and label the organisms in a food chain.</p> <p>Make a food web using index cards.</p> <p>Define:                      Producer                      Consumer                      Decomposer                      Herbivore                      Carnivore                      Omnivore                      Food chain                      Energy pyramid                      Predator                      Prey                      Food web</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Reports</p> <p>Worksheets</p> <p>Hands-on-activities</p> <p>Labs</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p>	<p>National Directory for Catechesis -God is the creator of all things and the laws of nature.</p> <p>United States Catholic Catechism for Adults -"Animals are entrusted to man's stewardship. He must show them respect."</p> <p>Age of the earth.</p>

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<b>January</b>	3-ESS	<p>Minerals and Rocks</p> <p>What is a mineral?</p> <p>How are minerals identified?</p> <p>What are three types of rocks?</p> <p>How do rocks form?</p> <p>What is the rock cycle?</p> <p>What are fossils and how do they form?</p> <p>What can scientists learn from fossils?</p>	<p>Describe how you can identify a mineral.</p> <p>Identify and describe the three major groups of rocks.</p> <p>Explain how each group of rock is formed.</p> <p>Describe how people use rocks.</p> <p>Describe the rock cycle.</p> <p>Explain how fossils form.</p> <p>Infer that fossils provide clues to the past.</p>	<p>Perform identification tests on minerals and rocks.</p> <p>Identify rock samples.</p> <p>Make a model of a rock.</p> <p>Use a diagram of the rock cycle to describe how a certain type of rock is formed.</p> <p>Examine fossils.</p> <p>Make a model of a fossil.</p> <p>Define:                      Mineral                      Rock                      Igneous rock                      Sedimentary rock                      Metamorphic rock                      Fossil</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Hands-on-Activities</p> <p>Models</p> <p>Labs</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Science tools and materials for testing rocks and minerals</p> <p>Rocks and Minerals</p> <p>Field guides for rocks and minerals</p>	<p>National Directory for Catechesis</p> <p>Catholic Social Teaching -Share mineral resources with poor countries.</p> <p>United States Catholic Catechism for Adults</p> <p>-Peter is the rock on which Jesus would build his church.</p>

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<b>January (continued)</b>	3-ESS	<p>Forces That Shape the Land</p> <p>What are landforms?</p> <p>How do landforms change slowly?</p> <p>How do landforms change quickly.</p>	<p>Describe the different types of landforms.</p> <p>Identify the causes of weathering.</p> <p>Identify the causes of erosion.</p> <p>Explain how glaciers change the land.</p> <p>Describe how earthquakes and volcanoes change the land.</p> <p>Explain how floods change the land.</p>	<p>Make models of the different types of landforms.</p> <p>Do activities that demonstrate weathering and erosion.</p> <p>Make a model of a volcano.</p> <p>Demonstrate the effects of an earthquake.</p> <p>Define:                      Landform                      Mountain                      Valley                      Canyon                      Plain                      Plateau                      Weathering                      Erosion                      Glacier                      Earthquake                      Volcano                      Flood</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Models</p> <p>Hands-on-Activities</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Materials and tools for making the models</p> <p>Maps that show where earthquakes and volcanic eruptions are likely to occur.</p>	<p>National Directory for Catechesis</p> <p>Catholic Social Teaching -To provide aid to people in areas affected by natural disasters</p> <p>1 Kings 19: 11-13                      -Biblical comfort from earthquakes and other natural disasters</p>

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<b>February</b>	3-ESS	<p>Conserving Resources</p> <p>What are some types of resources?</p> <p>What are some types of soil?</p> <p>How do people use and impact the environment?</p> <p>How can resources be used wisely?</p>	<p>Explain what a renewable resource is and give some examples,</p> <p>Explain what a nonrenewable resource is and give some examples.</p> <p>Describe the different types of soil.</p> <p>Give examples of how people use the land.</p> <p>Explain how people cause land, air, and water pollution.</p> <p>Describe ways that people can protect the environment.</p> <p>Describe ways that people can conserve resources.</p>	<p>Make a list a resources that you can see around your home and school.</p> <p>Classify resources as renewable or nonrenewable.</p> <p>Observe different types of soil and describe your observations..</p> <p>Make a model of an oil spill and explore ways to clean it up.</p> <p>Make a model of a water treatment plant.</p> <p>Make list of things that can be reduced, reused, and recycled.</p> <p>Define:                      Resource                      Renewable resources                      Nonrenewable resources                      Humus                      Sand</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Hands-on-Activities</p> <p>Models</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Materials and tools for making the models</p>	<p>Laudato Si’ Encyclical Letter of Pope Francis</p> <p>National Directory for Catechesis</p> <p>-We must care for the earth and not cause pollution.</p> <p>-It is the right of all people to have clean air and water.</p>

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<b>February (continued)</b>				Silt Clay Loam Pollution Conservation Reduce Reuse Recycle			
<b>March</b>	3-ESS2 3-ESS3	Weather and Space  Weather  Where is water found on Earth?  What is the water cycle?  What is weather?	Explain why water is important.  Tell where water is found on Earth.  Describe the three states of water.  Describe how water changes states.  Describe the steps in the water cycle.  Describe how weather data is gathered.	Use a globe or a world map to find where fresh water and salt water are found on Earth.  Illustrate the steps in the water cycle.  Use weather instruments to gather weather data.  Define: Weather Glacier Groundwater Condensation Evaporation Precipitation Water cycle Atmosphere	Teacher Observation  Tests  Worksheets  Hands-on-Activities  Using weather instruments	Textbook  Videos  Internet  Websites  Weather instruments  Weather maps  Invite a meteorologist to your class.	Gn 1 -God created the waters of the Earth.  Is 35:7 -Water is a symbol of divine blessings  Jn 4:1-15 -The water of baptism and symbol of the Holy Spirit  Water of Holy Saturday. Church's use of water as a



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<b>March (continued)</b>	3-ESS2 3-ESS3	<p>Space</p> <p>What causes Earth’s seasons?</p> <p>How do Earth and the Moon interact?</p> <p>What is the solar system?</p>	<p>Describe how Earth moves in Space.</p> <p>Explain what causes the seasons.</p> <p>Explain why we have day and night.</p> <p>Describe the phases of the moon and why they occur.</p> <p>Describe lunar and solar eclipses.</p> <p>Describe the characteristics of each planet.</p>	<p>Oxygen Weather Temperature Anemometer</p> <p>Demonstrate rotation and revolution.</p> <p>Make a moon phase journal.</p> <p>Make a planet mobile.</p> <p>Define: Axis Rotation Revolution Moon phases Lunar cycle Solar eclipse Planet Orbit Solar system Star Constellation</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Activities</p>	<p>Textbook</p> <p>Videos</p> <p>NASA websites</p> <p>Field trip to a planetarium</p> <p>Field trip to the Challenger Learning Center, Lockport, NY</p>	<p>sign.</p> <p>Gn 1 -God created the heavens and the Earth</p> <p>St. Dominic is the patron saint of astronomers.</p>

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<b>April</b>	3-PS2	<p align="center">Matter</p> <p>What is matter?</p> <p>What are some properties of matter?</p> <p>What are the states of matter?</p> <p>How does matter change?</p>	<p>Describe the physical properties of matter.</p> <p>Measure some properties of matter using the appropriate tools.</p> <p>Describe solids, liquids, and gases.</p> <p>Explain how temperature affects states of matter.</p> <p>Identify mixtures and solutions.</p> <p>Describe physical and chemical changes.</p>	<p>Measure the mass and volume of objects using a balance, ruler, and graduated cylinder.</p> <p>Make mixtures and solutions.</p> <p>Use a thermometer to measure the temperature of water.</p> <p>Identify changes in matter as physical changes or chemical changes.</p> <p>Define:</p> <ul style="list-style-type: none"> <li>Matter</li> <li>Physical property</li> <li>Mass</li> <li>Volume</li> <li>Density</li> <li>Solid</li> <li>Liquid</li> <li>Gas</li> <li>Evaporation</li> <li>Mixture</li> <li>Solution</li> <li>Condensation</li> </ul>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Hands-on-Activities</p> <p>Labs</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Tools for measuring</p>	<p align="center">Gn 1 -God's Creation</p>

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<b>April (continued)</b>	3-PS2	<p>Energy: Heat, Light, and Sound</p> <p>What is energy?</p> <p>How can energy be used?</p> <p>Why is energy important?</p> <p>What is the relationship between kinetic and potential energy?</p> <p>What are some ways that energy can be changed from one form to another?</p> <p>Why is it important to save energy?</p>	<p>Identify examples of energy as being kinetic energy or potential energy.</p> <p>Describe three forms of energy-heat, light, and sound.</p> <p>Identify the evidence for energy transformations.</p> <p>Describe ways to save energy.</p> <p>Describe how thermal energy moves.</p> <p>Describe how light moves.</p> <p>Describe how sounds are made and how they travel.</p>	<p>Measure the temperature of a sunny place outside.</p> <p>Make a model of a windmill.</p> <p>Make a rainbow.</p> <p>Make a maraca.</p> <p>.Define:                      Energy                      Kinetic energy                      Potential energy                      Combustion                      Temperature                      Fossil fuels                      Thermal energy                      Heat                      Conduction                      Insulator                      Reflection                      Refraction                      Opaque                      Transparent                      Translucent                      Vibrations                      Loudness                      Pitch</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Hands-on-Activities</p> <p>Labs</p> <p>Models</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p>	<p>United States Catholic Catechism for Adults                      -Appreciation and respect for the laws of nature</p> <p>-We use sound as expressions of prayer in vocal prayer and music,</p> <p>Is 10:17                      -God is the true light and source of all light.</p> <p>Psalms 150                      -Praise God</p>

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<b>May</b>	3-PS2-3 3-PS2-4	Electricity and Magnetism  What is electricity?  What are magnets?  How are electricity and magnets related?	Identify two kinds of electricity.  Explain how electricity moves.  Identify some uses of current electricity.  Identify some uses of magnets.  Describe what an electromagnet is and how it works.  Explain what a generator is and how it is used.	Look for static electricity.  Investigate the strength of different magnets.  Use a magnet to sort a mixture of small objects.  Make an electromagnet.  Define: Static electricity Current electricity Circuit Magnetic Generator	Teacher Observation  Tests  Worksheets  Hands-on-Activities  Labs	Textbook  Videos  Internet  Websites  Magnets  Materials for the activities	with our voices and instruments.    National Directory for Catechesis - God created all things.

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<b>May (continued)</b>	3-PS2-1 3-PS2-2	<p>Forces and Motion</p> <p>What is motion?</p> <p>What are forces?</p> <p>How do waves move?</p>	<p>Describe types of motion.</p> <p>Identify kinds of forces and tell what they do.</p> <p>Explain how distance and time affect speed.</p> <p>Identify types of waves.</p> <p>Explain how to measure waves.</p>	<p>Investigate the different ways objects move.</p> <p>Observe the speed of different objects moving down a ramp.</p> <p>Investigate the motion of two kinds of waves.</p> <p>Define:                      Motion                      Distance                      Speed                      Force                      Gravity                      Weight                      Wave                      Crest                      Trough                      Wavelength</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Hands-on-Activities</p> <p>Labs</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Materials for the activities</p>	<p>National Directory for Catechesis -God created all things.</p>

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<b>June</b>	3-PS2	<p>Work and Machines</p> <p>What is work?</p> <p>What are some simple machine?</p> <p>How do simple machines help us?</p>	<p>Explain what scientists mean by work.</p> <p>Describe some simple machines and explain how they are used.</p> <p>Explain how simple machines make work easier.</p>	<p>Demonstrate work by moving an object.</p> <p>Identify examples of work being done.</p> <p>Demonstrate the use of some simple machines.</p> <p>Investigate how an inclined plane makes work easier.</p> <p>Make a model of a screw.</p>	<p>Teacher Observation</p> <p>Tests</p> <p>Worksheets</p> <p>Hands-on-Activities</p> <p>Models</p> <p>Labs</p>	<p>Textbook</p> <p>Videos</p> <p>Internet</p> <p>Websites</p> <p>Simple machines</p> <p>Materials for the model</p>	<p>Dignity of work in Church's social teaching.</p> <p>Work in Genesis.</p>
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