

SAINT JOSEPH ELEMENTARY SCHOOL
Science - 4th Grade

CONTENT Month & Overarching Question	Content	Books & Materials	CATHOLIC IDENTITY	SCIENCE STANDARDS				
			Essential Questions	Earth and Space Science	Life Science	Physical Science	Technology and Engineering	
SEPTEMBER	Weathering & Erosion: -rocks, sediment, and fossils -weathering and erosion -types of mechanical weathering -analyzing rock layers	How are rocks formed by weathering and erosion? What can we discover by looking at rock layers?	"Harcourt Science 2006 Earth Science Reader's Digest Pathfinders Rocks and Minerals Rocks in His Head - Carol Hurst"	How is God our rock?	4-ESS1-1 4-ESS2-1			
OCTOBER	Weathering & Erosion: -simple landforms -the creation and change of landforms through weathering and erosion -Evaluate solutions to coastal erosion -Engineering: Build a sea wall to block water erosion	How can we distinguish different landforms? How are landforms created and changed over time?	Harcourt Science 2006 Earth Science	How can we appreciate the natural beauty of the world around us?	4-ESS1-1 4-ESS2-1 4-ESS3-2			4.3-5-ETS1-3 4.3-5-ETS1-5
NOVEMBER	Energy Resources: -non-renewable / renewable resources -fossil fuels versus alternative energy resources	Why are resources important to conserve? How is alternative energy different than fossil fuels?	Harcourt Science 2006 Earth Science	How can we appreciate the natural beauty of the world around us?	4-ESS3-1			
DECEMBER	Plate Tectonics: -Earth's layers and plate boundaries -The formation of mountains, volcanoes, and ocean trenches and their location along plates	How does the movement of plates shape our world? What do topographical maps reveal about landforms and plates?	Harcourt Science 2006 Earth Science	How can we appreciate the natural beauty of the world around us?	4-ESS2-2			
JANUARY	Earthquakes: -The causes and locations of earthquakes -Measuring earthquakes -Building earthquake safe structure S.T.R.E.A.M: Build an earthquake resistant shelter	How does the movement of plates explain earthquakes? How can the destruction of earthquakes be minimized?	Harcourt Science 2006 Physical Science If You Lived at the Time of the Great San Francisco Quake by Eileen Levine Time for Kids: Earthquakes! Earthquakes by Seymour Simon	How can we support disaster relief?	4-ESS2-2			4.3-5-ETS1-3 4.3-5-ETS1-5
FEBRUARY	Electric Energy -open and closed circuits -conductors & insulators -electrical safety -Engineering: create a closed circuit to light a light bulb	How can energy be transferred from place to place through electric energy?	Harcourt Science 2006 Physical Science Electricity & Magnetism - Bobbi Searle Electricity - Antonella Meiani	What do I need to create a closed circuit with God?		4-PS3-2 4-PS4-1		4.3-5-ETS1-3 4.3-5-ETS1-5
MARCH	Light/Sound Energy: -specific colors related and seen -cellular mechanisms of vision -angles of incidence and reflection -how the retina works -waves are regular patterns of motion along which energy travels -waves can cause objects to move -develop and compare multiple ways to transfer information S.T.R.E.A.M: Design lighting systems	How can energy be transferred from place to place through light and sound energy?	Harcourt Science 2006 Physical Science Light Series: Eyewitness Science Light and Color - Gary Gibson	How is Jesus the Light of the World?		4-PS3-2 4-PS4-1 4-PS4-2 4-PS4-3		4.3-5-ETS1-3 4.3-5-ETS1-5

APRIL	<p>Force and Motion</p> <ul style="list-style-type: none"> -analysis of kinetic energy -mass -quantitative measures of changes in the speed of an object -changes in energy can include in a change in the object's motion, position, and the generation of heat and/or sound -Engineering: test and refine a device that converts kinetic energy to electrical energy or uses stored energy to cause motion or produce light and sound 	<p>How can I relate the speed of an object to the energy of that object?</p> <p>How can I explain that changes in energy occur when objects collide?</p>	<p>Harcourt Science 2006 Physical Science</p>	<p>How does prayer center us?</p>	<p>4.3-5-ETS1-3 4.3-5-ETS1-5</p> <p>4-PS3-1 4-PS3-3 4-PS3-4</p>
MAY	<p>Animal Structures:</p> <ul style="list-style-type: none"> -how wings, legs, fins enable animals to find shelter and escape predators -how the mouth enables animals to eat and drink -how the eyes, nose, ears, and skin enable animals to sense surroundings -how feathers and skin support animals in their environment 	<p>How do animals' bodies help them survive and adapt?</p>	<p>Harcourt Science 2006 Physical Science</p>	<p>How can we care for all of God's creatures?</p>	<p>E-LS1-1</p>
JUNE	<p>Plant Structures:</p> <ul style="list-style-type: none"> -observing and diagramming plant structures -how the roots, leaves, stems, flowers, and seeds support a plant's survival -how plants respond to changes in their environment 	<p>How does a plant's structures help it grow and survive?</p> <p>How does a plant's behavior adjust to its environment?</p>	<p>Harcourt Science 2006 Physical Science</p>	<p>How have we bloomed in our faith this year?</p>	<p>4-LS1-1</p>