	Guiding Principle *Taken from the Cardinal Newman Society Standards with their coding included	Outcomes	MN	Connection
PK		**Earth and Space Science:**		**Come to conclusions based on observations.**
PK	**S.K6.DS1 Display a sense of wonder and delight about the natural universe and its beauty.**	Observe and use symbols to record the weather of the day		
PK		Demonstrate appropriate dress for the weather using models		
PK		Discuss the difference between day and night		**Measure things relative to other things, i.e., larger-smaller, higher-lower, etc.**
PK	**S.K6.IS3 Explain how creation is an outward sign of God's love and goodness and, therefore, is "sacramental" in nature.**	Describe seasonal cycles and identify seasonal changes observed in nature.		
PK		Observe and discuss wind, water, rainbows, and sunlight.		
PK		Develop an appreciation for the beauty and mystery of nature created by God and understand we are stewards of the earth		
PK		**Life Science**		**Group objects based on common attributes. Notices and identifies obvious differences and similarities.**
PK	**S.K6.IS3 Value the human body as the temple of the Holy Spirit.**	Identify major parts of the body, i.e., face, parts of the face, hands, feet, head, back, shoulders, knees, toes, etc.		
PK		Discuss the five senses		
PK	**S.K6.GS1 Exhibit care and concern at all stages of life for each human person as an image and likeness of God.**	Experience and identify various sounds, smells, textures, and flavors		
PK		Recognize physical differences and similarities in human beings		
PK		Discuss how healthy foods and physical activity impacts our body		
PK		Discuss how dental health relates to overall wellness		**Make predictions**
PK		Use observation to discuss plant growth		
PK	**S.K6.IS6 Describe God's relationship with man and nature.**	Name and identify the ways plants and animals are used by people		
PK		Introduce the understanding that living things need food, shelter, and water		**Seek to gain additional knowledge in areas of interest.**
PK		Discuss common domestic/farm animals		
PK		Discuss prehistoric animals and fossils		
PK		Observe and classify living organisms: Example: Plants, animals, humans, fish, birds, shell fish		
PK		**Pysical Science:**		
PK		Explore, discuss, and experiment with magnets		**Begin to rely on or expect evidence, things seen or experienced directly, as reasons for results obtained**
PK		Predict, experiment, draw conclusions about static electricity		
PK		Explore the concept of sink and float with a variety of objects.		
PK		Predict and test whether items will sink or float		
PK		Explore moving items using tools: levers, spoons, hammers, and wedges.		
PK		Explore effects of balance, weight, and motion. Example: may use eggs.		
PK		Observe the change process during cooking of various materials		
PK		Create carbon dioxide using vinegar and baking soda – observe and discuss findings.		**Use drawing, writing, models,**

	Guiding Principle *Taken from the Cardinal Newman Society Standards with their coding included	Outcomes		Connection
K	S.K6.DS1 Display a sense of wonder and delight about the natural universe and its beauty. S.K6.IS3 Explain how creation is an outward sign of God's love and goodness and, therefore, is "sacramental" in nature. S.K6.GS1 Exhibit care and concern at all stages of life for each human person as an image and likeness of God. S.K6.IS1 Explain what it means to say that God created the world and all matter out of nothing at a certain point in time; how it manifests His wisdom, glory, and purpose; and how He holds everything in existence according to His plan.	**Earth/Space Science:**		Students will be able to ask questions and develop a sense of wonder about the world they observe. They will begin to draw conclusions from their observations or scientific investigations, each other's ideas, and the information they receive. Students will be able to represent observations and data and begin to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables. Students will be able to develop questions, predictions and/or explanations, and communicate ideas to others based on their observations. Students will use their understanding of scientific principles to discover questions raised through their observations.
K		Observe and use symbols to describe characteristics of the seasons		
K		Identify and describe the four seasons		
K		Describe how the seasons affect living things		
K		Select dress appropriate for the weather conditions		
K		Describe connections between seasons and daily weather		
K		Ask questions to obtain information from weather forecasts to prepare for and respond to severe weather.	MN-K	
K		Ask questions about how we may be good stewards of our natural resources.	MN-K	
K		Make daily and seasonal observations of local weather conditions to describe patterns over time.	MN-K	
K		**Life Science:**		
K		Introduce the understanding that living things need air, water, sun, and food		
K		Give examples of living and non-living things		
K		Identify characteristics of living and non-living things		
K		Identify own body parts: head, ears, eyes, mouth, nose, feet, toes, elbows, knees, etc.		
K		Understand what a seed is and explain what it does		
K		Identify needs of plant: Soil, water, air, sunlight		
K		Summarize the life cycle of a plant		
K		Make observations of plants and animals to compare the diversity of life in different habitats.	MN-K	
K		Record and use observations to describe patterns of what plants and animals (including humans) need to survive.	MN-K	
K		Develop a simple model to represent the relationship between the needs of different plants and animals (including humans) and places they live.	MN-K	
K		**Physical Science:**		
K		Identify and discuss physical properties of matter (soft, hard, heavy, light)		
K		Identify the different physical properties of specific items		
K		Observe that physical properties can be changed (ie…solids to liquids, liquids to solids - ice/snow melting)		
K		Compare the way various items respond to change agents such as increasing or decreasing temperature. Example, ice/snow melts		
K		Collect and organize observational data to determine the effect of sunlight on Earth's surface.	MN-K	
K		Communicate design ideas for a structure that reduces the warming effect of sunlight on Earth's surface.	MN-K	
K		Identify sources of light, both God-made (natural) and man-made (artificial).		
K		Understand that light moves in a straight line		
K		Demonstrate how light is reflected in a mirror.		
K		Define shadows as areas where light is blocked and explore ways to change the size and shape of shadows.		
K		Predict and demonstrate the effects of color mixing		
K		Identify the primary and secondary colors		
K		Discuss whether a design solution works as intended to change the speed or direction of an object with a push or a pull.	MN-K	
K		Identify and describe patterns that emerge from the effects of different strengths or different directions of pushes and pulls on the motion of an object.	MN-K	
K		Sort objects in terms of God-made/human-made color, size, shape, and texture, then communicate the reasoning for the sorting system.	MN-K	

	Guiding Principle *Taken from the Cardinal Newman Society Standards with their coding included	Outcomes		Connection
1st	S.K6.DS1 Display a sense of wonder and delight about the natural universe and its beauty. S.K6.IS3 Explain how creation is an outward sign of God's love and goodness and, therefore, is "sacramental" in nature. S.K6.IS4 Give examples of beauty evident in God's creation. S.K6.IS2 Describe the relationships, elements, underlying order, harmony, and meaning in God's creation. S.K6.IS1 Explain what it means to say that God created the world and all matter out of nothing at a certain point in time; how it manifests His wisdom, glory, and purpose; and how He holds everything in existence according to His plan.	**Earth and Space**:		Students will be able to ask questions and develop a sense of wonder about the world they observe. They will begin to draw conclusions from their observations or scientific investigations, each other's ideas, and the information they receive. Students will be able to represent observations and recognize patterns in the data, the meaning of those patterns, and possible relationships between variables. Students can classify objects according to common properties that may include size, shape, and color. Students will be able to use simple mathematics to represent physical variables and their relationships as they describe observations of the natural or designed worlds. Students will begin to develop models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others. Students will use their understanding of scientific principles to answer questions raised through their observations. Students will be able to argue from evidence to justify the best solution to a problem or to compare and evaluate competing designs, ideas, or methods.
1st		Explore and identify properties of our earth		
1st		Use quantitative data to identify and describe patterns in the amount of time it takes for Earth processes to occur and determine whether they occur quickly or slowly.	MN-1	
1st		Discuss, based on observational evidence, how plants and animals (including humans) can change the non-living aspects of the environment to meet their needs	MN-1	
1st		Discuss, with evidence to evaluate multiple solutions designed to slow or prevent wind or water from changing the shape of the land	MN-1	
1st		Discuss a model depicting the relationship between our Earth and other major bodies on our solar system (sun, moon, planets).		
1st		Explore characteristics of stars and major constellations.		
1st		**Life Science:**		
1st		Identify structures of plants and animals and how the structures help them live and grow (i.e… roots, stems, body parts)		
1st		Describe life cycles in plants and animals		
1st		Describe a food chain		
1st		Compare and contrast plant eaters and meat eaters		
1st		Observe and describe predator and prey relationships		
1st		Ask questions based on observations about the similarities and differences between young plants and animals and their parents.	MN-1	
1st		Develop a simple model based on evidence to represent how plants or animals use their external parts to help them survive, grown and meet their needs.	MN-1	
1st		Develop, and communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	MN-1	
1st		Sort and classify dinosaurs according to their characteristics.		
1st		Compare and contrast prehistoric times to life on earth today		
1st		Explain the terms: extinct, archeologist, and paleontologist		
1st		Describe the characteristics of the geological periods: Traiadic, Jurassic, Cretaceous		
1st		Name the five senses through which humans exerience the world and match the five senses to coresponding body parts		
1st		Understand how people with disabilities accomodate the loss of one or more senses (e.g., blindness, deafness).		
1st		Identify emotions and apply them to appropriate situations		
1st		Identify outer body parts and become familiare with inner body parts (bones and muscles).		
1st		Dental Health: Compare and contrast different types of teeth and interpret thier function. Explain the effects of plaque on teeth and demonstrate how to take care of teeth.		
1st		**Physical Science:**		
1st		Classify objects/materials as God-made (natural) or man-made (artificial).		
1st		Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	MN-1	
1st		Identify and describe patterns obtained from testing different materials and determine which materials have the properties that are best suited for producing and/or transmitting sound.	MN-1	
1st		Design and build a device that uses light or sound to solve the problem of communication over a distance.	MN-1	

	Guiding Principle *Taken from the Cardinal Newman Society Standards with their coding included	Outcomes		Connection
2nd	S.K6.IS4 Give examples of the beauty evident in God's creation. S.K6.IS2 Describe the relationships, elements, underlying order, harmony, and meaning in God's creation. S.K6.IS3 Explain how creation is an outward sign of God's love and goodness and, therefore, is "sacramental" in nature. S.K6.DS1 Display a sense of wonder and delight about the natural universe and its beauty. S.K6.GS1 Exhibit care and concern at all stages of life for each human person as an image and likeness of God. S.K6.IS3 Value the human body as the temple of the Holy Spirit. S.K6.IS8 Explain how science properly limits its focus to "how" things physically exist and is not designed to answer issues of meaning, the value of things, or the mysteries of the human person. S.K6.IS9 Describe how the use of the scientific method to explore and understand nature differs, yet complements, the theological and philosophical questions one asks in order to understand God and His works.	**Earth and Space:**		Students will be able to ask questions and develop a sense of wonder about the world they observe. They will begin to draw conclusions from their observations or scientific investigations, each other's ideas, and the information they read and receive. Students will be able to represent observations and recognize patterns in the data, the meaning of those patterns, and possible relationships between variables. Students will be able to use simple mathematics to represent physical variables and their relationships as they describe observations of the natural or designed worlds. Students will begin to develop models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others. Students will use their understanding of scientific principles to answer questions raised through their observations. Students will be able to argue from evidence to justify the best solution to a problem or to compare and evaluate competing designs, ideas, or methods.
2nd		Observe and contrast daytime and nighttime skies		
2nd		Observe, record, and interpret weather changes on charts and graphs		
2nd		Identify and observe different types of clouds		
2nd		Predict weather by observing clouds		
2nd		Represent data to describe typical weather conditions expected during a particular season.	MN-2	
2nd		Analyze data from tests of objects designed to reduce the impacts of weather-related hazards and compare the strengths and weaknesses of how each performs.	MN-2	
2nd		Obtain and use information from multiple sources to describe climates in different regions of the world.	MN-2	
2nd		Obtain and use information from multiple sources to identify where water is found on earth.	MN-2	
2nd		**Life Science:**		
2nd		Engineer a device that mimics the structures and functions of how seeds are scattered.	MN-2	
2nd		Construct an argument with evidence that evaluates how in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.	MN-2	
2nd		Use descriptive and comparative words to sort and classify materials		
2nd		Identify differences between living and nonliving things and classify as God-made (natural) or man-made (artificial).		
2nd		Identify and describe an animal habitat		
2nd		Identify phisical characteristics of animals		
2nd		Observe, sort, and classify similar animals based on one or two properties		
2nd		Sort and classify animals as mammal, bird, reptile, fish, amphibian, or insect according to characteristics of each group		
2nd		Identify, describe and sequence the life cycle of an animal		
2nd		Identify and locate major organs of the human body and describe their primary functions		
2nd		Identify major systems of the human body (digestive, respiratory, circulatory, skeletal, muscular)		
2nd		**Physcial Science:**		
2nd		Demonstrate how to apply force and motion		
2nd		Demonstrate the cause and effect of force and motion		
2nd		Investigate the effect of pushes and pulls in different directions on the resulting motion of objects		
2nd		Investigate the effect of pushes and pulls of different strengths on the resulting motion of objects		
2nd		Construct an explanation for why an object subjected to multiple pushes and pulls might stay in one place or move		
2nd		Analyze data to determine the relationship between friction and the motion of objects (e.g. objects sliding on various surfaces)		
2nd		Develop and share a design solution to reduce friction between two objects		
2nd		Plan and carry out investigations of how the speed of an object determines changes in motion and or shape when the object touches or collides with another object		
2nd		Identify the effects of gravity on objects		
2nd		Develop a definition of buoyancy		
2nd		Predict and test if an object will sink or float		
2nd		Desigan a boat, test for buoyancy, predict and test the amount of load and object will hold		
2nd		Understand that magnets attract and repel each other and certain kinds of materials		
2nd		Predict, observe, and record magnetic properties of various materials		
2nd		Identify and predict the effects of balanced and unbalanced forces on the motion of an object.	MN-2	
2nd		Ask questions about an object's motion base on observation that can be answered by an investigation	MN-2	
2nd		Plan and conduct an investigation to describe how heating and cooling affects different kinds of materials based upon their observable properties.	MN-2	

2nd		Develop a simple diagram or physical model to illustrate how some changes caused by heating or cooling can be reversed and some cannot.	MN-2
2nd		Define the three states of matter; liquid, solid, and gas	
2nd		Understand how matter changes states	

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3rd	S.K6.IS1 Explain what it means to say that God created the world and all matter out of nothing at a certain point in time; how it manifests His wisdom, glory, and purpose; and how He holds everything in existence according to His plan. S.K6.IS2 Describe the relationships, elements, underlying order, harmony, and meaning in God's creation. S.K6.IS4 Give examples of the beauty evident in God's creation. S.K6.DS1 Display a sense of wonder and delight about the natural universe and its beauty. S.K6.DS3 Accept the premise that nature should not be manipulated simply at man's will or only viewed as a thing to be used, but that man must cooperate with God's plan for himself and for nature.	**Earth and Space**:		Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read. Students will be able to conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will collect data to provide evidence to support claims the students make about phenomena. Students will be able to use simple mathematics to represent physical variables and their relationships as they describe observations of the natural or designed worlds. Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others. Students can apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena. Students will be able to engage in argument from evidence for the explanations the students construct and revise their interpretations when presented with new evidence.
3rd		Understand that the moon reflects sunlight and infer that the phases of the moon are caused by movement, light, and shadow		
3rd		Distinguish between revolve and rotate		
3rd		Record the phases of the moon for a given period of time		
3rd		Describe three features of the surface of the moon		
3rd		Describe the importance of telescopes in studying the moon		
3rd		Infer why there is no life on the moon		
3rd		Record observations of the sun, moon, and stars and use them to describe patterns that can be predicted.	MN-3	
3rd		Define the term constellation and identify well-known constellations		
3rd		Organize and present collected data to identify and describe patterns in the amount of daylight in different times of the year.	MN-3	
3rd		**Life Science**		
3rd		Plan and conduct an investigation to determine how amounts of sunlight and water impact the growth of a plant.	MN-3	
3rd		Develop multiple models to describe how organisms have unique and diverse life cycles but all have birth, growth, reproduction, and death in common	MN-3	
3rd		Distinguish between seed plants and non-seed plants based on one or more properties		
3rd		Identify the four parts of most plants: roots, stem, leaves, flower/fruit		
3rd		Sort and classify plants and plant products based on two or more properties		
3rd		Describe the structures and characteristics of flowering plants		
3rd		Observe leaves of plants to distinguish between monocots and dicots		
3rd		Identify the traits of decidous trees and conifers		
3rd		Describe the movement of water and minerals through a plant and identify the plant parts involved in transportation of materials		
3rd		Observe and describe, (record with pictures and graphs) the changes as a plant grows		
3rd		Identify stimuli to which plants respond		
3rd		Define and give examples of plant adaptations		
3rd		Summarize & compare photosynthesis and respiration		
3rd		Label and explain the reproductive system of a flowering plant		
3rd		Describe how humans affect extinction and how animals become extinct		
3rd		Infer reasons why some plant offspring do not survive to become adults and reproduce		
3rd		Identify the two groups of living things that are neither plants nor animals		
3rd		Construct an explanation using evidence from various sources for how the variations in characteristics among individuals of the same species may provide advantages in surviving.	MN-3	
3rd		Explain why scientists classify living things		
3rd		Obtain information from various sources to support an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction and ability to survive in the various biomes (ecosystems)	MN-3	
3rd		Construct an argument about strategies animals use to survive.	MN-3	
3rd		Classify animals as vertebrae and invertebrate		
3rd		Define species and habitat using examples		
3rd		Possible change. Describe how materials are transported through an animals body.		
3rd		Observe and describe change vs. adaption		
3rd		Identify stimuli to which animals respond		
3rd		Observe and describe characteristics of in organisms that are inherited and characteristics that are aquired. learned.		
3rd		Identify similarities and differences between parent and offspring		
3rd		Label producers and consumers in a food chain		
3rd		Classify animals as herbivores, carnivores, or omnivores		
3rd		**Pysical Science:**		
3rd		Plan and conduct a controlled investigation to determine the effect of placing objects made with different materials in the path of a beam of light.	MN-3	

3rd		Determine soruces of light, God made (natural) vs. man-made (artificial).		
3rd		Ask questions base on observation about why objects in darkness can be seen only when illuminated.	MN - 3	
3rd		Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	MN - 3	
3rd		Describe how white light can be separated into the colors of the spectrum		
3rd		Explain how light and sound travel		
3rd		Define and understand the causes of sound		

	Guiding Principle *Taken from the Cardinal Newman Society Standards with their coding included	Outcomes		Connection
4th	S. K6. DS1 Display a sense of wonder and delight about the natural universe and its beauty.	**Earth and Space Science**		Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read. Students will be able to ask questions about a problem to be solved so they can define constraints and specifications for possible solutions. Students will be able to conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will collect data to provide evidence to support claims the students make about phenomena. Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds. Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others. Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints. Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence
4th		Discuss the effects that climates have on weather and how weather changes		
4th		Diagram the water cycle		
4th	S.K6.IS5 Explain the processes of conservation, preservation, overconsumption, and stewardship in relation to caring for that which God has given to sustain and delight us. S.K6.DS3 Accept the premise that nature should not be manipulated simply at man's will or only viewed as a thing to be used, but that man must cooperate with God's plan for himself and for nature. S.K6.IS6 Describe God's relationship with man and nature. S.K6.DS2 Share concern and care for the environment as a part of God's creation. S.K6.DS4 Accept that scientific knowledge is a call to serve and not simply a means to gain power, material prosperity, or success. S.K6.IS1 Explain what it means to say that God created the world and all matter out of nothing at a certain point in time; how it manifests His wisdom, glory, and purpose; and how He holds everything in existence according to His plan.	Describe the amount of water that covers the earth's surface and how water moves from one ocean to another and through the earths system (example: ground water)	MN-4	
4th		Understand the processes involved in the formation of three types of rocks		
4th		Classify rocks and minerals according to their observable characteristics		
4th		Conduct basic experiments to identify rocks and minerals.		
4th		Describe the impact of pollution on living organisms and their environment		
4th		Explain conservation of natural resources and how it impacts pollution and recycling issues		
4th		Compare forms of environmental protection (water, soil, and air)		
4th		Define extinction and identify its importance in biodiversity (when the environment changes, the adaptive characteristics of some species are insufficient to allow for their survival)		
4th		Make observations and measurements to provide evidence of the effects of weathering or the rate of erosion by forces of water, ice, wind, or vegetation.	MN-4	
4th		Interpret charts, maps, and/or graphs of the amounts of salt and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	MN-4	
4th		Develop a model based in part on student observations or data to describe ways the geosphere, biosphere, hydrosphere ,and atmosphere interact	MN-4	
4th		Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.	MN-4	
4th		Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans and discuss appropriate stewardship of the environment in response to environmnental changes	MN-4	
4th		Recognize and comprehend that energy and fuels are derived from natural resources and the affect their use may have on the environment	MN-4	
4th		**Life Science**		
4th		Identify and model how living things interact with and can be influenced by their environment	MN-4	
4th		Compare how cells in the body are alike and different		
4th		Define cells using size, structure, function, and needs		
4th		Define tissues, organs, and body systems		
4th		Identify the purpose of a skeleton and assemble a skeleton		
4th		Describe the function of muscles and proper care for muscles		
4th		Describe and/or model the process of digestion		
4th		List and understand the functions of three parts of the circulatory system		
4th		Describe the path air followes as it moves through the respiratory system		
4th		Classify foods by the food group to which they belong		
4th		Describe a healthy balanced diet		
4th		Explain and label the parts of a tooth: crown, enamel, root, dentin, and pulp		
4th		Explain how plaque can harm teeth and gums		
4th		Explain how daily care, proper diet, and regular dental checkups can keep teeth and gums healthy		
4th		Obtain information from various sources to determine that plants and animals have traits inherited from parents and variation of these traits exist in a group of similar organisms.	MN-4	
4th		Use evidence and describe patterns of variation in a trait across individuals of the same kind of organism		
4th		Compare and contrast food webs within and between different ecosystems and predict consequences of disrupting one of the organisms in a food web		
4th		**Physical Science:**		

4th		Distinguish between length, mass, volume, and temperature and use appropriate tools to measure each		**presented with new evidence, evaluate the scientific arguments of others, and present counterarguments.**
4th		Ask questions to determine cause and effect relationships of electric and magnetic interactions between two objects not in contact with each other.	MN-4	
4th		Design a simple problem that can be solved by applying scientific ideas about magnets.	MN-4	
4th		Define electricity and energy		**Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.**
4th		Investigate how electricity is produced, stored, (batteries), and detected.		
4th		Discover that friction produces a static charge and predict what materials can be charged through friction		
4th		Explain that static electricity can have a positive or negative charge		
4th		Test the charge of different materials with an electroscope		
4th		Understand and explain that lightning is a result of static electricity		
4th		Demonstrate that electricity flows through a closed path/circuit		
4th		Create parallel and series circuits		
4th		Create a closed circuit with a switch		
4th		Test objects/materials to identify them as conductors or insulators		
4th		Create a model that demonstrates how a light bulb works		

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5th	S.S.K6.DS1 Display a sense of wonder and delight about the natural universe and its beauty.	**Earth and Space Science**		Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.
5th		Identify the major gasses present in the Earth's atmoshphere		
5th		Identify the layers of Earth's atmosphere		
5th	S.K6.GS2 Describe the unity of faith and reason with confidence that there exists no contradiction between the God of nature and the God of faith.	Explain the effects of the sun on the Earth's surface and its effects on the atmosphere		
5th		Identify how weather affects the process of weathering and erosion (Associate the weather and the processes of weathering and erosion)		
5th		Examine the effects of Earth's revolution/rotation and physical characteristics on the seasons, climate and weather		
5th	S.K6.IS1 Explain what it means to say that God created the world and all matter out of nothing at a certain point in time; how it manifests His wisdom, glory, and purpose; and how He holds everything in existence according to His plan.	Use data to describe patterns in the daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	MN-5	Students will be able to ask questions about a problem to be solved so they can define constraints and specifications for possible solutions.
5th		Use evidence to support an argument that the apparent brightness of the Sun and stars is due to their relative distances from Earth.	MN-5	
5th		Define the term's astronomical unit and light year		
5th		Identify two types of telescopes and explain when each can would be used		
5th		Describe the use of a spectroscope in studying stars		Students will be able to conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will collect data to provide evidence to support claims the students make about phenomena.
5th		Describe the life cycle of a star		
5th	S.K6.IS2 Describe the relationships, elements, underlying order, harmony, and meaning in God's creation.	Define a galaxy and describe the Milky Way galaxy and the postion of our solar system within that galaxy		
5th		Describe the "big-bang theory" as the origin of the universe; reconcile this theory wih the Creation Story		
5th	S.K6.IS2 Describe the relationships, elements, underlying order, harmony, and meaning in God's creation.	Identify and label the parts of the Earth and compare and contrast the layers of the Earth		
5th		Understand that the Earth's crust is broken into pieces called tectonic plates		
5th	S.K6.IS3 Explain how creation is an outward sign of God's love and goodness and, therefore, is "sacramental" in nature.	Demonstrate and explain the consequenses of tectonic plate movement		Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds.
5th		Compare the relationship between volcanoes and earthquakes		
5th		Study the factores that affect environments, with a focus on aquatic and terrestrial environmnents. Describe how bioaccumulation works		
5th	S.K6.IS4 Give examples of the beauty evident in God's creation.	Observe the results when one factor is changed in an evironment; draw conclusions from the change		
5th		**Life Science:**		
5th		List the five (5) levels of body organization: cells, tissues, organs, organ systems, organism		
5th	S.K6.GS1 Exhibit care and concern at all stages of life for each human person as an image and likeness of God.	Describe cells and list cell functions		
5th		Compare organelle functions to organ functions		
5th		Identify the skeletal, muscular, digestive, respiratory, nervous, immune, and circulatory systems, their functions, and their major organs		Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others.
5th	S.K6.GS3 Value the human body as the temple of the Holy Spirit.	Plan and conduct an investigation to obtain evidence that plants get the materials they need for growth chiefly from air and water.	MN-5	
5th		Create a model/visualization (may be electronic), of the movement of matter among plans, animals, decomposers, and the environment.	MN-5	
5th	S.K6.DS3 Accept the premise that nature should not be manipulated simply at man's will or only viewed as a thing to be used, but that man must cooperate with God's plan for himself and for nature.	Evaluate the merit of a solution to a problem caused by changes in plant and animal populations as a result of environmental changes	MN-5	
5th		**Physical Science:**		
5th		Define energy, including the Law of Conservation of Energy		
5th		Compare and contrast energy and matter		
5th		Name and describe the properties of light and sound waves		Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints.
5th		Compare and contrast sound and light waves		
5th		Describe and demonstrate how heat is measured		
5th	S.K6.IS5 Explain the processes of conservation, preservation, overconsumption, and stewardship in relation to caring for that which God has given to sustain and delight us.	Compare and contrast kinetic energy and potential energy and give examples that demonstrate kinetic and potential energy		
5th		Discuss how friction and resistance affect kinetic and potential energy		
5th		Identify and discuss energy resources		
5th		Define, compare, and contrast conduction, convection, and radiation		
5th		Determine/describe how solar energy affects life on Earth		
5th		Ask investigable questions and predict reasonable outcomes about the changes in energy, related to speed, that occur when objects interact.	MN-5	Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence,
5th		Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	MN-5	
5th		Determine/describe appropriate methods and tools to identify materials based on their properties prior to investigation.	MN-5	

5th		Demonstrate how energy can be transferred from place to place by sound, light, heat, and electric currents.	MN-5	**evaluate the scientific arguments of others, and present counterarguments.**
5th		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.	MN-5	
5th		Develop and refine a model to describe that matter is made of particles too small to be seen.	MN-5	**Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.**
5th		Use models to describe that energy in animals food (used for body repair, growth, and motions and to maintain body warmth) was once energy from the Sun.	MN-5	
5th		Construct an explanation based on evidence relating the speed of an object to the energy of that object.	MN-5	
5th		Apply scientific ideas to design, test, and refine a device that converts one energy form to another.	MN-5	
5th		Define compound		
5th		Explain what a chemical formula is		
5th		Determine if a substanc is an acid or base		
5th		Define indicator		
5th		Define neutralization		
5th		Give an example of physical and chemical change		
5th		Define oxidation and give examples of rapid and slow oxidation		
5th		Describe how corrosion of iron can be prevented		
5th		Compare and contrast fission and fusion		

	Guiding Principle *Taken from the Cardinal Newman Society Standards with their coding included	Outcomes		Connection
6th	S.712.GS4 – Share how the beauty and goodness of God is reflected in nature and the study of the natural sciences. S.K6.IS2 Describe the relationships, elements, underlying order, harmony, and meaning in God's creation. S.K6.IS3 Explain how creation is an outward sign of God's love and goodness and, therefore, is "sacramental" in nature. S.K6.IS4 Give examples of the beauty evident in God's creation. S.K6.IS5 – Explain the processes of conservation, preservation, overconsumption, and stewardship as it relates to creation and to caring for that which God has given to sustain and delight us. S.K6 IS8 Explain how science properly limits its focus to "how" things physically exist and is not designed to answer issues of meaning, the value of things, or the mysteries of the human person. S.K6.IS9 – Distinguish the difference between the use of the scientific method and the use of theological inquiry to know and understand God's creation and universal truths. S.K6.IS9 Describe how the use of the scientific method to explore and understand nature differs, yet complements, the theological and philosophical questions one asks in order to understand God and His works. S.K6.DS1 – Display a deep sense of wonder and delight about the natural universe. S.K6.DS2 Share concern and care for the environment as a part of God's creation. S.K6.DS2 Accept the premise that nature should not be manipulated simply at man's will or only viewed as a thing to be used, but that man must cooperate with God's plan for himself and for nature. S.712.IS16 Articulate the details of the Galileo affair to counter the assumption that the Church is anti-science.	Earth and Space Science		Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read. Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena. Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables. Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others. Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others. Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counterarguments.
6th		Earth in the Universe		
6th		Ask questions that arise from observations of patterns in the movement of night sky objects to test the limitations of a solar system model.	MN-6	
6th		Analyze and interpret data to determine similarities and differences among features and processes occring on solar system objects	MN-6	
6th		Develop and use scale models of solar system objects to describe the sizes of objects, the location of objects, and the motion of the objects; and include the role that gravity and inertia play in controlling that motion	MN-6	
6th		Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6 billion-year-old history.	MN-6	
6th		Communicate how a series of models are used to explain how motion in the Earth-Sun-Moon system causes the cyclic patters of lunar phases, eclipses and seasons.	MN-6	
6th		Compare and contrast the universe formation theories		
6th		Describe the functions of the two types of telescopes		
6th		Research the current and past space programs and the latest findings within the universe.		
6th		Earth's Systems		
6th		Ask questions to examine an interpretation about the relative ages of different rock layers within a sequence of several rock layers	MN-6	
6th		Collect data to identify patterns to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions	MN-6	
6th		Analyze and interpret data on the distribution of fossils, rocks, continental shapes, and seafloor structures to provide evidence of past plate motions.	MN-6	
6th		Develop a model, based on observational evidence, to describe the cycling and movment of Earth's rock material and the energy that drives these processes.	MN-6	
6th		Develop a model, based on observational and experimental evidence, to describe the cycling of water through Earth's systems driven by energy from the Sun and the force of gravity.	MN-6	
6th		Construct an argument, supported by evidence, for how geoscience (geological) processes have changed Earth's surface at varying time and spatial scales.	MN-6	
6th		Identify properties and characteristics of minerals	MN-6	
6th		Differentiate between the different types of rocks.		
6th		Identify the various types of igneous rocks, metamorphic roks, and sedimentary rocks.		
6th		Describe how lakes and ponds are formed including how glaciers aide in the formation of the Great Lakes.		
6th		Identify ground water structures		
6th		Identify resources that come from oceans		
6th		Explain how fresh water is produced from ocean water.		
6th		Describe the three zones of ocean life.		
6th		Identify the different types of ocean currents		
6th		Identify the characteristics of waves		
6th		Identify the various types of materials that compose ocean water		
6th		Describe the different forms of water found on earth and give rough percentages of the quantities of each form.		
6th		Identify the landforms		
6th		Classify the types of volcanoes		
6th		Interpret landforms using topographical maps		
6th		List and discuss the agents of erosion		
6th		Identify the kinds of surface changes made by wind deposits		
6th		Distinguish between continental and alpine glaciers		
6th		Discuss the development of glacier features in relation to glacial movement		
6th		Identify the types of glacial deposits		
6th		Identify glacier formations		
6th		Compare and contrast mountain building processes		

6th		Analyze how seismic episodes give us clues to the composition of the Earth's interior	
6th		Examine the development of the theory of plate tectonics and the theory of continental drift	
6th		Compare and contrast types of faults	
6th		Explain the types of evidence used by geologist to measure the age of the Earth.	
6th		Describe the basis for dividing the geological time scale into various subdivisions.	
6th		Describe the major characteristics of each geological era as to their flora and fauna.	
6th		Identify the renewable and natural resources of the Earth	
6th		Analyze ways that the renewable natural resources can be conserved	
6th		Identify the Earth's energy resources	
6th		Discuss the use of exploration of resource development	
6th		Discuss the pros and cons of resource development	
6th		**Earth and Human Activity**	
6th		Ask questions to clarify and analyze the evidence of the factors that have caused the rise in global temperatures over the past century	MN-6
6th		Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	MN-6
6th		Construct a scientific explantion based on evidence for how the uneven distrbution of Earth's mineral, energy, or growndwater resources is the result of past geological processes.	MN-6
6th		List sources of water pollution	
6th		Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	MN-6