

Standard A Science Connections that reveal God’s creation

DIOCESAN REQUIREMENTS
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS
1. Sequence-God created the world with order. Habitats - Human, Plants, Animals
2. Observe and describe changes in objects over time.
3. Discuss sequence and order of classroom demonstrations or experiments.

LOCAL LEVEL SCHOOL ELEMENTS					
Text Alignment	Quarter / Date Taught				
	1	2	3	4	Assessment

EMPHASIS & RESOURCES	ACTIVITIES	COMMON CORE STANDARDS
<p>Religious Emphasis: Students are taught that God created us to live in friendship with each other. It is up to us to work together to make what is needed to live and to grow. God created the world with perfect order.</p>	<p>A. Study God’s gift of plants in a terrarium. Watch God’s gift of animals in an ecosystem. B. Observe and describe changes in objects over time (caterpillar to butterfly, or a tree throughout the year). C. Choose a specific tree and study this tree created by God.</p>	<p>Life Science Core Idea 1: Organisms have structures and functions that facilitate their life processes, growth, and reproduction. B. Growth and development of organisms Core Idea 3: Organisms and populations of organisms obtain necessary resources from their environment which includes other organisms and physical factors. B. Flow of matter and energy transfer in ecosystems C. Ecosystems dynamics, stability and resilience. Core Idea 4: Biological evolution explains the unity and diversity of species. C. Natural selection and adaptation D. Biodiversity and humans</p>
<p>Religious Resources: RC: Creed #5 God is the creator CC: # 507 Treat animals as creatures of God B: Genesis: 1-2 Creation CCC: 1147 God speaks through creation</p>	<p>Prayer: Praise God for His creation. Thank God for His gift of the beautiful world He gave us to live in.</p>	

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Standard B **The Nature of Science as created by God and discovered by man**

DIOCESAN REQUIREMENTS	
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS	
God calls some people to the vocation to be a scientist:	
1.	Name some scientists who investigate and invent.
2.	Name some careers in Science.

LOCAL LEVEL SCHOOL ELEMENTS					
Text Alignment	Quarter / Date Taught				
	1	2	3	4	Assessment

EMPHASIS & RESOURCES	ACTIVITIES	COMMON CORE STANDARDS
<p>Religious Emphasis: Students are taught that God created us to live in friendship with each other. It is up to us to work together to make what is needed to live and to grow. God gave us gifted men and women to use our earth, sky, and land for the benefit of everyone. These scientists explore, discover, and invent objects to benefit all.</p> <p>Religious Resources: CCC: 2292-2295 Research, experiments, and inventions used on humans as related to medical advancements. RC: Life in Christ #3 We are created in God’s image CC: #507 Experiments on Animals. Talk about St. Albert the Great (Patron of Scientist)</p>	<p>A. Discuss astronauts and doctors. Explain why they can be called scientists. B. Listen to stories about men and women who have made invented new things. Have their inventions made life easier for you or your parents?</p> <p>Prayer: Remember to thank God for the scientists in our world who help us understand God’s gift of creation. Remember to thank God for the doctors and nurses who use science to help us get better when we are sick.</p>	<p>Engineering and Technology Core Idea 1: The study of the designed world is the study of designed systems, processes, materials, and products and of the technologies and the scientific principles by which they function. A. Products, processes, and systems B. Nature of Technology C. Using tools and materials Core Idea 2: Engineering design is a creative and iterative process for identifying and solving problems in the face of constraints. A. Defining and researching technological problems.</p>

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Standard C Science inquiry that reflects God’s created order

DIOCESAN REQUIREMENTS
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS
1. Prediction - Use the knowledge God gave you about one object to make a prediction about another. (e.g. which items will be attracted to a magnet)
2. Use appropriate science tools to make observations, compare and collect data.
3. Graphing – make and explain information found on simple graphs.

LOCAL LEVEL SCHOOL ELEMENTS					
Text Alignment	Quarter / Date Taught				Assessment
	1	2	3	4	

EMPHASIS & RESOURCES	ACTIVITIES	COMMON CORE STANDARDS
<p>Religious Emphasis: Students are taught that God created us to live in friendship with each other. It is up to us to make what is needed to live and to grow.</p>	<p>A. Collect rocks/minerals. Observe and describe differences. B. Use science tools like magnets and magnifying glasses or binoculars to investigate God’s creation. C. Compare different animal habitats found in God’s creation.</p>	<p>Physical Science Core Idea 2: Forces due to fundamental interactions underlie all matter structures and transformations balance or imbalance of forces determines stability and change within all systems. A. Fundamental interactions B. Motion and stability</p> <p>Engineering and Technology Core Idea 1: The study of the designed world is the study of designed systems, processes, materials, and products and of the technologies and the scientific principles by which they function. C. Using tools and materials</p>
<p>Religious Resources: B. Matt. 5: 1 to 7:29 Sermon on the Mount RC: Creed #5 God is the creator CCC: 2417 – Experimentation on Animals CCC: 1955 – Divine and natural law is to do good. CCC: 2292-2295 Research, experiments and inventions as related to humans.</p>	<p>Prayer: Remember to thank God for the scientific tools to help us learn more about the wonderful world God gave us. Praise God for our ability to think and learn about His great world.</p>	

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Standard D Physical Science as created by God

DIOCESAN REQUIREMENTS	
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS	
Using the talents God gave you:	
1.	Motion - Investigate simple machines to solve problems.
2.	Identify, describe and compare objects at rest and those in motion.
3.	Using the three states of matter, (solid, liquid, gas), predict how changes in temperature can change matter.
4.	Sound – Investigate what sound can travel through.

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EMPHASIS & RESOURCES	ACTIVITIES	COMMON CORE STANDARDS
<p>Religious Emphasis: Students are taught that God created us to live in friendship with each other. It is up to us to work together to make what is needed to live and to grow. God created the universe and gives us what we need to live.</p> <p>Religious Resources:</p> <p>CCC: 341 The beauty of the universe.</p> <p>CCC: 1147 God speaks to us through visible creation.</p> <p>CCC: 1954 Man knows the true and the good.</p>	<p>A. Make sound in air, water, through a door and other objects to see how sound travels. Ice-water-gas examples.</p> <p>B. Roll toy cars on a board at different inclines. Determine how to make a toy car go farther and faster using God’s gift of intelligence.</p> <p>C. Can you find a way to move a heavy object by using God’s gift of creativity?</p> <p>Prayer: Remember to thank God for giving us tools to control temperatures. Without them, we could not cook our food or keep warm in the winter.</p> <p>Remember to thank God for giving us our ears to hear sound.</p>	<p>Physical Science</p> <p>Core Idea 2: Forces due to fundamental interactions underlie all matter structures and transformations balance or imbalance of forces determines stability and change within all systems.</p> <p>A. Fundamental interactions</p> <p>Core Idea 3: Transfers of energy within and between systems never change the total amount of energy, but energy tends to become more dispersed; energy availability regulates what can occur in any process.</p> <p>B. Energy for life and practical use. The special role of food and fuel.</p> <p>Core Idea 4: Our understanding of wave properties, together with appropriate instrumentation, allows us to use waves, particularly electromagnetic and sound waves, to investigate nature on all scales, far beyond our direct sense perception.</p> <p>A. Wave properties</p> <p>B. Electromagnetic radiation</p>

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Standard E Earth and Space Science as created by God

DIOCESAN REQUIREMENTS
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS
1. Study Space – The Earth, Sun and Moon reveal God as creator.
2. Climates -desert, forest, rain forest, mountain, plains. Discuss and compare.
3. Map skills
4. Investigate weather as the study of God’s creation.

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EMPHASIS & RESOURCES	ACTIVITIES	COMMON CORE STANDARDS
<p>Religious Emphasis: Students are taught that God created us to live in friendship with each other. It is up to us to work together to make what is needed to live and to grow.</p> <p>God made the world with different climates that are just right for the plants and animals that live there.</p>	<p>A. We can study space by discussing pictures of objects we can see in space, which reveal God as creator.</p> <p>B. Discuss how animals are adapted to live in different climates. Include how different climates affect animal defenses.</p> <p>C. Chart weather for a week or month and point out God’s design.</p> <p>D. Make a map of your neighborhood or the local area around your school.</p>	<p>Earth and Space Science</p> <p>Core Idea 1: Humans are a small part of a vast Universe; planet Earth is part of the Solar System which is part of the Milky Way galaxy, which is one of hundreds of billions of galaxies in the Universe.</p> <p>C. Natural selection and adaptation</p> <p>Core Idea 3: Earth’s surface continually changes from the cycling of water and rock driven by sunlight and gravity.</p> <p>C. Weather and climate</p> <p>D. Biogeology</p>
<p>Religious Resources: CCC: 31, 32 We can come to know God through creation.</p> <p>CCC: 341 The beauty of the universe.</p> <p>CCC: 340 The interdependence of creation</p> <p>B. Mark 1:9-11 Baptism of Jesus (river)</p> <p>B. Matt. 4:1-11 Jesus in the Desert (desert)</p>	<p>Prayer:</p> <p>Remember to thank God for our homes.</p> <p>Remember to thank God for the mountains, deserts, and forests which are homes to many people and animals.</p>	

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Standard F Life and Environmental Science as created by God

DIOCESAN REQUIREMENTS
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS
1. Discuss God’s plan for the human person. What do people need for life?
2. Humans - Discuss major body parts (non-reproductive) and what they do.
3. Plants - Describe and illustrate the parts of a plant.
4. Observe and sequence the life cycle of an organism.
5. Classify living and non-living objects in the God-given environment.

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	1	2	3	4	Assessment

EMPHASIS & RESOURCES	ACTIVITIES	COMMON CORE STANDARDS
<p>Religious Emphasis: God created us as human people, different from animals, and gave us what we need to live. Students are taught that God created us to live in friendship with each other. It is up to us to work together to make what is needed to live and to grow. God made the plants and animals and gave them what they need to live.</p> <hr/> <p>Religious Resources: RC: Life in Christ #2 We are created in God’s image CCC: 2288 Life & health are Gods gifts. CCC: 1218 Water –source of life. CCC: 339 Every Creation is good. CCC: 341 The universe is beautiful. B: Genesis 1:26 Creation Diocesan Virtues Program - Respect Talk about St. Martha (Patron of nutrition)</p>	<p>A. Discuss how God made nonliving and living things different. What do living things need for life? B. Discuss how God created us with a soul which makes us different from animals and plants. What do we need to live? C. Study how plants make food which reveals God’s order and design in creation.</p> <hr/> <p>Prayer: Ask God to give us what we need to stay healthy and grow. Thank God for giving us a soul and the power over the animals of the world.</p>	<p>Life Science Core Idea 1: Organisms have structures and functions that facilitate their life processes, growth, and reproduction. A. Structure and function B. Organization for matter and energy flow in organisms. Core Idea 3: Organisms and populations of organisms obtain necessary resources from their environment which includes other organisms and physical factors. A. Independent relationships</p>

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Standard G Science Applications that reflect God’s goodness

DIOCESAN REQUIREMENTS
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS
God gave some people the gift of observation:
1. Give examples of using simple machines to do problem solving activities.
2. Discuss observation of water, wind, forces of nature and how scientists use machines to predict and study the effects of nature.

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	1	2	3	4	Assessment

EMPHASIS & RESOURCES	ACTIVITIES	COMMON CORE STANDARDS
<p>Religious Emphasis: Students are taught that God created us to live in friendship with each other.</p> <p>It is up to us to work together to make what is needed to live and to grow.</p> <p>God created the weather on the earth.</p>	<p>A. Create wind powered straw mobiles or pinwheels to show one way to use the wind.</p> <p>B. Use God’s gift of creativity to problem solve by making a simple machine out of limited objects like straws and rubber bands.</p> <p>C. Using God’s gift of intelligence, problem solve by predicting whether objects in water will sink or float.</p>	<p>Engineering and Technology</p> <p>Core Idea 1: The study of the designed world is the study of designed systems, processes, materials, and products and of the technologies and the scientific principles by which they function.</p> <p style="padding-left: 20px;">A. Products, processes, and systems.</p> <p style="padding-left: 20px;">B. Nature of technology.</p> <p style="padding-left: 20px;">C. Using tools and materials.</p> <p>Core Idea 2: Engineering design is a creative and iterative process for identifying and solving problems in the face of constraints.</p> <p style="padding-left: 20px;">A. Defining and researching technological problems</p> <p style="padding-left: 20px;">B. Generating and evaluating solutions</p> <p style="padding-left: 20px;">C. Optimizing and making tradeoffs</p> <p>Core Idea 3: People are surrounded and supported by technological systems. Effectively using and improving these systems is essential for long-term survival and prosperity.</p> <p style="padding-left: 20px;">B. Life cycles and maintenance of technological systems.</p>
<p>Religious Resources:</p> <p>B: Genesis 6:9 - 8:19 Noah’s Ark</p> <p>B: Matt. 16:1-3 Predict the weather by the sky</p> <p>CCC: 341 The universe is beautiful</p> <p>CCC:1831 Gift of knowledge</p> <p>CCC: 2427 Human work honors God.</p>	<p>Prayer:</p> <p>Remember to thank God for the weather, we need the sun and we need to rain.</p> <p>Remember to thank God for simple machines.</p>	

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Standard H Personal, Social, and Moral Aspects of Science

DIOCESAN REQUIREMENTS
CONCEPTS, SKILLS, & CATHOLIC FAITH CONNECTIONS
God has given each person certain gifts. Some people invent things to keep us safe and healthy:
1. What technology do we use to heat, cook and light our homes?
2. What technology keeps us safe and healthy?

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<p>Religious Emphasis: Students are taught that God created us to live in friendship with each other. It is up to us to work together to make what is needed to live and to grow.</p> <hr/> <p>Religious Resources: CCC: 2428 Work benefits man. CCC: 2493 -2494 Technology, progress serve the common good. B: Matt. 25:1-13 Parable of the Lamp B: Genesis 7:14-15 Measurement Matt 5:15-16 Let your light shine. Luke 8:16 Do not hide your light. Talk about St. Anastasia (Patron of Weavers) Talk about St. Stephen of Hungary (Patron of Stone Masons)</p>	<p>A. God gives us people who invent things to keep us safe. Name some of those people. B. Pioneer unit: Use examples of various electrical devices. Consider what people may have done before this technology was available. C. Where does electricity come from? How has electricity helped to make us safe? D. Name things that have been invented to help keep us safe.</p> <hr/> <p>Prayer: Remember to thank God for electricity and all the wonderful things it does in our lives.</p> <p>Remember to thank God for technology in our lives today.</p>	<p>Engineering and Technology Core Idea 4: In today’s modern world everyone makes technological decisions that affect or are affected by technology on a daily basis. Consequently, it is essential for all citizens to understand the risks and responsibilities that accompany such decisions. C. Analyzing issues involving technology and society.</p>

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