

## **8<sup>th</sup> Grade**

### **Guidelines for Human Sexuality Education**

**Based on the understanding that human sexuality education is a right and responsibility of parents, teachers whose curricular material includes human sexuality content are obligated to work together with parents to ensure that parents know what is being taught to their children and how it is being covered.**

**In grade 8, the curricular areas that address human sexuality education include:**

**Standard F – Genetics.**

**Standard H – Personal decision making.  
Social Issues.**

**Please consult with your principal and/or pastor to determine the local directives on parental collaboration that are aligned with directives outlined in the May 4, 2011 letter from Bishop William Patrick Callahan. A copy of that letter can be found in the front pocket of this curriculum binder.**

**Standard A** Science Connections that reveal God’s creation

<b>DIOCESAN REQUIREMENTS</b>
<b>CONCEPTS, SKILLS, &amp; CATHOLIC FAITH CONNECTIONS</b>
1. What scientific measures are required to keep our rivers clean but usable for commerce and recreation?
2. Explain how mountains are built and rocks are formed.
3. Describe the Milky Way galaxy and all objects in it.

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

<b>EMPHASIS &amp; RESOURCES</b>	<b>ACTIVITIES</b>	<b>COMMON CORE STANDARDS</b>
<p><b>Religious Emphasis:</b> Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man’s intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p>	<p>A. Use a science theme (evolution, equilibrium, energy) to predict future events or changes in the natural world (e.g. global climate change, adaptation, fossil fuel use, etc.).</p> <p>B. Explain the usefulness of man-made satellites and what happens to them when they have completed their work.</p>	<p><b>Earth and Space Science</b> Core Idea 3: Earth’s surface continually changes from the cycling of water and rock driven by sunlight and gravity.</p> <ul style="list-style-type: none"> <li>A. The roles of water in Earth’s surface processes</li> <li>B. Formation and alteration of rocks and landforms</li> <li>C. Weather &amp; climate</li> <li>D. Biogeology</li> </ul> <p>Core Idea 4; Human activities are constrained by and, in turn, affect all other processes at Earth’s surface</p> <ul style="list-style-type: none"> <li>A. Natural hazards</li> <li>B. Natural resources</li> <li>C. Human impact on the Earth</li> <li>D. Global climate change</li> </ul>
<p><b>Religious Resources:</b> <b>CCC:</b> 298-301 God created all, sustains all, and enables creation to act <b>CCC:</b> 314 God guides creation <b>RC:</b> Life in Christ – Sin/Choices/Virtue #10-11 Stewardship <b>B:</b> Lev 25:23 We are tenants on God’s land and must take care of it <b>B:</b> Deut 8:6-10 The Lord has given us the land, water, plants, &amp; minerals</p>	<p><b>Prayer:</b> Thank God for the beauty of the world (rivers, mountains, grassy plains, etc.) that God created.  Thank God for the twinkling stars in the night sky.</p>	

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**Standard B** The Nature of Science as created by God

<b>DIOCESAN REQUIREMENTS</b>	
<b>CONCEPTS, SKILLS,</b>	
<b>&amp; CATHOLIC FAITH CONNECTIONS</b>	
1.	Private investigators and police detectives use scientific evidence to charge and convict criminals of crimes. Name the kind of evidence they would use.
2.	What information do fossils give scientists?
3.	In what ways are Garden Centers using scientific knowledge and technology in their businesses?
4.	Identify living and non-living things discovered in the exploration of Earth's oceans.

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	1	2	3	4	Assessment

<b>EMPHASIS &amp; RESOURCES</b>	<b>ACTIVITIES</b>	<b>COMMON CORE STANDARDS</b>
<p><b>Religious Emphasis:</b></p> <p>Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man's intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p> <hr/> <p><b>Religious Resources:</b></p> <p><b>CCC:</b> 1960 Natural law provides us with knowledge of right and wrong</p> <p><b>CCC:</b> 2415 Show respect for creation (mineral, vegetable, and animal resources)</p> <p><b>B:</b> Genesis 1:26 Man has dominion over the fish, birds, and animals</p> <p><b>B:</b> 1Cor12:27-30 All are members of the Body of Christ</p>	<p>A. Explain ways in which science knowledge is shared, checked and extended.</p> <p>B. Pick a branch of science (weather, astronomy, biology, chemistry, etc.) and research a specific job. Identify the tools that the scientist uses and the purpose of the position.</p> <p>C. Part of God's creation includes gemstones. Where are they found, why are they valuable, and what occupations deal directly with gemstones?</p> <p><b>Prayer:</b></p> <p>Thank God for the gift of sight so that we can see the beauty of colorful flowers, colorful sunrises and sunsets and colorful rocks, minerals, and gemstones.</p> <p>Thank God for our freedom to choose an occupation that interests us and challenges us.</p>	<p><b>Life Science</b></p> <p>Core Idea 3: Organisms and populations of organisms obtain necessary resources from their environment which includes other organisms and physical factors.</p> <ul style="list-style-type: none"> <li>A. Independent relationships in ecosystems</li> <li>B. Flow of matter and energy transfer in ecosystems</li> <li>C. Ecosystems dynamics, stability, &amp; resilience</li> </ul> <p><b>Earth and Space Science</b></p> <p>Core Idea 4: Human activities are constrained by and, in turn, affect all other processes at Earth's surface.</p> <ul style="list-style-type: none"> <li>A. Natural hazards</li> <li>B. Natural resources</li> <li>C. Human impacts on the Earth</li> <li>D. Global climate change</li> </ul> <p><b>Physical Science</b></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> <ul style="list-style-type: none"> <li>A. Fundamental interactions</li> <li>B. Motion &amp; stability</li> <li>C. Transformation of matter</li> </ul>

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**Standard C** Science Inquiry that reflect God’s created order

<b>DIOCESAN REQUIREMENTS</b>
<b>CONCEPTS, SKILLS, &amp; CATHOLIC FAITH CONNECTIONS</b>
1. Using a household cleaning product, design and perform an experiment. Explain the results and implications to an audience of younger students.
2. List inventions that you ‘look through’ and use in scientific investigations. Describe their purpose.
3. Identify the weather components that God gave us to analyze to determine tomorrow’s temperature and precipitation.

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	1	2	3	4	Assessment

<b>EMPHASIS &amp; RESOURCES</b>	<b>ACTIVITIES</b>	<b>COMMON CORE STANDARDS</b>
<p><b>Religious Emphasis:</b> Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man’s intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p>	<p>A. Pick a scientific law (friction, gravity, motion, magnetism) and speculate how our world would be without this natural law.</p> <p>B. Read about inventors and discuss their research (Thomas Edison, Jonas Salk, Spencer Silver, etc.)</p>	<p><b>Engineering and Technology</b> 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>A. Products, processes, and systems B. Nature of technology 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>A. Defining and researching technological problems B. Generating and evaluating solutions C. Optimizing and making tradeoffs</p>
<p><b>Religious Resources:</b> <b>CCC:</b> 1956-1960 Natural law expresses the dignity of the person and our moral guide to know what is right <b>CCC:</b> 2292-2296 Scientific research, experiments, &amp; inventions are for the common good <b>B:</b> Mt 19:13-15 Bring the little children to me <b>B:</b> Job 12:7-10 Ask the beasts, birds, bushes &amp; fish and they will teach you  Diocesan Virtues Program - Fortitude</p>	<p><b>Prayers:</b></p> <p>Thank God for gifted people who study problems and find solutions through research.</p> <p>Praise God for the natural laws he gave us to keep our world ordered.</p>	

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**Standard D** Physical Science as created by God

<b>DIOCESAN REQUIREMENTS</b>
<b>CONCEPTS, SKILLS, &amp; CATHOLIC FAITH CONNECTIONS</b>
1. Create a model to demonstrate conduction, convection and radiation.
2. Explain the periodic table in terms of groups, periods, regions, and atomic numbers.
3. Use major ideas of atomic theory and molecular theory to describe physical and chemical interactions and changes. Compare and contrast physical and chemical properties.

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<b>EMPHASIS &amp; RESOURCES</b>	<b>ACTIVITIES</b>	<b>COMMON CORE STANDARDS</b>
<p><b>Religious Emphasis:</b> Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man’s intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p>	<p>A. Explain the difference between the forms of energy: heat, light, electrical, chemical, and mechanical.</p> <p>B. Follow God’s plan and describe what happens to water when it reaches the boiling point or the freezing point.</p> <p>C. List the advantages and disadvantages of a solar cell.</p>	<p><b>Physical Science</b> Core Idea 1: macroscopic states and characteristic properties of matter depend on the type, arrangement, and motion of particles at the molecular and atomic scales. A. Atomic structure of matter B. Properties of matter 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 &amp; stability C. Transformation of Matter 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. A. Descriptions of energy B. Energy for life and practical use. The special role of food and fuel C. Relationship between energy and forces</p>
<p><b>Religious Resources:</b> CCC: 341 Order in the Universe RC: Creed #9 God made all creation with perfect order</p>	<p><b>Prayer:</b>  Thank God for the elements of the Earth that can be compounded to make molecules necessary for our existence.  Ask God to reveal ways to harness energy for our benefit.</p>	

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**Standard E** Earth and Space Science as created by God

<b>DIOCESAN REQUIREMENTS</b>
<b>CONCEPTS, SKILLS, &amp; CATHOLIC FAITH CONNECTIONS</b>
1. Describe a theory of the formation of the solar system.
2. Explain the evidence used to develop models of the universe.
3. Describe the role gravity in God’s plan as it affects tides, the solar system, etc.

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	1	2	3	4	Assessment

<b>EMPHASIS &amp; RESOURCES</b>	<b>ACTIVITIES</b>	<b>COMMON CORE STANDARDS</b>
<p><b>Religious Emphasis:</b> Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man’s intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p>	<p>A. Create a brochure of a vacation trip through the Milky Way.</p> <p>B. Identify changes in the way gold is mined from 1849 to the present time.</p>	<p><b>Earth and Space Science</b> 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. A. The Universe B. Gravity, Energy, and matter in the Universe C. Earth and the Solar System</p>
<p><b>Religious Resources:</b> <b>CCC:</b> 296-298 God created everything out of nothing <b>B:</b> Gen 1:1-2:3 The story of creation</p>	<p><b>Prayer:</b> Thank God for the land that provides soil to grow food and natural resources to use for our benefit.  Thank God for the beauty of the mountains and the recreational facilities that they provide.</p>	<p>Core Idea 1: Earth is a complex and dynamic 4.6 billion-year-old system of rock, water, air, and life. A. Continental drift, plate tectonics, and Earth’s internal heat B. Earth’s materials C. Earth’s history</p>

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**Standard F** Life and Environmental Science as created by God

<b>DIOCESAN REQUIREMENTS</b>
<b>CONCEPTS, SKILLS, &amp; CATHOLIC FAITH CONNECTIONS</b>
1. Create an activity to show how various populations and ecosystems affect one another.
2. Analyze stewardship as it impacts global changes that affect humanity and the environment.
3. Describe and cite examples of adaptation and evolution.
4. Describe how plant and animal traits are passed from one generation to another through genes and chromosomes.

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<b>EMPHASIS &amp; RESOURCES</b>	<b>ACTIVITIES</b>	<b>COMMON CORE STANDARDS</b>
<p><b>Religious Emphasis:</b> Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man’s intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p> <p><b>Religious Resources:</b> <b>CCC:</b> 296-302 God created everything from nothing. Creation is ordered and good and guided by God’s plan. <b>B:</b> Gen 2:29-30 I have given every green plant for food to birds and animals <b>B:</b> Gen 1:1 – 2:3 The creation story <b>B:</b> Gen 2:4-2:23 The creation story <b>RC:</b> Life in Christ – Love #1 God reveals himself through His creation Diocesan Virtue Program – Respect United States Catholic Conference of Bishops (USCCB) <a href="http://www.usccb.org/">http://www.usccb.org/</a> life issues and social justice</p>	<p>A. Explain the DNA found in cells.</p> <p>B. Describe a symbiotic relationship found in our God-given environment.</p> <p>C. Describe a parasitic relationship found in our God-given environment.</p> <p><b>Prayer:</b> Thank God for providing us with symbiotic relationships that benefit both parties involved. Thank God for the scientists who study genetics and pass that information on to us.</p>	<p><b>Life Science</b> Core Idea 2: Organisms have mechanisms and processes for passing traits and variations of traits from on generation to the next. A. Inheritance traits B. Variation of traits Core Idea 3: Organisms and populations of organisms obtain necessary resources from their environment which includes other organisms and physical factors. A. Independent relationships in ecosystems B. Flow of matter and energy transfer in ecosystems C. Ecosystems dynamics, stability, &amp; resilience Core Idea 4: Biological evolution explains the unity and diversity of species. A. Evidence of common ancestry and diversity B. Genetic variation within a species C. Natural selection and adaptation D. Biodiversity and humans</p>

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**Standard G** Science Applications that reflect God’s goodness

<b>DIOCESAN REQUIREMENTS</b>
<b>CONCEPTS, SKILLS, &amp; CATHOLIC FAITH CONNECTIONS</b>
1. Create a multi-media presentation about a chosen technology or science career.
2. Gather information using a variety of resources explaining the positive and negative influences of scientific and technological discoveries found in our home on our quality of life for all people.
3. Investigate the pros and cons of a carrying a cell phone into a classroom, including choices made, the reasons for those choices and the possible impact of the decision.

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<p><b>Religious Emphasis:</b> Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man’s intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p>	<p>A. List positive and negative uses of computers.</p> <p>B. Think of a device that needs to be invented that would benefit the common good of the school.</p> <p>C. Name the science application that you find most useful and explain why.</p>	<p><b>Engineering and Technology</b> 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 principals by which they function. A. Products, processes, and systems B. Nature of technology C. Using tools and materials 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. A. Identifying and modeling technological systems B. Life cycles and maintenance of technological systems C. Control and feedback 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. A. Interactions of technology and society B. Interactions of technology and environment C. Analyzing issues involving technology and society</p>
<p><b>Religious Resources:</b> <b>CCC:</b> 2493-2498 Information provided by media &amp; civil authorities must be for the common good <b>CCC:</b> 2293-2296 Research, experiments &amp; inventions must be for the common good</p> <p><b>RC:</b> Life in Christ – Vocation #1 – 3 God has given us gifts that we use to serve God and others</p>	<p><b>Prayer:</b></p> <p>Ask God for the gift of wisdom to know how and when to make best use of new technological devices.</p> <p>Thank God for scientists who continually work to improve the products we use in our homes.</p>	

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# Standard H Personal, Social, and Moral Aspects of Science

<b>DIOCESAN REQUIREMENTS</b>
<b>CONCEPTS, SKILLS, &amp; CATHOLIC FAITH CONNECTIONS</b>
1. Evaluate scientific evidence used to address a social issue (diet sodas, nutritious value of fast food, 2 <sup>nd</sup> hand smoke, sunscreen, etc.) determining bias, logic, accuracy and credibility of sources.
2. Research the consequences of a personal decision (smoking, use of asbestos products, use of cell phones, use of pesticides, use of plastic bottles, sunscreen, etc.) for future generations.

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<p><b>Religious Emphasis:</b> Students are taught that creation reflects the infinite beauty of the Creator. Further, scientific study ought to inspire the respect, awe and submission of man’s intellect and willingness to tell the truth of Catholic Church Teaching. Students are taught that there is an objective, unchanging truth which is distinct from scientific theory.</p> <p><b>Religious Resources:</b> <b>CCC:</b> 2493-2498 The media &amp; civil authorities must present information for the common good <b>CCC:</b> 1783-1789 A well formed conscience is truthful-makes right judgment – interprets data assisted by the Holy Spirit</p> <p><b>B:</b> Proverbs 8:12 I, wisdom, dwell with prudence, and I find knowledge &amp; discretion</p> <p><b>RC:</b> Life in Christ – Sin/Choice/Virtue #1 – 3 We have choices</p>	<p>A. List products developed for your personal safety outdoors (water safety, travel safety, bicycle safety, skate board safety, etc.).</p> <p>B. Identify scientific inventions that have helped physically challenged individuals adapt in society.</p> <p><b>Prayer:</b> Thank God for our free will and good judgment that allows us to make good choices.</p> <p>Thank God for the media who publicize products that are harmful to the general population.</p>	<p><b>Engineering and Technology</b> Core Idea 1: The study of the designed world is the study of designed system, processes, materials, and products and of the technologies and the scientific principles by which they function.</p> <ul style="list-style-type: none"> <li>A. Products, processes, and systems</li> <li>B. Nature of technology</li> <li>C. Using tools and materials</li> </ul> <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> <ul style="list-style-type: none"> <li>A. Identifying and modeling technological systems</li> <li>B. Life cycles and maintenance of technological systems</li> <li>C. Control and feedback</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <li>A. Interactions of technology and society</li> <li>B. Interactions of technology and environment</li> <li>C. Analyzing issues involving technology and society.</li> </ul>