SCIENCE CURRICULUM PROJECT

GOAL 13 Understand the relationships among science, technology and society in historical and contemporary contexts.

Standard A: Know and apply the accepted practices of science.

CATHOLIC IDENTITY

Standard A: ***Know and apply the accepted practices of science and understand the moral and ethical issues involved.***

As a result of their schooling students will be able to…

Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grades 6-8
1. Name basic safety practices.	1. Follow basic safety measures for experiments. 2. Observe experiments and describe outcomes. 3. ***Recognize that God loves you and wants you to practice safety measures.***	1. Identify basic safety measures for various types of experiments. 2. Describe the steps of an experiment. 3. Draw the steps of an experiment and its outcome. 4. ***Explain that because of God's love for us, we must take care of ourselves and act responsibly.***	1. Explain and use basic safety measures for experiments. 2. Perform an experiment changing one variable. 3. Describe an experiment with a change in one or more variables. 4. ***Demonstrate "good" choices in safety procedures.***	1. Identify and practice ways to avoid injury when conducting science activities. 2. Observe varied results generated from an activity. 3. Keep accurate records of activities. 4. ***Recognize why it is important to be honest and truthful in reporting results.***	1. Demonstrate how to use a fire extinguisher. 2. Explain why similar activities have different results. 3. Produce accurate and detailed records of activities. 4. ***Describe why it is important to be honest and truthful in reporting results.***	1. Identify and explain safety issues in lab activities. 2. Compare varied results from similar activities. 3. Explain why accurate and detailed records are important. 4. ***Recognize the moral responsibility to be valid in science practices.***	1. Identify potential hazards in science activities. 2. Examine ways to reduce potential hazards in science activities and put them into practice. 3. Recognize difference between valid and biased scientific practices. 4. Identify, analyze and evaluate historical & contemporary cases in which the work of science has been affected by both valid & biased scientific practices. 5. ***Describe the moral responsibility to be valid in science practices.*** 6. ***Give an example of a valid or biased scientific practice that may not necessarily be morally or ethically acceptable.*** 7. ***Write a letter to someone they believe is doing important, valid & moral scientific work.*** 8. Describe characteristics of observational & experimental investigations 9. Compare & contrast observational and experimental investigations.

SCIENCE CURRICULUM PROJECT

GOAL 13 Understand the relationships among science, technology and society in historical and contemporary contexts.

Standard B: Know and apply concepts that describe the interaction between science, technology and society.

CATHOLIC IDENTITY

Standard B: ***Know and apply concepts that describe the interaction between science, technology, society and morality. Use this knowledge to foster and promote Catholic values.***

As a result of their schooling students will be able to…

Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grades 6-8
1. Express wonder and ask questions about their world. 2. Talk about technology and how it affects their lives.	1. Identify famous scientists and inventors. 2. Identify ways that science and technology affect people's lives. *3.* ***Identify ways that science has helped God's people live better.*** 4. Describe the 3R's: reduce, recycle and reuse. 5***. Tell how God expects people to use His creation with respect.***	1. Describe the contribution of famous scientists and inventors. 2. Describe ways that science and technology affect people's lives. ***3. List ways scientists use God's creation to promote good.*** 4. Identify the use of common scientific instruments and technology. 5. Identify ways to reduce, reuse and recycle materials.	1. Describe and identify the value of common, scientific instruments and technology. 2. Compare the accuracy of measurement made with and without instruments. 3. Describe some common uses for scientific knowledge. 4. ***Give examples of choices that reflect the Catholic value of respect for all God's creatures.*** 5. Demonstrate ways to reduce, reuse and recycle materials.	1. Observe the use of technology in science to collect and store data. 2. Identify technological innovations that have affected society. 3***. Describe how technological innovations help us to be closer to all of God's people.*** 4. Identify careers in science. 5. Observe examples of technology within an ecosystem. 6. Observe an example of a personal or societal choice that affects the local ecosystem.	1. Demonstrate the use of technology for data collection, storage. 2. Recognize the use of science and technology in varied careers. 3. Describe careers in the fields of science and technology. 4. Identify examples of technology within an ecosystem. 5. Explain how a personal, societal, or ***"moral"*** choice affects a local ecosystem. 6. ***Describe how scientific knowledge can promote the Catholic value of sharing food with all God's people.***	1. Explain how technology is used for data storage, retrieval, and communication of information. 2. Describe the effects on society of scientific and technological innovations. 3. Explain how science and technology affect lives and careers of people. 4. Explain how technology changes an ecosystem. 5. Analyze how personal, societal, or ***"moral"*** choices affect regional and global ecosystems. 6. ***Explain how science and technology can be used to promote Catholic values.***	1. Identify and explain ways that scientific knowledge and economics drive technological development. 2. Identify important contributions to science & technology made by individuals and groups. 3. Identify methods of resource acquisition. 4. Analyze the interactions of resource acquisition, technological development, and ecosystem impact. 5. Identify methods of resource conservation & management. 6. List the advantages & disadvantages of natural resource conservation & management. 7. Identify an example of a local policy affecting science & technology. 8. Develop and apply classroom-developed criteria including the ***moral and ethical issues*** to determine the effects of policies on local science & technology issues. ***9. Know what the Church teaches regarding technology and resource acquisition (Church & Computer Culture, John Paul II, 1989).*** ***10. Describe how some scientific and technological skills may not reflect what the Church teaches.*** 11. ***Apply Church teachings to a current policy to evaluate its appropriateness.***