

Jackson Area Catholic Schools

Science Academic Standards for Sixth Grade

Scientific Inquiry

- SI.06.01** The student will generate scientific questions based on observations, investigations, and research.
- SI.06.02** The student will design and conduct scientific investigations.
- SI.06.03** The student will use tools and equipment appropriate to scientific investigations.
- SI.06.04** The student will analyze information from data tables and graphs to answer scientific questions.
- SI.06.05** The student will evaluate data, claims, and personal knowledge through collaborative science discourse.
- SI.06.06** The student will communicate and defend findings of observations and investigations.
- SI.06.07** The student will draw conclusions from sets of data from multiple trials of a scientific investigation.
- SI.06.08** The student will use multiple sources of information to evaluate strengths and weaknesses of claims, arguments, or data.
- SI.06.09** The student will describe limitations in personal and scientific knowledge.
- SI.06.10** The student will identify the need for evidence in making scientific decisions.
- SI.06.11** The student will evaluate scientific explanations based on current evidence and scientific principles.
- SI.06.12** The student will demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities.
- SI.06.13** The student will design solutions to problems through the use of technology.

Scientific Inquiry (cont.)

- SI.06.14** The student will describe the effect humans and other organisms have on the balance of the natural world.
- SI.06.15** The student will describe what science and technology can and cannot reasonably contribute to society.
- SI.06.16** The student will describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.

Life Science

- LS.06.01** The student will distinguish between the processes of mitosis and meiosis.
- LS.06.02** The student will distinguish between sexual and asexual reproduction.
- LS.06.03** The student will identify plants as monocots or dicots based on observable characteristics.
- LS.06.04** The student will classify organisms (producers, consumers, decomposers) based on their source of energy for growth and development.
- LS.06.05** The student will distinguish between the ways in which consumers and decomposers obtain energy.
- LS.06.06** The student will list examples of populations, communities and ecosystems, including the Great Lakes region.
- LS.06.07** The student will describe how human beings are part of the ecosystem of the earth and that human activity can purposefully or accidentally alter the balance of ecosystems.
- LS.06.08** The student will predict possible consequences of over population of organisms including humans.
- LS.06.09** The student will identify biomes based on the living organisms they contain.
- LS.06.10** The student will identify systems of the human body based on structure and function.
- LS.06.11** The student will identify inherited traits and describe how DNA control heredity.

Earth Science

- ES.06.01** The student will define plate tectonics.
- ES.06.02** The student will describe layers of the earth as lithosphere, mantle and core.
- ES.06.03** The student will describe and identify earth building processes.
- ES.06.04** The student will explain how physical and chemical weathering lead to erosion and the formation of soils and sediments.
- ES.06.05** The student will demonstrate the relationship between the warming of the earth by the sun and the water cycle as it applies to the atmosphere (evaporation, water vapor, warm air rising, cooling, condensation, clouds).
- ES.06.06** The student will describe the relationship between the warming of the atmosphere of the earth by the sun and convection within the atmosphere and oceans.
- ES.06.07** The student will describe how the warming of the earth by the sun produces wind and ocean currents.
- ES.06.08** The student will demonstrate ability to forecast weather based on the study of key concepts.
- ES.06.09** The student will define a galaxy and describe the celestial bodies that make up a galaxy.
- ES.06.10** The student will describe cycles of the solar system.
- ES.06.11** The student will investigate past and present space exploration.
- ES.06.12** The student will explain how rocks and fossils are used to understand the age and geological history of the earth.
- ES.06.13** The student will describe how fossils provide important evidence of how life and environmental conditions have changed.
- ES.06.14** The student will describe the earth as a magnet and compare the magnetic properties of the earth to that of a natural or man-made magnet.
- ES.06.15** The student will explain how a compass works using the magnetic field of the earth, and how a compass is used for navigation on land and sea.

Physical Science

- PS.06.01** The student will describe and demonstrate knowledge of simple and compound machines.
- PS.06.02** The student will demonstrate the ability to measure characteristics of matter.
- PS.06.03** The student will apply the Laws of Motion.
- PS.06.04** The student will distinguish between forms of energy.
- PS.06.05** The student will describe how energy is transformed from one form to another through conduction, convection and radiation.
- PS.06.06** The student will illustrate how energy can be transferred while no energy is lost or gained in the transfer.
- PS.06.07** The student will classify substances by their chemical properties.
- PS.06.08** The student will describe or illustrate changes in states of matter, in terms of the arrangement and relative motion of the atoms or molecules.
- PS.06.09** The student will explain how mass is conserved as matter changes from state to state in a closed system.
- PS.06.10** The student will recognize the properties of light and sound.
- PS.06.11** The student will identify examples of waves.
- PS.06.12** The student will describe how waves are produced by vibrations in matter.
- PS.06.13** The student will demonstrate how waves transfer energy when they interact with matter.
- PS.06.14** The student will identify and demonstrate the properties of magnetism.

