

Sacred Heart School

Syllabus title: Science Grade 4

Teacher Information: Maureen Kamercia

Grade 4

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Course description: The fourth grade science program is designed to introduce the following concepts to the students through reading, and discovery activities using the Scientific Method. The students will be introduced to the outlined curriculum and relate it to everyday life.

Course content: The program includes three strands of exploration: Life Science, Physical Science, and Earth and Space Science. Life Science includes “Exploring the Characteristics of Cells”, “Examining and Classifying Plants”, “Investigating Characteristics of Animals”, and “Examining Ecosystems”. Physical Science has units of “Exploring Energy” and “Investigating Electricity. Earth and Space Sciences include units of “Identifying Renewable and Non-renewable Energy Resources” and “Describing Ways to Help the Environment”.

General course objectives:

Earth and Space Sciences

The students will:

- Explore the physical properties of rocks
- Identify that rocks and fossils provide clues about the past and the process of change in the environment and living things
- See that the earth’s surface has changed by weathering, erosion, and ever changing landforms
- Describe the structure of the earth
- Research earthquakes and hurricanes and the impact on the earth
- Explore how the earth, the moon, and the sun move through space causing the cycle of day and night and the seasons
- Identify the planets and other bodies in the solar system
- Describe how the sun’s energy impacts the water cycle
- Identify renewable and non-renewable energy resources
- Describe ways to help the environment

Physical Science

The students will:

- Describe and define matter
- Identify mixtures and give examples

- Identify the basic forms of energy (light, sound, heat, electrical, magnetic) and recognize that energy causes change
- Explore the effects of static electricity and current electricity
- Demonstrate the push and pull of magnets
- Describe what determines volume of sound and pitch
- Explain how simple electrical currents can be used to determine which materials conduct electricity
- Describe how metric units are used to measure length, calculate areas, and measure volume
- Explain mass, weight, and density
- Understand the importance of recycling and reusing matter

Life Science

The students will:

- Compare the parts of animal cells and plant cells and one-celled organisms
- Describe how cells are organized
- Describe the organization of the classification system and how plant and animal organisms are grouped
- Compare ecosystems and how they change
- Explain producers, consumers, and decomposers
- Trace food chains and webs

Health

The students will:

- Know the basic six body functions
- Explain the effects of nutrients needed for proper health
- Describe personal hygiene
- Explain the effect of physical exercise
- Explain the effects of alcohol, tobacco, and drug use on self, family, and community

Course materials:

- Nancy Larson Science book with worksheets
- Lab kits

Instructional strategies:

- Lecture

- Discussion/Questioning
- Viewing/Listening/Answering
- Laboratory
- Data Collection
- Discovery
- Collaborative Learning Groups
- Independent Learning
- Computer Applications
- Video

Assessment/Grading

- Observation of written and oral work
- Chapter Testing/Quizzes
- Unit Testing/Quizzes
- Projects

Student expectations:

- Actively participate in individual and group work
- Work to complete assignments on time and review information in class
- Be responsible for identifying any missing work assignments and completing them in a timely manner of within a week when absences occur
- Be respectful of other students and adults, their property and the classroom