

Sacred Heart School

Course Syllabus

Class Subject: Grade 8 - Physical Science

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Sacred Heart School: 860-445-0611

Course Description: In Physical Science, students will learn about Chemistry and Physics. Using a child's curiosity, opportunities are created to investigate, hypothesize, test ideas, draw conclusions, and engage in hands on activities. Science develops skills in gathering, categorizing, quantifying, and interpreting data. Students will be able to make discoveries about themselves and their environment through science.

General Course Objectives:

Chemistry:

Students will:

- Understand that matter can be identified by chemical and physical properties
- List the four phases of matter
- Understand the structure of an atom
- Identify elements including molecular formula, chemical symbol, atomic number, and family
- Understand the Periodic Table and its classifications of elements
- Distinguish between solutions/mixtures, and acids/bases

Physics:

Students will:

- Understand Newton's Three Laws of Motion
- Identify types of forces (frictional, gravitational, electrical etc)
- Know the forms of energy
- Identify common units to measure energy
- Determine the average speed of objects
- Recognize differences between speed/velocity, and acceleration/deceleration

- Understand a simple machine
- Recognize that visible light can be separated into colors
- Distinguish between loudness and pitch
- Distinguish between static and current electricity
- Distinguish between an open and closed circuit

Instructional Strategies: Include but are not limited to the following. Lecture, Discussions/Questioning, Viewing/Listening/Answering, Problem Finding/Solving, Laboratory, Data Collection, Discovery, Collaborative Learning Groups, Independent Learning, Computer Applications, Videos

Assessments: Class Discussions, Teacher Observation, Class Work, Homework, Tests/Quizzes, Projects/Oral Presentations, Journal Writing Assignments, Laboratory Performance, Laboratory Reports

Materials: Prentice Hall Science Explorer (five books): Chemical Building Blocks, Chemical Interactions, Motion Forces an Energy, Electricity and Magnetism, and Sound and Light. Laboratory activity materials, Supplemental Materials, Videos, Teacher Generated Materials, Interactive white board