(cont. from previous side)

Energy (Fourth grade)

- Energy transfer
- The medium through which energy is transferred
- Basics of electromagnetic radiation via magnets and electromagnets
- Earth's poles protect from harmful solar radiation (electromagnetism)

Mixtures & Solutions (Fifth grade)

- Properties, behaviors, and changes in substances and their states
- Water as a solvent
- Solutions and concentrations
- Precipitates and saturations

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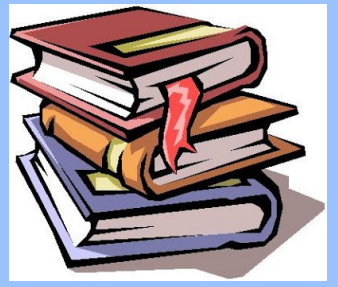
SCIENCE CURRICULUM GRADES 1-5



YBH Elementary Grades Science Curriculum

Students at YBH have the opportunity to 'do' science in their classrooms as well as in our state of the art science lab. Each year, one of the two units of study is taught using the FOSS (Full Option Science System). FOSS modules provide tools and strategies to engage students in experiences that will deepen their understandings. They participate in various investigations, hands on experimentation and problem solving. Below are the FOSS units for each grade level. In addition to the FOSS unit, students at each grade level study an additional unit in science.

Science Curriculum by Grade

First Grade	**Five senses** **Sound & Light (FOSS)**
Second Grade	**Habitats** **Insects & Plants (FOSS)**
Third Grade	**Structures of life (FOSS)** **Rocks and Minerals**
Fourth Grade	**Astronomy** **Energy (FOSS)**
Fifth Grade	**Energy Forces** **Mixtures & Solutions (FOSS)**

YBH Science Curriculum Grades 1-5

The **YBH Science Curriculum** aligns with recommendations of various national initiatives in science education. Through in depth study of fewer topics in greater depth each year, the developmental curriculum follows a "less is more" approach to science education. Thus, as articulated by the American Association for the Advancement of Science (AAAS 2061) initiative and Next Generation Standards in Science Study (NGSS), the following principles informed the YBH learning sequence in science:

- Science concepts build coherently across K-12
- The standards focus on deeper understanding and application
- The framework recommends questioning, defining problems and models
- Emphasis on core ideas in each discipline (de-emphasis on technical vocabulary)
- Integration of scientific and engineering practices
- All learning is taught contextually
- Elimination of repetition of topics
- Integration of cross curricular connections with alignment to standards in literacy and math
- Implement a STEM (Science, Technology, Engineering and Math), STEAM (with Art) for whole child engagement.

FOSS Elementary Modules

Sound & Light (First grade)

- All energy travels via waves
- How to manipulate sound and light
- Develop simple models of how sound travels
- Discover how different materials react with light

Insects & Plants (Second grade)

- Structures and functions of living organisms
- Growth and development of organisms
- Interactions of particular organisms and their respective environments
- Watching eggs and seeds turn into living organisms

Structures of Life (Third grade)

- Overarching concepts in life sciences
- Dispersal of seeds to begin new life
- New ways of looking at development, i.e. hydroponics
- How environments affect plants and animals, i.e. crayfish
- Movement of
  plants (dispersal),
  animals (environment),
  humans (skeletal)

(cont. over)