

## **Grade 8 General Science Curriculum Overview**

### **Description:**

As in grade sixth and seventh grades, the eighth grade science program includes topics in Life, Physical and Earth Science. Additionally, the eighth grade science course will enhance topics with scientific problem solving activities. Physical Science topics will include description and measurement of matter, chemical formulas, atomic structure, elements, the periodic table, motion and energy. Earth Science topics will include plate tectonics, the Earth's crust, volcanoes, earthquakes, Earth's history, fossils and ages of rock layers. Additionally, the Life Science topics of photosynthesis, evolution and natural selection, land and marine biomes, ecological succession, relationships between living organisms, energy transfer and food webs will be covered. Students are expected to complete 20 minutes of daily homework in addition to occasional long term projects, such as posters or lab reports.

### **Learning Experiences:**

- Students learn and apply strategies for reading and comprehending non-fiction scientific text.
- Students practice outlining and note-taking skills.
- Students collect and analyze data.
- Students record observations, make predictions, formulate hypotheses and make inferences.
- Students create and interpret tables, graphs, and charts.
- Students select appropriate tools and technology.
- Students make quantitative observations.
- Students develop research skills using online and print media.
- Students communicate using appropriate science terminology in written, oral, and visual form.
- Students work in cooperative groups.

## **Content Outline:**

### Term 1

Science Inquiry: Scientific Method, Variables, Lab Report Format

Earth Science: Plate Tectonics, Earthquakes, Volcanoes

### Term 2

Physical Science: Describing and Measuring Matter, Elements and Periodic Table, Chemical Bonding and Formulas, Describing, Measuring, Graphing and Interpreting Graphs of Constant and Changing Motion

### Term 3

Earth Science: Earth's History, Fossils, Ages of Rocks

Life Science: Evolution and Natural Selection, Photosynthesis, Interactions Between Living Things and the Environment

### Term 4

MCAS Preparation and Review

Life Science: Ecosystems, Land and Marine Biomes, Endangered and Invasive Species

## **Resources Used:**

- Prentice Hall Science Explorer Series, Pearson Education, Inc., 2009.  
Inside Earth (F), Chemical Building Blocks (K), Motion, Forces and Energy (M),  
Earth's Changing Surface (G), Cells and Heredity (C), Environmental Science (E)
- Massachusetts Department of Elementary and Secondary Education: Science and  
Technology/Engineering Curriculum Framework, October 2006.
- Bill Nye Video Series
- Discovery Education Streaming Videos and Content
- Disney Science of Imagineering Video Series
- Brain Pop Videos and worksheets
- Current Science Magazine