

TEXTS AND OTHER SOURCE

MATERIALS

Life Science **Glencoe**

Physical Science **Glencoe**

Earth Science **Prentice Hall**

GEMS Units (*Great Explorations in Math and Science*)

Sixth Grade

Living With A Star

Real Reasons for the Seasons

Life Through Time

Dry Ice

Seventh Grade

Global Warming

Plate Tectonics

Eighth Grade

Environmental Detectives

River Cutters

SCIENTIFIC PROCESS

- ◆ Construct a classification system and identify the properties used
- ◆ Evaluate and modify an inference based on additional observation
- ◆ Identify relevant data
- ◆ Formulate questions based on scientific knowledge
- ◆ Form inferences based on observations
- ◆ Integrate new information with past experiences
- ◆ Use observations and prior knowledge to predict outcomes
- ◆ Experiment and manipulate variables in a systematic way
- ◆ Form a hypothesis that is a generalization about a set of circumstances
- ◆ Identify trends in data
- ◆ Use what is done and observed to formulate a definition
- ◆ Use data to construct a reasonable explanation
- ◆ Communicate investigations and explanations
- ◆ Apply a wide variety of strategies to solve problems
- ◆ Apply information and skills to new situations
- ◆ Solve problems using acquired skills

- ◆ Define and identify standards of measurement (metric system)
- ◆ Explore what defines risks and how scientists assess them
- ◆ Understand and apply laboratory safety rules and practices
- ◆ Relate the importance of science in your life
- ◆ Select and use multiple types of print and non-print sources for information on science concepts
- ◆ Explore scientific themes in Life, Earth and Physical Science

SIXTH GRADE

Earth Science

- ◆ Origin of the universe
- ◆ The solar system
- ◆ Galaxies
- ◆ Space exploration
- ◆ The Sun
- ◆ Disruptive phenomena in space
- ◆ The Earth's atmosphere
- ◆ Climate and weather
- ◆ Causes of the seasons
- ◆ Organisms of the past and present
- ◆ The geologic time line

Life Science

- ◆ Ecology/Interdependence of Life
- ◆ Food chains
- ◆ Major biomes
- ◆ Cell structure and function

Physical Science

- ◆ Structure of matter
- ◆ Properties and phases of matter
- ◆ Relationship of matter and energy
- ◆ Atoms, molecules, mixtures, compounds
- ◆ Fluid pressure
- ◆ Heat energy
- ◆ Light energy
- ◆ Wave energy
- ◆ Electromagnetic waves

- ◆ Standard International Measurements (Metric System)

SEVENTH GRADE

Earth Science

- ◆ Composition of the Earth's surface
- ◆ Changes in the Earth's surface
- ◆ Theory of Plate Tectonics
- ◆ Earthquakes and volcanoes
- ◆ The Greenhouse Effect
- ◆ Global warming
- ◆ Weather: causes and phenomena
- ◆ Clouds
- ◆ Air masses
- ◆ Climate

Life Science

- ◆ Cell Theory
- ◆ Cell structure and function
- ◆ Tissues, organs, and organ systems
- ◆ Mitosis and meiosis
- ◆ Chromosomes, DNA, and heredity
- ◆ Genetic research
- ◆ Plant characteristics
- ◆ Vascular and nonvascular plants
- ◆ Processes and life-cycles of plants

Physical Science

- ◆ Atoms and molecules
- ◆ The Periodic Table of Elements
- ◆ Physical and chemical properties and changes
- ◆ Properties of light
- ◆ Light and color
- ◆ Sound
- ◆ Characteristics of waves
- ◆ Ultrasound technology
- ◆ Energy sources and forms
- ◆ Conservation of energy

EIGHTH GRADE

Earth Science

- ◆ Pollution

- ◆ River features
- ◆ Changes in river systems
- ◆ Causes of seasons
- ◆ The moon: phases, eclipses, effects on tides

Life Science

- ◆ Cell organization and classification
- ◆ Human organ systems
- ◆ Body functions: muscular, skeletal, digestive, circulatory, pulmonary, lymphatic
- ◆ Infectious diseases and the immune system
- ◆ Nutrition

Physical Science

- ◆ Energy, Work, and Power
- ◆ Simple machines
- ◆ Force, Motion and Acceleration
- ◆ Gravity, Inertia, Magnetism, and Friction
- ◆ Mass and weight
- ◆ Simple and compound machines
- ◆ Electromagnetic radiation
- ◆ Manipulation of light waves

**For the Commandment
is the lamp
and the Torah
is the light... (Proverbs (6:23)**

Torah Day School of Atlanta

Middle School Science Curriculum Overview

**... an affiliate of Torah Umesorah
National Society
For Hebrew Day Schools**