

Curriculum for: **Science**

GRADE 5

Science at the fifth grade level includes:

Living Things

- Understanding life functions
- Classifying organisms

Viruses and Bacteria

- Effect of viruses and bacteria on health
- Protists and fungi

Introduction to Plants

- The plant kingdom
- Photosynthesis
- Mosses and ferns

Seed Plants

- Gymnosperms and angiosperms
- Plant growth and response

Animals

- Invertebrates - sponges, worms, mollusks
- Anthropoids, echinoderms
- Cold blooded vertebrates - fishes, amphibians, reptiles
- Warm blooded vertebrates - birds and mammals

Human Biology and Health

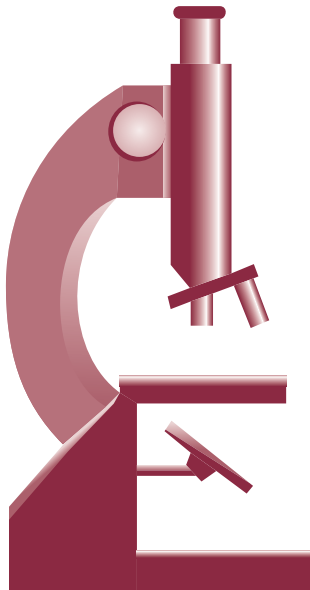
- Body systems
- Bone, muscle and skin
- Food and digestion
- Circulatory system

Activities

- Frog dissection, greenhouse activities

Technology Challenge

- Building an effective electromagnet



GRADE 6

Science at the sixth grade level includes:

Cells and Heredity

- Cell Structure and Function
- Cell Processes and Energy
- Genetics: The Science of Heredity
- Modern Genetics
- Changes Over Time

Human Biology and Health

- Respiration and Excretion
- Fighting Disease
- The Nervous System
- The Endocrine System and Reproduction

Environmental Science

- Populations and Communities
- Ecosystems and Biomes
- Living Resources
- Land and Soil Resources
- Air and Water Resources
- Energy Resources

Additional Activities

- Dissection of preserved materials
- Developing Hypotheses
- Controlling variables
- Observing
- Creating data tables
- Measuring
- Calculating
- Predicting
- Graphing data
- Analyzing and interpreting data
- Manipulating a compound microscope to view microscopic objects
- Preparing a wet mount slide
- Designing and using a Punnett square to predict the probability of certain traits

Technology Challenge

- Building an effective electric motor

GRADE 7

Physical Science is studied in the seventh grade. Physical science is broken down into two parts: chemistry and physics.

Chemistry

- Metrics
- Scientific notation
- Matter and its phases

- The atom, atomic structure
- Periodic table
- Compounds and mixtures
- Acids and bases
- Chemical reactions and chemical bonds
- Physics
- Newton's 1st, 2nd and 3rd Laws of Motion
- Law of gravity
- Simple machines
- Energy
- Heat and temperature
- Waves, light and sound
- Electricity and magnetism

GRADE 8

A comprehensive coverage of earth science is provided for eighth grade.

Geology

- Size, shape layers of planets
- Characteristics of minerals
- Map reading skills

Astronomy

- Origin of the solar system
- Motion of the planets
- Gravity
- Characteristics of the moon and stars

Meteorology

- Types of weather systems
- Erosion and weathering
- Climate

Water systems

- Fresh water systems
- Ground water systems
- Oceans

Energy Sources

- Fossil fuels
- Pollution
- Alternative energy resources/energy conservation

Regents earth science is offered for students who excel in science and are recommended to take the course. In addition to the curriculum above, Regents students are required to complete one laboratory experiment a week after school hours. The earth science teachers run these laboratory experiences.