

Grade 8 Science Syllabus
Mr. Tasch
Glenview Senior Public School 2018-2019

Overview

The learning goals in Science 8 include three main components:

1. to relate science and technology to society and the environment
2. to develop the skills, strategies, and habits of mind required for scientific inquiry and technological problem solving
3. to understand the basic concepts of science and technology

The 4 topics which are covered in Grade 8 are listed below with the main points.

Understanding Structures and Mechanisms – Systems in Action

- Energy transfer
- Mechanical advantage
- Force
- Mechanical efficiency

Understanding Structures and Matter and Energy – Fluids

- Properties of fluids
- How to use fluids to solve problems
- Types of fluid used in a technological devices

Understanding Life Systems – Cells

- Components of cells
- Functions of cells

Understanding Earth and Space Systems – Water Systems

- Distribution of water over the surface of the earth in all three states of matter.
- Properties depending on its purity or what is dissolved in it
- Water's influence on climate, weather, geological features, and ecosystems

Text

Pearson. ***Investigating Science and Technology 8*** Print Textbook to be used within the classroom.

Assignments

Unit tests/Quizzes

Unit test – tests covering curriculum concepts may be scheduled. Each test will consist of some short answer (multiple choice, fill in the blank, matching, etc.) as well as descriptive questions. If you are not present on the day the test is written, you will write the test the next class period.

Projects/Reports/Presentations/Labs

Assignments - Students will complete a variety of activities on a regular basis. All of these must be completed and submitted. If a student is absent, he/she should seek assistance from the teacher or a homework buddy to ensure that all work is finished. These activities include projects, lab reports, assignments, science diagrams, presentations, etc

Assessment

The final grade is determined as stated by the Ministry of Education's *Growing Success*, Assessment, Evaluation, and Reporting in Ontario Schools, 2010 document.

All evidence collected through observations, conversations, and student products (tests/exams, assignments for evaluation), is to be used for evaluation.

Certain assignments carry greater weight than other evidence (lab report, unit test) and some performance tasks are richer and reveal more about students' skills and knowledge than others.

Determining a report card grade will involve teachers' professional judgement and interpretation of evidence and should reflect the student's most consistent level of achievement, with special consideration given to more recent evidence.

Class Schedule (Please note the schedule is subject to change)

Term 1

Introduction and Safety

Systems in Action

- Mechanical Systems
- Force, Work, Energy
- Force of Gravity
- Simple Machines
- Mechanical Advantage
- Mechanical Efficiency

Fluids

- Particle Theory
- Viscosity
- Density
- Mass and Volume
- Pressure
- Compression

Term 2

Cells

- Characteristics
- Living and Nonliving
- Unicellular and Multicellular Cells
- Cell Structure
- Plant and Animal Cells
- Cell Theory
- Microscope
- Diffusion and Osmosis
- Cellular Reproduction
- Cells, Tissues, Organs and Systems

Water Systems

- Earth's Supply of Water
- Usable Fresh Water
- Watersheds
- Filtration
- Water Quality Factors
- Water Treatment
- Managing Water System
- Sustainability
- Saltwater