

GRIMSHAW PUBLIC SCHOOL
*“Inspiring Our Students Today For
Tomorrow’s Future”*



Science 8 Course Outline
2021-2022
Teacher: Mrs. Seerey
Room P123
seereyk@prsd.ab.ca



I. Key Message/Expectations

Science 8 is an exciting course that allows students to explore and connect with the world around them, learn how it works, and how we can make it better. Students will expand their knowledge in the areas of biology, chemistry, and physics and develop the foundations for future courses in science. A wide range of instructional and assessment strategies will be used, with emphasis on practical application of laboratory skills, as well as the societal, ethical, environmental, and technological implications of science.

II. Course Overview

Below you will find a concise overview of what students will learn as a result of taking this course.

Unit A: Mix & Flow of Matter (September-October)

1. Investigate and describe fluids used in technological devices and everyday materials
2. Investigate and describe the composition of fluids, and interpret the behaviour of materials in solution
3. Investigate and compare the properties of gases and liquids; and relate variations in their viscosity, density, buoyancy and compressibility to the particle model of matter
4. Identify, interpret and apply technologies based on properties of fluids

Unit B: Cells & Systems (November – December)

1. Investigate living things; and identify and apply scientific ideas used to interpret their general structure, function and organization
2. Investigate and describe the role of cells within living things
3. Interpret the healthy function of human body systems, and illustrate ways the body reacts to internal and external stimuli
4. Describe areas of scientific investigation leading to new knowledge about body systems and to new medical applications

Unit C: Light & Optical Systems (January – February)

1. Investigate the nature of light and vision; and describe the role of invention, explanation and inquiry in developing our current knowledge
2. Investigate the transmission of light, and describe its behaviour using a geometric ray model
3. Investigate and explain the science of image formation and vision, and interpret related technologies

Unit D: Mechanical Systems (March – April)

1. Illustrate the development of science and technology by describing, comparing and interpreting mechanical devices that have been improved over time
2. Analyze machines by describing the structures and functions of the overall system, the subsystems and the component parts
3. Investigate and describe the transmission of force and energy between parts of a mechanical system
4. Analyze the social and environmental contexts of science and technology, as they apply to the development of mechanical devices

Unit E: Fresh & Saltwater Systems (May)

Describe the distribution and characteristics of water in local and global environments, and identify the significance of water supply and quality to the needs of humans and other living things

2. Investigate and interpret linkages among landforms, water and climate
3. Analyze factors affecting productivity and species distribution in marine and freshwater environments
4. Analyze human impacts on aquatic systems; and identify the roles of science and technology in addressing related questions, problems and issues

Year End Review & Exam (June)**III. Scope and Sequence**

A variety of instructional and assessment strategies will be used throughout this course. The scope and sequence of course evaluation are as follows:

Unit Exam (5)	20%
Unit Quiz (5)	10%
Assignments/Projects/Labs	50%
Final Exam	20%
<hr/>	
<i>Course Total</i>	100%

IV. Teaching Methodology

Circumstances may arise where students miss assignment due-dates, lab investigations, quizzes or unit exams. Missed assessments must be made up and handed in at the earliest possible time. Students will be able to hand in missed at any time throughout the course, however, feedback on late work may not occur depending on individual circumstances. Chronic absences are a cause for concern as attendance is paramount for success.

V. Assessments

All coursework marks will be posted to PowerSchool, and marks for on-time assignments will be posted within 7 days of the assignment due date.

VI. Resources

The textbook for Science 8 is McGraw-Hill Ryerson Science Focus 8. Students are required to bring their textbook to class

each day. As this course relies heavily on the textbook, it is strongly recommended that students take textbooks home daily.

VII. Classroom Expectations and Strategies for Success

1. Come to class each day prepared and on time. Coming to class involves more than just showing up; you must be prepared to think and work hard.
2. Participate wholly in class. Learning is not memorization. Participating in class activities will provide opportunities for critical thinking and deep understanding.
3. Ask questions. Be curious, desire to learn more and never be afraid to ask questions. If you have questions then your peers likely do too!
4. Review material every day. A considerable amount of learning happens during reflection. Take time every day to review your notes and reflect.
5. Ensure safety first. Safety will be covered before all lab activities, but know the following rules apply to student conduct in the laboratory environment:
 - Shoes are to be worn properly at all times
 - Goggles will be provided when required
 - All equipment must be handled with care and respect
 - Zero tolerance for unsafe behaviour at any time

I believe that all students deserve fair access to curriculum and it is my responsibility to ensure that not some, not most, but all students find success in Science 8. Get ready for a great year!