Crocus Plains Regional Secondary School

Science 10F

Course Outline 2025-2026

Course Title: Science 10F **Teacher:** Ms. Christine McGorman **Room:** 206

Email: mcgorman.christine@bsd.ca **Textbook:** SciencePower 9

COURSE DESCRIPTION

Grade 9 Science is a general course designed to lay the foundations for further science courses. It contains four units covering the major areas of biology, chemistry, physics, and astronomy. The development of skills, knowledges, and attitudes within the context of science and technology will be the focus. Making science meaningful and interesting is a major emphasis at this level.

GENERAL LEARNING OUTCOMES

Science, Technology, Skills, & Knowledge: Students will be able to…

- Describe explain & analyze the impact of science in our technological society.
- Initiate, plan & perform investigations, analyze & interpret results, work cooperatively & communicate results.
- Explain the processes for maintaining life, for continuity and diversity
- Describe the properties & interactions of matter & energy in its transfers and transformation, & recognize that many forces are caused by natural phenomena.
- Explain how the earth provides both habitat and resources, and how patterns of change affect it
- Describe the nature and components of the universe.

Attitudes: Students will be encouraged to…

- Work collaboratively; develop a sense of stewardship; develop a concern for safety; appreciate contributions & applications of science & technology from a variety of cultural backgrounds; show interest in a variety of science related fields; pursue further investigations & draw upon a variety of sources for conclusions; value accuracy, precision & honesty; & persist in seeking answers to difficult questions.

UNIT DESCRIPTIONS

Unit 1: Reproduction

Approximate Time: 25 days
Evaluation: 22% of final mark

Learning Outcomes:

- Compare sexual and asexual methods of reproduction.
- Describe the structure and function of the male and female human reproductive systems.
- Outline the major stages of human development from conception through birth.
- Discuss genetic information: function, form, and location within a cell.
- Observe collect and analyze data of single trait inheritance in humans.
- Differentiate between dominant and recessive traits.

- Describe the relationship among DNA, chromosomes, genes, and the expression of traits.
- Discuss factors that can change a cell's genetic information.
- Address a current biotechnology issue.

Unit 2: Atoms & Elements

Approximate Time: 25 days
Evaluation: 22% of final mark

Learning Outcomes:

- Describe historical ideas and models about the nature of matter.
- Investigate the historical progression of the atomic model.
- Investigate the development of the modern periodic table.
- Investigate the properties of elements and compounds.
- Identify chemical symbols and families.
- Investigate natural phenomena & everyday technologies that demonstrate chemical change.

Unit 3: Nature of Electricity

Approximate Time: 24 days
Evaluation: 22% of final mark

Learning Outcomes:

- Develop a model of electricity.
- Construct simple devices, like an electroscope, to investigate electrostatic phenomena.
- Investigate circuits and make connections to daily applications, including the cost of electrical energy and the safety and efficiency of electrical appliances.
- Investigate hydroelectric power and address sustainability issues associated with the generation and transmission of electricity in Manitoba.

Unit 4: Exploring the Universe

Approximate Time: 12 days
Evaluation: 19% of final mark

Learning Outcomes:

- Observe and locate visible celestial object.
- Develop an understanding of the origin, evolution, and organization of the components of the universe.
- Differentiate between the major components of the universe. (Planets, moons, comets and asteroids, nebulae, stars, galaxies, black holes)
- Research and study Canada's involvement in international space exploration.
- Evaluate the impact of space science and technologies in terms of their benefits and risks to the human race.

Final Exam

Evaluation: 15% of final mark

COURSE EVALUATION STRUCTURE

- **Term Work** **85%**
- **Final Exam** **15%**

***Note:** some mark allotments may change throughout the course as needed.

Assessment will include a variety of activities, assignments, projects and tests to demonstrate your learning of the concepts in this course. I will provide ongoing feedback so you can improve your understanding throughout this course.

It is important to remember that you are responsible for your learning and success in any course you take. By taking initiative to seek help and clarification when needed, you will have the opportunity to excel in 10F Science. If you are unclear of the expectations, or you do not understand something, don't hesitate to ask questions and get any help that you may need!

CLASSROOM EXPECTATIONS

- **Respect** Show kindness and respect to others, yourself, and our environment.
- **Responsibility** You are responsible for your learning. Be prepared for class and take initiative to ask questions.
- **Collaboration** Work with others to develop your knowledge and understand the roles within a group.
- **Communication** Speak to others respectfully and communicate learning and needs.
- **Open-Mindedness** Be open-minded to other people's ideas and perspective, cultures and beliefs

ACADEMIC POLICIES

Cell Phone Policy

Our school recognizes that cell phones and electronic devices are an integral part of daily life for students. We aim to create an environment that encourages responsible use of technology while maintaining a focus on learning.

During Instructional Time: To ensure a focused learning environment, cell phones and electronic devices should be turned off or silenced, or left in lockers, unless a staff member has granted permission for their use for a class related task (or educational task related to the subject). This policy helps students engage fully in learning activities without distractions. This policy will focus on mobile devices including smart phones, smart watches, or other personal communication devices.

Encouraging Positive Behavior:
We encourage students to demonstrate responsible digital citizenship by using their devices thoughtfully and respecting the learning space of others. If students need to use their devices during instructional time, they should seek permission from a staff member.

Respectful Cooperation:
We expect students to work cooperatively and respectfully with staff when addressing any issues related to cell phones or electronic devices. Our goal is to create a positive and supportive school environment where everyone can focus on learning and personal growth.

AI (Artificial Intelligence):
To accurately assess and understand each student's ability, it is necessary for them to submit **their own original work**. Any work that incorporates any form of generative AI without proper citation is Academic Dishonesty. Unless, explicitly instructed to do so, students may not use generative AI to complete class work, projects, papers and assessments for class. Material determined to be plagiarized or created by AI will result in a mark of 0 for that assessment and may result in a meeting with parent and/or admin.

Disciplinary Consequences:
If students do not abide by this policy, a grade can result in a zero, parents will be contacted, and administration can be involved as well.

Student Responsibility Guidelines for Assessment and Evaluation

Students actively engaged in their learning are the essence of the Brandon School Division's mission of educating the whole child.

The assessment, evaluation and reporting of student learning and achievement involves students, teachers, principals, parents, superintendents and the Board of Trustees. It is the responsibility of professional educators to assess, evaluate, and report on each student's degree of engagement and resulting learning outcomes. Such assessment, evaluation and reporting is a continuous and fundamental part of the student's learning process. Students are responsible for:

- their own learning with the expertise, assistance and motivation of their teachers;
- engaging individually and collectively in school/community learning opportunities;
- improving their learning involvement
- playing an active role in assessing their own learning
- providing evidence of their learning within established timelines

The purpose of this document is to identify student responsibilities in assessment and evaluation practices, provide clear guidelines and consequences so students can make informed decisions, and to provide structures that improve the relationship between student learning and assessment.

All assessments and/or evaluations will be assigned a reasonable completion date by the classroom teacher.

Late Assignments/Test

When a student demonstrates negligence and/or disregard towards the assessment and/or evaluation due date, the teacher can **assign a "NHI0" ** grade for the incomplete assessment and/or evaluation**.
**NHI0- Not handed in ZERO.
Further arrangements will be made for an opportunity to complete the assignment.
Once the late assessment is marked, the assessment mark will replace the "NHI0" grade that was originally assigned. If the original or alternate assessment is not submitted by the new completion date or if the student refuses to submit a required assessment, the "0" grade assigned to it will remain on the student's evaluation records. The "0" grade(s) will be calculated into the student's final mark for the unit of study and will be used in the calculation of the final grade of the course.

For a "0" grade to remain permanent on the student's record for that unit of study, a teacher's records will demonstrate that he/she had advised the student, and the parent/guardian that there was an appropriate level of opportunity given to complete the original assessment or an alternate assessment.