Crocus Plains Regional Secondary School

2025-2026 COURSE OUTLINE AND ASSESSMENT GUIDE

Course Name: Science 20F

***Teacher's Name**: A. Bucklaschuk*

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Course Description: A general science course that covers the areas of physics *(In Motion*), chemistry (*Chemistry in Action*), biology (*Dynamics of Ecosystems*), earth/space science (*Weather Dynamics*). The goal of this science course is to expose the student to a wide variety of science issues and topics in a meaningful and challenging way.

Units of Study

Unit Title	Essential Outcomes	Assessment Plan	Proposed Time (Based on ~ 75 school days)
Dynamics of Ecosystems	1. How do nutrients get recycled in an ecosystem? 2. What factors disrupt these biogeochemical cycles? 3. What is bioaccumulation & what is its impact on the food chain? 4. What is the carrying capacity of an ecosystem? 5. What factors limit population growth? 6. How would a graph of population growth look? 7. What happens if we introduce a new species into an ecosystem? 8. What happens if a species goes extinct? 9. What is biodiversity and where do we find it? 10.How does biodiversity contribute to sustainability? 11.How do human activities affect the ecosystem?	Formative Assessment Assessment may include: - Homework checks - Observation - Worksheets - Demos - Journals - Discussions - Etc. Summative Assessment Assessment may include: - Quizzes - Tests - Projects - Labs	Approximately 3-4 Weeks

Chemistry in Action	1. How do elements bond together? 2. How do we name & write formulas for compounds (ionic and covalent)? 3. What is the law of conservation of mass? 4. How do we balance chemical reactions? 5. How do we classify chemical reactions? 6. What are the properties of acids and bases? 7. How do we use acids and bases? 8. What is neutralization? 9. How is air pollution formed and how does it affect the environment? 10. How can we reduce air pollution?	<u>Formative Assessment</u> Assessment may include: - Homework checks - Observation - Worksheets - Demos - Journals - Discussions - Etc. <u>Summative Assessment</u> Assessment may include: - Quizzes - Tests - Projects - Labs	Approximately 3-4 Weeks
In Motion	1. How do we calculate and graph velocity using displacement and time? 2. How is acceleration related to velocity and time? 3. What is uniform motion? 4. What events in history led us to the concept of force and natural motion? 5. What is inertia? 6. How is force related to motion? 7. What is Newton's Third Law? 8. What are momentum and impulse? 9. What happens, in terms of energy, in a car crash? 10. What effect does friction have on motion? 11. What influences braking distance in a car? How can we calculate braking distance? 12. What conditions affect safe driving?	<u>Formative Assessment</u> Assessment may include: - Homework checks - Observation - Worksheets - Demos - Journals - Discussions - Etc. <u>Summative Assessment</u> Assessment may include: - Quizzes - Tests - Projects - Labs	Approximately 3-4 Weeks

Weather Dynamics	1. What is the composition and organization of the water and atmosphere? 2. What factors influence how warm or cool the Earth is? 3. How does energy (heat) circulate around the Earth? 4. What makes wind? 5. How are severe weather events formed? 6. How do we predict severe weather events? 7. What is the impact on a community following a severe weather event? 8. What is climate change & how do humans affect it? 9. What are the effects of climate change?	<u>Formative Assessment</u> Assessment may include: Homework checks - Observation - Worksheets - Demos - Journals - Discussions - Etc. <u>Summative Assessment</u> Assessment may include: - Quizzes - Tests - Projects - Labs	Approximately 3-4 Weeks

Assessment Guidelines

There are various purposes for assessment:

- Assessment *for* learning **(formative assessment)**: where assessment helps teachers gain insight into what students understand in order to plan and guide instruction, and provide helpful feedback to students.
- Assessment *of* learning **(summative assessment)**: where assessment informs students, teachers and parents, as well as the broader educational community, of achievement at a certain point in time in order to celebrate success, plan interventions and support continued progress.

Academic Achievement

Grades will be calculated on summative assessment information only. The final calculation will be a fair reflection of a student's achievement of the learning outcomes.

Term Work..... 85 %

Final Exam ..... 15 %

Learning Behaviours

Assessment and reporting of learning behaviours will be according to the Brandon School Division Learning Behaviours Rubric.

Parent Signature: _____

Student Signature: _____

Welcome to Science 20F!

I am looking forward to working with you this year. Please fill out the questions in the "student" section and have your parents fill out the bottom of the page and return it to Ms. B!

Student Section

Name: _____
What you prefer to be called: _____
What is your favourite subject? _____
What is your least favourite subject? _____
What was your mark in science last year? _____
Who was your science teacher last year? _____
What are your hobbies?

_____

_____

Are you planning to be involved in any extra-curricular activities at Crocus Plains this year?

_____

_____

Parent/Guardian Section

Name(s): _____
Best number to reach you at during the day: _____
Home number (if different from above): _____
Can I communicate with you regarding your student by email? _____
If so, what is the best email address to use? _____

Feel free to contact me with any questions/concerns!
Please return this page to Ms. Bucklaschuk tomorrow.
Thanks so much! I am looking forward to a great semester with you!

Ms. Andrea Bucklaschuk