TIGER NATION

Mayerthorpe Jr. Sr. High School

Science 7 Course Outline

2025-2026

Semester 1: Mrs. M. Moon - Room 115 - melody.moon@ngps.ca

Semester 2: Mr. D. Moon – Room 113 - donald.moon@ngps.ca

Textbook – Science in Action 7

Introduction:

To become scientifically literate, students must develop a thorough knowledge of science and its relationship to technologies and society. They must also develop the broad-based skills needed to identify and analyze problems; explore and test solutions; and seek, interpret and evaluate information. The Alberta Education Science Program of Studies presents science in a meaningful context – providing opportunities for students to explore the process of science, its applications and implications, and to examine related technological problems and issues. By doing so, students become aware of the role of science in responding to social and cultural change and in meeting needs for a sustainable environment, economy and society. (Alberta Education, 2003)

Goals:

The following goals for Canadian science education are addressed through the Alberta science program. Science education will:

(a) encourage students at all grade levels to develop a critical sense of wonder and curiosity about scientific and technological endeavours
(b) enable students to use science and technology to acquire new knowledge and solve problems, so that they may improve the quality of their own lives and the lives of others
(c) prepare students to critically address science-related societal, economic, ethical and environmental issues
(d) provide students with a foundation in science that creates opportunities for them to pursue progressively higher levels of study, prepares them for science-related occupations, and engages them in science-related hobbies appropriate to their interests and abilities
(e) enable students, of varying aptitudes and interests to develop a knowledge of the wide spectrum of careers related to science, technology and the environment. (Alberta Education, 2003)

Education in Alberta aims to honour cultural diversity and promote intercultural understanding. Students are able to build on foundational knowledge about First Nations, Metis, and Inuit peoples. The program of studies provides opportunities for students to develop a knowledge and understanding of, and respect for, the histories, cultures, languages, contributions, perspectives, experiences, and contemporary contexts of First Nations, Metis, and Inuit.

Materials: (subject to change) - Students are expected to bring these every day:

3-ring binder	Blue pen	Eraser
5 dividers (1/unit)	Red pen (or another accent colour)	Pencil
Coil Notebook/Keytab(80+pgs)	Pencil	Crayons

Program Organization: *The Gr. 7 Science program is divided into 5 units of study*

Unit A – Interactions & Ecosystems (Social & Environmental Emphasis)
Ecosystems develop and are maintained by natural processes and are affected by human actions. To foster an understanding of ecosystems, this unit develops student awareness of ecosystem components and interactions, as well as natural cycles and processes of change. Building on this knowledge, students investigate human impacts and engage in studies that involve environmental monitoring and research. By reflecting on their findings, students become aware of the intended and unintended consequences of human activity, and recognize the need for responsible decision-making and action.

Topics

(a) Relationships exist between living things and their environments.
(b) The flow of energy and the cycling of matter can be traced and interpreted in ecosystems.
(c) Changes can be observed and monitored in ecosystems.
(d) Maintaining sustainable environments requires knowledge, decisions, and actions.

Unit B – Plants for Food & Fibre (Science & Technology Emphasis)
Humans have always depended on plants as a source of food and fibre, and to meet a variety of other needs. To better meet these needs, technologies have been developed for selecting and breeding productive plant varieties and for maximizing their growth by modifying growing environments. Long-term sustainability requires an awareness of the practices humans use and an examination of the impacts of these practices on the larger environment.

Topics

(a) Understanding the structures and life processes of plants helps us to interpret their needs.
(b) Plants play an essential role in the environment and in meeting human needs.
(c) Soil is an important resource that human activity can protect or degrade.
(d) The ways that plants are grown and used are related to human needs, technology, and the environment.

Unit C – Heat & Temperature (Social & Environmental Emphasis)
The production, transfer, and transformation of heat energy play an important role in meeting human needs. In learning about heat, students investigate sources and uses of heat energy and consider the impact of resource usage on our long-term ability to meet energy needs. In focusing their studies, students explore different applications, investigate the scientific principles involved and consider questions about the nature of heat. The particle model of matter is introduced to help students explain their observations and understand the relationships between heat and temperature.

Topics

(a) Human needs have led to technologies for obtaining and controlling heat.
(b) Heat affects matter in different ways.
(c) Understanding heat and temperature helps explain natural phenomena and technological devices.

(d) Technologies that use heat have benefits and costs to society and to the environment.

Unit D – Structures & Forces (Science & Technology Emphasis)
Structures can be found in both natural and human-constructed environments, serving a variety of purposes and taking a wide range of forms. In learning about structures, students investigate the properties of materials used and test them under different loads and forces. They examine different ways that structural components are configured, analyze forces involved, and investigate the resulting effects on structural strength and stability. As part of their study, students also examine construction methods used in the past and the present and learn how science and technology link together in developing safe and efficient designs that meet human needs.

Topics

(a) Structures are found in natural and human-made environments.
(b) External and internal forces act on structures.
(c) Structural strength and stability depend on the properties of different materials and how they are joined together.
(d) Structures are designed, evaluated, and improved in order to meet human needs.

Unit E – Planet Earth (Nature of Science Emphasis)
The scientific study of Earth is based on direct observations of landforms and materials that make up Earth's surface and on the sample evidence we have of Earth's interior. By studying this evidence, we discover patterns in the nature and distribution of Earth's materials, and in the kinds of changes that take place. This knowledge can be used in developing models for geologic structures and processes – models that help both scientists and students enlarge their understanding of their observations, and guide further investigation and research.

Topics

(a) Earth's surface undergoes gradual and sudden changes.
(b) The rock cycle describes how rocks form and change over time.
(c) Landforms provide evidence of change.
(d) The fossil record provides evidence of Earth's changes over time.

Order of Instruction:

Unit A – Interactions & Ecosystems **(Sept./Nov)**
Unit E – Planet Earth **(Nov./Jan)**
Unit B – Plants for Food & Fibre **(Feb./March)**
Unit C – Heat & Temperature **(March/April)**
Unit D – Structures & Forces **(April/June)**

Evaluation:

Unit Assignments	35%
Section Quizzes	15%
Unit Finals	30%
Mid-Term (Semester 1)	10%
Final Examination (Semester 2)	10%

Assessment Strategies:

The learning strategies that will be used to help students reach their potential include:

- **Differentiated Instruction (D.I.) and Assessment for Learning (A4L).**

D.I. involves being more aware of the differences in how students learn, which in turn leads to varied methods of instruction to meet student needs better. D.I. will also involve giving students a greater say in some of the areas they choose to focus their studies on and how they present their findings. A4L *(Learning Activities)* requires students to be more aware of the objectives and requirements of each assignment. It focuses on using assignments as a method of improvement rather than as a source of marks. In this light, some of the students' work will be commented on or discussed, without putting an actual mark on it. In this way, students will learn what is expected of them and how to improve their work. It is vital that students put their best effort into completing and learning from all assignments.

- **Assessment of Learning**

Unit Assignments (35%) - Regularly, individual assignments will be taken in and carefully marked as a check of student understanding and progress. Assignments will include chapter questions, vocabulary lists, etc. To ensure consistent effort, students will not be informed as to whether or not an assignment will be taken in or become part of their binder. These will include Applying Concept and Critical Thinking questions, book/ lab reports, projects, etc., and are used for marks. All assignments and projects must be completed. Late work will be completed at noon, **as zeros are not acceptable**.

Section Tests & Quizzes

Quizzes (15%) - To ensure students stay on track with their daily studies, short quizzes will be administered, asking students to recall the previous day's work and explain key concepts or terms.

Unit Finals (30%)- At the end of each unit, a test will be written covering the work just completed. However, since most courses build on previous knowledge, understanding the ideas from earlier chapters will be necessary. Tests will consist of a variety of multiple-choice questions, vocabulary words, and written response questions, depending on the course. All tests must be written. If you have a valid reason for missing a test, make arrangements to write a make-up as soon as you return. Unit tests will consist of matching, fill-in-the-blank, multiple-choice, numerical answer, and written answer questions.

Midterm Exam (10%) - The midterm exam will follow a similar format to that of the unit tests, but on a larger scale, and will cover Semester 1's work. There will be time to review before the exam date.

Final Exam (10%) - The final exam will follow a similar format to that of the unit tests, but on a larger scale, and will cover Semester 2's work. There will be time to review before the exam date.

The Final Grade:

The evaluation for each course is based on the student's achievement of curriculum expectations and the demonstrated skills required for effective learning. The percentage grade represents the quality of the student's overall achievement of the expectations for the course and reflects the corresponding level of achievement.

Homework:

Efforts will always be made to provide ample class time to complete coursework, but sometimes, more time is required, and homework becomes a necessity.

Classroom Expectations:

In order for our classroom to be a positive learning community, we all need to respect each other's right to learn and teach. All students in our class are capable of success in science if we all follow these basic expectations:

1. ARRIVE ON TIME AND PREPARED EVERY DAY. You will need your binder, textbook, journal, blue pen, red pen, pencil, eraser, highlighter, ruler and agenda. There is no excuse for leaving these items at home because you know you have science class every day. It is disrespectful and disruptive to the teacher and your classmates to arrive late or unprepared.

2. RESPECT is an essential part of working in a learning community:
    a. All students are expected to respect themselves, each other and the teacher, as well as all property and equipment. Name-calling, teasing, inappropriate language, damage to property, etc, will not be tolerated. Inappropriate behaviour will be dealt with immediately. Further incidents will be handled more sternly and may involve parents and administration.
    b. **Use class time effectively and complete your work on time.** Misuse of class time will result in less class time to work on assignments, etc. Misuse of time may also result in making up for that time at lunch hour.
    c. Do not talk when someone else is talking, whether it is the teacher or a classmate. You want to be heard when you are speaking, and it is expected that you would demonstrate the same respect.

3. Inform the teacher if you know you are going to be absent so you can complete missed work on your own time. If you are absent unexpectedly**, it is your responsibility** to find out what you missed from the teacher or a classmate and get caught up.

4. If you are struggling or unsure of a concept, please speak with the teacher immediately. The longer you wait, the further behind you will find yourself! We will always do our best to make ourselves available for extra help, but you have to ask.

Cell Phone Policy:

If the teacher sees a cellphone in class, whether in use or not, it will be taken to the office. If this is the students' first offence, they can retrieve their phone from the office at the end of the day. If it is their second offence, a parent or guardian must come and pick it up from the office. If it is the third offence, the phone is kept in the office safe for one month

Late Policy:

All assessments will be given a due date. This will be the date that an assessment must be handed in either on google classroom or in person.

- Late assessments will receive a grade of zero in PowerSchool.

- If a late assessment is handed in BEFORE it has been graded and returned to the rest of the class, I will mark it like normal, and it will be returned with feedback as normal.
- If an assessment is completed and handed in AFTER it has been graded and returned to the rest of the class, if reasonable, a mark will be entered if a student has spoken to the teacher in person or via email prior to the deadline, was absent on the due date of the assignment, or was approved by the teacher to be handed in late.
- If the assignment is not handed in, and there is no excusable reason for the absence, the zero will remain on the assignment.
- Students must be on time for class. Students who miss 25% of the class will be marked absent. (10 minutes for a 45-minute class)

Cheating:

If a student is suspected of cheating/plagiarism, the assignment/assessment will be confiscated immediately. The assignment/assessment, along with any evidence seized by the teacher/supervisor, will be presented to the Principal with a report of the circumstances. The student will be given an opportunity to explain the circumstances relating to the incident in a meeting with the Principal.

If, upon investigation, the student is found to be innocent, an opportunity will be provided to write an equivalent assignment/assessment without penalty.

In cases where the Principal, after consultation with the student and the teacher/supervisor, feels that the evidence indicates guilt, or where there is an admission of guilt, parents/guardians will be notified of the incident and the consequences being applied.

Possible consequences that may be applied at the discretion of the Principal in whole or in part.

-A zero on the assignment/assessment
-Detention
-Completion of an additional assignment/assessment under supervision
-In-School Suspension
-Out-of-School Suspension
-Removal from extracurricular eligibility and/or participation

Appeals Process:

Should a situation arise where a student is not satisfied with an assessment outcome, first discuss the matter with the teacher outside of class time. If the teacher and the student are unable to resolve the issue, then the teacher will approach another teacher to assess the assignment. (The teacher will not have prior knowledge of the student's name or the previous grade for the given assignment). If there is still an issue, a meeting will be set up between the student, teacher, parents, and administration to resolve the matter. The commencement of an appeal must occur in a timely manner; within 48 hours of receiving the marked assignment. In return, the appeal process will be completed as soon as possible.

Please see the student agenda for more detailed appeals information.

Bus Days:

Grades seven and eight students will be required to check their Google Classroom for assignments posted on bus days.

We all need to do our part to ensure a successful year. The teacher has final responsibility for what goes on in our classroom, and therefore, it is expected that students follow instructions and requests in order to maintain a safe and positive learning environment.

Any parent wishing to meet with us to discuss a problem or concern may arrange a meeting by calling the school (780-786-2624) or by email, whichever is most convenient. Any student wishing to request extra help or wishing to discuss a problem or concern can speak with us directly or via email. We will do our best to make ourselves available for extra help.