



## Grade 7B/8 Science

**Course Code: 0120****Credit Value: none****Miss Doran [sdoran@trsd.ca](mailto:sdoran@trsd.ca)**

**Prerequisites:** none, although successful completion of K-6 science courses are strongly encouraged.

**Required Materials and Recommended Resources:**

Required: binder, pencils, eraser, lined paper

Textbook: *Hands on Science Grade 7* Jennifer Lawson; Portage and Main Press, 2004 (Teacher only)

Other resources to be used as supplementary material

### Course Description and Purpose

The purpose of this course is to encourage students to discover and learn more about science, technology, society, and the environment and provide an avenue to build skills, knowledge and a positive attitude toward scientific concepts. More specific goals are listed below. With all science courses, there are main topics that are broadly stated, and then focus on specific units. This year, students will be building their skills by looking at the units of Ecosystems, the Particle Theory of Matter, The Earth's Crust, and Forces and Structures.

### Goals of Course

The main goals of science education are to

- Encourage students at all grades to develop a critical sense of wonder and curiosity about scientific and technological endeavors
- 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
- Prepare students to critically address science-related societal, economic, ethical, and environmental issues
- Provide students with a proficiency 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
- Develop in students of varying aptitudes and interests a knowledge of the wide variety of careers related to science, technology, and the environment

### Summary of Main Topics

Development of scientific literacy is supported by instructional environments that engage students in the following processes:

- **Scientific inquiry:** students address questions about natural phenomena, involving broad explorations as well as focused investigations
- **Technological problem solving (design process):** students seek answers to practical problems requiring the application of their science knowledge in various ways
- **Decision making:** students identify issues and pursue science knowledge that will inform the issues



Semester 1 & 2

Room: 8

Period 5 2:18 – 3:30

Days 2, 3, 4

Schedule (Subject to Change)	Topics covered
September	
Earth's Crust	Geology; rock and mineral formation; changes in landscape over time; human use of geologic resources; extraction, location, processing, and recycling of resources in Manitoba and Canada; soil as a natural resource; soil conservation; informed decisions about land use; theories of Earth's geology; role of technology in these theories; specialized careers involving the earth's crust.
October	
Earth's Crust Continued	See above outcomes
November	
Forces and Structures	Natural and human built structures and various forces; internal and external forces; structural strength and stability; shapes and materials used to increase strength and stability; efficiency of a structure (using mass and mass of load supported); evaluate structure designs; construct a structure of own design to be tested.
December	
Forces and Structures Continued	See above outcomes
January	
Particle Theory of Matter	Particle Theory of Matter; changes of state; pure substance and mixtures; characteristics of solutions; difference between heat and temperature; heat and conduction, convection, and radiation; insulators and conductors of heat; design a prototype to control transfer of heat; energy can be transformed into heat; heat as a byproduct; classifying substances (pure substance, mechanical mixture, solutions); separating parts of mixtures; solubility; concentration of solutions; saturated and unsaturated solutions; harmful effects of solutions on environment; safe methods of disposal (chemicals/solutions).
February	
Particle Theory of Matter	Completion of topics above
March	
Particle Theory of Matter	Completion of topics above
April	
Ecology	Investigate interactions between organisms and environment; identify biotic and abiotic components of ecosystems; analyze the cycle of matter; transfer of energy between consumer levels; implications of losing species in the transfer of energy; bioaccumulation; ecological succession; assessment of impacts of human intervention in natural processes; management and preservation of ecosystems; habitat protection; observe micro-organisms; roles of micro-organisms; micro-organisms and food production/preservation.
May	
Ecology	Completion of topics above
June	
Final Project	Students will have the month to complete the Ecology unit as needed. Students will be asked to design and complete a science project of their choosing based on one or more of the topics that have been covered this year.



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## Assessment

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### Student Evaluation

#### Formative Assessments:

- Participation in class activities
- Entry/exit slips

#### Summative Assessments:

- Assignments
- Tests/Quizzes
- Projects
- Experiments/Labs

### Breakdown of Marks

Coursework (tests & assignments): 100%

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## Guidelines

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### Homework Policy

Homework will be assigned if/when:

- Students are not able to complete their assignments during class.
- Students are absent.

### Incomplete Work

- Following the deadline of any assignment, the student's mark will be recorded as a zero. Upon completion of the assignment, it will be graded and recorded. At reporting periods, a final deadline will be given for the evaluations to take effect on the report card for that reporting period.

### Plagiarism

- If a student plagiarizes work, they will receive a mark of zero until the assignment can be redone under supervision
- Any plagiarism will result in a serious conversation with the student, the classroom teachers, the parents/guardians, and possibly administration. For more than one offense, administration will be involved.

### Extra Help

- If students need extra help, your teachers are available at lunch hour. Appointments can also be made for the morning or afterschool.

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## Classroom Expectations

- Attendance and Absence
  - Students are expected to attend class regularly.
  - Students who are absent for class are responsible for gathering missed work and asking questions.
- All members of the classroom community are expected to be polite and respectful to all staff, students, and property in the classroom.
- Use of Personal Devices
  - As per the Government of Manitoba Cell Phone policy, students are not to have their cell phones with them unless the phones are required for pre-arranged medical needs or personal learning adaptations.