



ECOLE SECONDAIRE
HANDSWORTH
SECONDARY SCHOOL

Course: Science 8

Teacher Name: Mrs. Erica Toombs

Contact information: etoombs@sd44.ca

Website: <http://www.blog44.ca/ericatoombs/>

BIG IDEAS

Life processes are performed at the cellular level.

The behavior of matter can be explained by the kinetic molecular theory and atomic theory.

Energy can be transferred as both a particle and a wave.

The theory of plate tectonics is the unifying theory that explains Earth's geological processes.

Course Description:

The primary goal of **Science 8** is to give students the knowledge, skills, and competencies to be active, informed citizens who are able to think critically, understand and explain the perspectives of others, make judgments, and communicate ideas effectively.

Science and scientific literacy play a key role in educating citizens of today for the world of tomorrow. Critical to succeeding in this endeavour are the core competencies that provide students with the ability to think critically, solve problems, and make ethical decisions; to communicate their questions, express opinions, and challenge ideas in a scientifically literate way; and to exercise an awareness of their role as ecologically literate citizens, engaged and competent in meeting the responsibilities of caring for living things and the planet.

Curricular Competencies – Examples of what the student can do...

<i>Questioning and predicting</i>	<ul style="list-style-type: none">• Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest• Make observations aimed at identifying their own questions about the natural world• Identify a question to answer or a problem to solve through scientific inquiry
<i>Planning and conducting</i>	<ul style="list-style-type: none">• Collaboratively plan a range of investigation types• Observe, measure, and record data (qualitative and quantitative), using equipment, including digital technologies, with accuracy and precision• Ensure that safety and ethical guidelines are followed in their investigations
<i>Processing and analyzing data and information</i>	<ul style="list-style-type: none">• Experience and interpret the local environment• Apply First Peoples perspectives and knowledge, other ways of knowing, and local knowledge as sources of information• Seek patterns and connections in data from their own investigations and secondary sources
<i>Evaluating</i>	<ul style="list-style-type: none">• Reflect on their investigation methods, including the adequacy of controls on variables and the quality of the data collected• Identify possible sources of error and suggest improvements to their investigation methods• Demonstrate an awareness of assumptions and identify information given and bias in their own work and secondary sources• Demonstrate an understanding and appreciation of evidence (qualitative and quantitative)• Consider social, ethical, and environmental implications of the findings from their own and others' investigations
<i>Applying and innovating</i>	<ul style="list-style-type: none">• Co-operatively design projects• Generate and introduce new or refined ideas when problem solving
<i>Communicating</i>	<ul style="list-style-type: none">• Communicate ideas, findings, and solutions to problems, using scientific language, representations, and digital technologies as appropriate



Content – What the student will know...

- **characteristics of life**
- **cell theory** and **types of cells**
- **photosynthesis** and **cellular respiration**
- basic functions of the **immune system**
vaccination and **antibiotics**
impacts of **epidemics** and **pandemics** on human populations
- **kinetic molecular theory (KMT)**
- **atomic theory** and **models** (protons, neutrons, quarks, electrons, leptons)
- **types** and **effects** of electromagnetic radiation
- properties and behaviour **of light:**
- **plate tectonic movement**
- **layers in Earth**

Summative Assessments – What the student will understand :

- | | |
|--|---|
| <ul style="list-style-type: none">• Writing up laboratory reports following established formats• Create research presentations• Communicate information through tests and other written work | <ul style="list-style-type: none">• Following appropriate techniques and procedures during laboratory work• To think critically about various sources of information |
|--|---|

HANDSWORTH SCIENCE DEPARTMENT

Achievement Goals - Description of the letter grades

To achieve an "A", student will/can...

Produce high-quality, frequently innovative work. Communicate comprehensive, nuanced understanding of concepts and contexts. Consistently demonstrate sophisticated critical thinking. Frequently transfer knowledge and skills with independence and expertise in a variety of complex classroom and real-world situations. Evaluate a topic and develop a well-structured argument that demonstrates different perspectives on an issue.

To achieve a "B", student will/can...

Consistently produce high-quality work. Communicate comprehensive understanding of concepts and contexts. Consistently demonstrate critical thinking. With some support transfer knowledge with skill in a variety of classroom and real-world situations. Assess a topic and develop a well-structured argument on an issue.

To achieve a "C", student will/can...

Produce work of an acceptable quality. Communicate basic understanding of many concepts and contexts, with occasionally significant misunderstandings or gaps. Begin to demonstrate some basic critical thinking. Be fixed in the use and application of knowledge and skills, requiring support even in familiar classroom situations. In certain circumstances, lack the ability to identify the issues involved with a topic and have challenges with developing a response.



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POLICIES AND PROCEDURES

TEACHER GOALS

- Create a positive and fun learning environment
- Encourage the development of strong work habits
- Maintain high standards and expectations
- Maintain open lines of communication with students and parents/guardians
- Support students in their learning
- Provide clarification if doubts/questions may arise

STUDENT GOALS

- Be punctual and have consistent attendance
- Maintain a positive attitude and engage in learning
- Come to class prepared with all required materials
- Ask for help OR for a challenge
- Develop your critical thinking and Scientific Inquiry skills
- Reflect on learning by recording your personal goals and successful strategies

I, _____, **agree to meet the following student expectations:**

- Arrive punctually, with all my materials, and be ready to work and participate in every class.
- Use my cell phone **ONLY** as directed by my teacher.
Any abuse of this privilege will have consequences.
- Wash my hands at the start and end of each class, and at the start and end of each lab activity.
- Thoroughly wash lab equipment, including safety goggles, as directed, at the end of each lab activity.
- Complete coursework and assignments on time.
- Write tests on the days they are assigned.
- Contact my teacher, Mrs. Toombs at etoombs@sd44.ca or via MS TEAMS message or in person **BEFORE** an assignment is due or **before** the test date.
- It is my responsibility to check the **MS TEAMS page** for daily course work, support materials, assignment and test details, and course updates.
- Follow our course content on <http://blog44.ca/ericatoombs/> and <https://twitter.com/ToombsETeaches>

Dear parent(s)/guardian(s):

Please discuss the policies and procedures of the Handsworth Science Department with your child.

We would like you and your child to acknowledge that you are aware of the learning outcomes and expectations for this course.

Thank you and I look forward to teaching you this year!

Signed by the parent/guardian

Signed by the student

Date: _____

Date: _____



Types of Assessment

During this school year, the teacher will provide three types of assessments: **assessment *as* learning** and **assessment *for* learning (formative assessments)** and **assessment *of* learning (summative assessment)**.

<p><u>Formative assessment</u></p> <ul style="list-style-type: none">• The on-going practice of no-risk activities.• Students begin to ask: “what concepts do I still have to master and how can I improve future work?”• This is assessment <i>AS</i> learning and assessment <i>FOR</i> learning.	<p><u>Summative assessment</u></p> <ul style="list-style-type: none">• The evidence used to determine student achievement in relation to the curriculum outcomes. Summative assessments are used to determine students’ grades.• This is assessment <i>OF</i> learning.
<p>Purpose of Formative Assessment:</p> <ul style="list-style-type: none">• Focus on student learning and Self-assessment/ reflection.• Teacher checks for learning to adjust instruction.• Provides continual feedback to student.• Focus is on student improvement.• Is not part of achievement grade.	<p>Purpose of Summative Assessment:</p> <ul style="list-style-type: none">• Compares a student’s learning to prescribed learning outcomes from course curriculum.• Reported as the achievement grade.
<p>Types of Formative Assessment:</p> <ul style="list-style-type: none">• Homework• Draft Assignments and Labs• Practice Quizzes• Self Reflections	<p>Types of Summative Assessment:</p> <ul style="list-style-type: none">• End of chapter/content Quizzes• Unit Tests• Lab work• Assignments• Final Science Fair Project



PARENT SIGNATURE: _____



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Assessment is organized with respect to the SIX Science 8 curricular competencies.

By the end of the course, students will have had a chance to demonstrate proficiency in each of the six curricular competencies several times. Some curricular competencies are represented more often in the course than others. As a result, you should read each progress report as an indication of their skill level demonstrated for each task (assignment / test), and also for each curricular competency category.

Students receive a grade of BEGINNING, DEVELOPING, APPLYING, EXTENDING for each task they complete in the course.

BEGINNING indicates that students will have future opportunities to develop and demonstrate their skills. Assessment and comprehension are *in progress*.

DEVELOPING indicates that students are heading in the right direction. It should be expected that many students in the class will be demonstrating this **DEVELOPING** level as they start to learn what is expected of them at the grade 8 level, and as they start to learn complex material that they have never been exposed to before.

APPLYING or Meeting (ME) and **EXTENDING or Exceeding (EE)** are goals that students will work towards as the course goes on. Some may not achieve these levels until closer to the very end of the course. Sometimes students may demonstrate really proficient levels (**ME** and **EE**) for certain assignments or certain *parts* of assignments throughout the course.

It is expected that the majority of students will be at the **APPLYING or Meeting (ME)** level for the skills required for Science 8

All demonstrations of learning and all six curricular competency categories will be assessed overall when a final mark for the course needs to be assigned.

Until then, our learning is continually in progress and students may show different skills levels for each topic and for each separate assignment, quiz, or test.



PARENT SIGNATURE: _____

PROFICIENCY LEVEL

PROFICIENCY LEVEL			
Emerging	Developing	Proficient	Extending
<ul style="list-style-type: none">•The student is beginning to demonstrate basic knowledge in relation to the learning standards•Works with ongoing support	<ul style="list-style-type: none">•The student demonstrates some knowledge in relation to the learning standards•Works with some support	<ul style="list-style-type: none">•The student demonstrates good knowledge in relation to the learning standards•Works independently	<ul style="list-style-type: none">•The student demonstrates knowledge beyond the learning standards•Works independently and can support the learning of others

"I am just getting started."
"I learn best with help."

"I get some of it."
"I am beginning to do more and more on my own."

"I get it."
"I can do it on my own."

"I get it and go beyond what is expected of me."
"I can teach it to a friend."