



OTTAWA  
CATHOLIC  
SCHOOL BOARD

## Grade 7 Science and Technology

Inspired education.  
Inspiring students.

**Description and Overall Expectations:** Science and technology underpin much of what we take for granted, including clean water, the places in which we live and work, and the ways in which we communicate with others. The impact of science and technology on our lives will continue to grow. Consequently, scientific and technological literacy for all has become the overarching objective of science and technology education throughout the world.

**SCIENTIFIC INQUIRY AND TECHNOLOGICAL PROBLEM SOLVING:** Along with a knowledge foundation, the study of science and technology offers students varied opportunities to learn and master skills that are relevant to their everyday world. Students will be able to develop their skills in three areas: scientific inquiry/experimentation skills (including labs and experiments), scientific inquiry/research skills and technological problem-solving (including tech design building projects) skills. Safety instruction is provided when working with various materials and tools.

**UNDERSTANDING LIFE SYSTEMS:** assess the impacts of human activities and technologies on the environment, and evaluate ways of controlling these impacts; investigate interactions within the environment, and identify factors that affect the balance between different components of an ecosystem; an understanding of interactions between and among biotic and abiotic elements in the environment.

**UNDERSTANDING STRUCTURES AND MECHANISMS:** analyse personal, social, economic, and environmental factors that need to be considered in designing and building structures and devices; design and construct a variety of structures, and investigate the relationship between the design and function of these structures and the forces that act on them; demonstrate an understanding of the relationship between structural forms and the forces that act on and within them.

**UNDERSTANDING MATTER AND ENERGY:** evaluate the social and environmental impacts of the use and disposal of pure substances and mixtures; investigate the properties and applications of pure substances and mixtures; demonstrate an understanding of the properties of pure substances and mixtures, and describe these characteristics using the particle theory.

**UNDERSTANDING EARTH AND SPACE SYSTEMS:** assess the costs and benefits of technologies that reduce heat loss or heat-related impacts on the environment; investigate ways in which heat changes substances, and describe how heat is transferred; demonstrate an understanding of heat as a form of energy that is associated with the movement of particles and is essential to many processes within the earth's systems.

**Subject Resources:** See teacher and school for the list of key resources, digital tools, sites, passwords, including replacement cost for resources if lost or damaged.

**Catholic Graduate Expectations:** Our goal for all students is to experience an education based on our Catholic Graduate Expectations. <http://www.iceont.ca>

We work in community to develop graduates that are:

- Discerning Believers Formed in the Catholic Faith Community
- Effective Communicators
- Reflective and Creative Thinkers
- Self-Directed, Responsible, Life-Long Learners
- Collaborative Contributors
- Caring Family Members
- Responsible Citizens

**Assessment, Evaluation and Reporting:** The primary purpose of assessment and evaluation is to improve student learning. Students will understand what is expected of them, using learning goals, and success criteria, based on the overall expectations. Feedback (self, peer, teacher) supports learning, and plays a critical role in academic achievement and success.

The development of learning skills and work habits is a key indicator of future success. The following learning skills and work habits will be developed, assessed, and reported during this course:

1. Responsibility fulfills responsibilities and commitments (*e.g. accepts and acts on feedback*)
2. Organization manages time to complete tasks and achieve goals (*e.g. meets goals, on time*)
3. Independent work uses class time appropriately to complete tasks (*e.g. monitors own learning*)
4. Collaboration works with others, promotes critical thinking (*e.g. provides feedback to peers*)
5. Initiative demonstrates curiosity and an interest in learning (*e.g. sets high goals*)
6. Self-Regulation sets goals, monitors progress towards achieving goals (*e.g. sets, reflects goals*)

Group work supports collaboration, an important 21<sup>st</sup> century skill. This will be assessed only as a learning skill. Homework may also be assessed as a learning skill. Evaluation completed in class will be based only on individual student work. Regular attendance is important to support group work, various forms of feedback, and to allow students to demonstrate evidence of their learning. Students are responsible for providing evidence of their own learning in class, within given timelines. Next steps in response to academic integrity issues, such as lack of work completion, plagiarism, or other forms of cheating, range from providing alternate opportunities, to a deduction of marks.

The achievement chart identifies four levels, based on achievement of the overall expectations:

|         |   |           |
|---------|---|-----------|
| Level 1 | achievement falls below the provincial standard | (50-59%)  |
| Level 2 | achievement approaches the provincial standard  | (60-69%)  |
| Level 3 | achievement is at the provincial standard       | (70-79%)  |
| Level 4 | achievement surpasses the provincial standard   | (80-100%) |

### **Reporting on Student Learning:**

Student learning will include a variety of assessment tasks designed to demonstrate students' development in their knowledge and understanding, thinking, communication and application of all overall expectations.

The fall progress report gives feedback on learning skills (i.e, needs improvement, satisfactory, good or excellent) and emerging student achievement (i.e. progressing with difficulty, progressing well, progressing very well)

The report card grade will be based on evidence of student learning, including observations, conversations and student products. Consideration will be given to more recent evidence (skill development) and the most consistent level of achievement.

### **Student and Parent/Guardian Acknowledgement**

We have read the above course outline and are aware of the student responsibilities to attend class on a regular basis and to provide evidence of learning within the established timelines.

Student's Name (print): \_\_\_\_\_ Student's Signature: \_\_\_\_\_

Parent/Guardian Name (print): \_\_\_\_\_ Parent/Guardian Signature: \_\_\_\_\_