



# Handsworth Secondary School

## *SCIENCE 10 Course Outline & Evaluation Guide*

### THE JUNIOR SCIENCE PROGRAM

The over-riding goals for Science 8 to 10 delineate the four critical aspects of students' scientific literacy:

- **GOAL 1: Science, technology, society, and the environment** – Students will develop an understanding of the nature of science and technology, of the relationships between science and technology, and of the social and environmental contexts of science and technology.
- **GOAL 2: Skills** – Students will develop the skills required for scientific and technological inquiry, for solving problems, for communicating scientific ideas and results, for working collaboratively, and for making informed decisions.
- **GOAL 3: Knowledge** – Students will construct knowledge and understandings of concepts in life science, physical science, and Earth and space science, and apply these understandings to interpret, integrate, and extend their knowledge.
- **GOAL 4: Attitudes** – Students will be encouraged to develop attitudes that support the responsible acquisition and application of scientific and technological knowledge to the mutual benefit of self, society, and the environment.

### COURSE OUTLINE AND INSTRUCTIONAL OBJECTIVES:

#### ***Processes of Science***

- demonstrate safe procedures
- perform experiments using the scientific method
- represent and interpret information in graphic form
- demonstrate scientific literacy
- demonstrate ethical, responsible, cooperative behaviour
- describe the relationship between scientific principles and technology
- demonstrate competence in the use of technologies specific to investigative procedures and research

#### ***Life Science: Sustainability of Ecosystems***

- explain the interaction of abiotic and biotic factors within an ecosystem
- assess the potential impacts of bioaccumulation
- explain various ways in which natural populations are altered or kept in equilibrium

#### ***Physical Science: Chemical Reactions and Radioactivity***

- differentiate between atoms, ions, and molecules using knowledge of their structure and components
- classify substances as acids, bases, or salts, based on their characteristics, name, and formula
- distinguish between organic and inorganic compounds
- analyse chemical reactions, including reference to conservation of mass and rate of reaction
- explain radioactivity using modern atomic theory

#### ***Physical Science: Motion***

- explain the relationship of displacement and time interval to velocity for objects in uniform motion
- demonstrate the relationship between velocity, time interval, and acceleration

#### ***Earth and Space Science: Energy Transfer in Natural Systems***

- explain the characteristics and sources of thermal energy
- explain the effects of thermal energy within the atmosphere
- evaluate possible causes of climate change and its impact on natural systems

#### ***Earth and Space Science: Plate Tectonics***

- analyse the processes and features associated with plate tectonics
- demonstrate knowledge of evidence that supports plate tectonic theory



## STUDENT GUIDELINES:

### Absences:

You are responsible for all material covered and assignments done when you are absent. If possible notify your teacher before you are absent so compensatory arrangements and/or work can be completed before you leave. When you return, ensure you have all notes before requesting tutoring. Students absent from tests must bring a written note explaining their absence.

### Deadlines:

Any assignment submitted after the deadline loses 10% per day.

### Missed Tests/Exams:

Missed tests and quizzes may be re-scheduled at the teacher's discretion. Students must consult the teacher immediately upon their return to school with a parent's note. As a general rule, students may not re-write tests to improve marks.

### Tutorial:

Teachers' timetables are posted in all science rooms. Specific tutorial times may be arranged with individual teachers. Ensure you bring the following to the tutorial meeting:

- 1) Textbook and Workbook
- 2) Complete up to date notes
- 3) Specific questions about the difficulties you are having

### Homework Requirements:

Homework assignments consist mainly of:

- 1) Readings and questions from the textbook and workbook
- 2) Laboratory reports
- 3) General review and preparation for tests and quizzes
- 4) Review worksheets

### Evaluation:

The criteria for letter grades are listed below.

GRADE	PERCENTAGE (Average of evaluation items)	GRADE POINT AVERAGE (GPA)
A	86-100%	4.0
B	73-85%	3.0
C+	67-72%	2.5
C	60-66%	2.0
C-	50-59%	1.0
I	Below 50%	
F (After I)	Below 50%	

### Approximate Weighting

70% Quizzes and Tests

30% Lab work, Homework, Projects, Classroom Notes, Work habits,  
Classroom Contribution

### Final Grade

80% Term Mark

20% Final Exam (Provincial)

(Although the instructional approach for Science 8 to 10 is intended to be experiential in nature, the Grade 10 course has a set Graduation Program examination, worth 20% of the final course mark. All students taking Science 10 are required to write the examination in order to receive credit for this course.)