

**Unit Outline: Year 10 Science**

**Semester 2, 2021**

**Classroom Teacher: Roisin Boadle**

**Executive Teacher: Vicki Gwilliam**

**Course Description:** In semester two, students will learn about Physics, Climate Change and Astronomy. Students will conduct experimental work with an emphasis upon creating testable questions and hypotheses, collecting and analysing data and communicating results using appropriate scientific language and representations. They will explain the concept of energy conservation and energy transfer and transformation. They will apply physical laws to understand that motion and forces are related. They will explain the process of climate change and investigate the evidence supporting the theory. They will explore current scientific evidence that supports the development of the Big Bang Theory.

**Units Covered:** Physics, Climate Change, Astronomy

**Achievement Standards:**

On successful completion of this course, students will be able to:

- Explains the concept of energy conservation and represents energy transfer and transformation within systems
- Applies relationships between force, mass and acceleration to predict changes in the motion of objects
- Describes and analyses interactions and cycles within and between Earth's spheres
- Evaluates the evidence for scientific theories that explain the origin of the universe and the diversity of life on Earth
- Analyses how the models and theories used have developed over time and discusses the factors that prompted a review
- Explains how reliability, safety, fairness and ethical actions were considered in methods and identifies where digital technologies can be used to enhance the quality of data
- Identifies alternative explanations for findings when analysing data, selecting evidence and developing and justifying conclusions, and explains any sources of uncertainty
- Constructs evidence-based arguments and selects appropriate representations and text types to communicate science ideas for specific purposes

**Student Equipment Requirements:**

Each student is required to bring an exercise book, pens and a Chromebook/device to every lesson. They should also bring a scientific calculator.

**Assessment Requirements:**

TASK	TARGET DATE
Physics Practical Reports	Term 3, Ongoing from Weeks 2 to Week 8
Physics End of Unit Test	Term 3, Week 8
Climate Change In-Class Assessment	Term 3, Week 10
In-Class Big Bang Theory Essay	Term 4, Week 5

The assessment schedule may be changed at the Teacher's discretion. Any changes will be communicated to the students. Target dates will only be put back, not brought forward. Students with ILPs may have the course content and/or assessment modified as appropriate.

**Classroom Performance:**

It is expected that the student:

- Arrives punctually to class
- Is organised and has all the equipment required for class activities
- Focusses on and participates in all learning
- Works effectively in class
- Completes and submits all tasks
- Demonstrates the school values

**Absence From Class:**

Students who miss class due to excursions or absence are required to negotiate with the class teacher to catch up all missed work.

**Assignments and Homework:**

Erindale College regards homework as an essential part of learning. Students are required to complete any unfinished classwork, set homework tasks, research, plan and complete assignments and study for tests.

**Extension:**

It is understood that illness and events beyond the student's control can impact on his/her ability to submit work on time. If a student requires an extension, it should be negotiated with the teacher prior to the target date.

**Plagiarism:**

Plagiarism is copying another person's work and is a form of cheating. In order to prepare the students for the world beyond school, it is important that they respect the intellectual property of others. If plagiarism is identified in a student's work, the student will be asked to resubmit the task.

**A-E Grade Descriptors:**

A to E grades demonstrate the level to which the student has displayed the knowledge, skills and understandings indicated in the Australian Curriculum Achievement Standards for the year level.

- A - demonstrating excellent achievement of what is expected
- B - demonstrating high achievement of what is expected
- C - demonstrating satisfactory achievement of what is expected
- D - demonstrating partial achievement of what is expected
- E - demonstrating limited achievement of what is expected