

# Syllabus & Pacing

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## 1.) Syllabus

### COURSE DESCRIPTION

A high school physical science course explores the fundamental concepts of physical and chemistry, serving as an introductory course or foundational course for more specialized science courses. It introduces concepts related to the laws of physics, atoms, and molecules. It integrates principles from both disciplines to provide a broad understanding of matter and energy and their interactions.

This course is the second semester of a 2-semester course (full-year)

### COURSE SUBMISSIONS

All assignments will be graded through OnFire. Any attachments must be made in a Word document file, PDF, or Google Doc shareable link and turned in through OnFire.

### COURSE MATERIALS

All courses require you to have access to a working computer and to the Internet.

All course work will be completed and graded through a digital learning management system known as Onfire.

Included in the resources section is a periodic table and a common ion chart. It is recommended that you have a hard copy of these. Beyond these materials, you will need access to a printer and a calculator. A scientific calculator is sufficient for this course.

### REQUIRED TEXTS

None - All readings will be provided on OnFire.

### Grading Procedures

A 94-100%	C 73-76%
A- 90-93%	C- 70-72%
B+ 87-89%	D+ 67-69%
B 83-87%	D 63-66%
B- 80-82%	D- 59-63%
C+ 77-79%	F 58% or below

### Grade Weight Groups:

- Quizzes and Assignments: 70%
- Post-Assessment: 15%
- Tests: 15%

Parents/Guardians will be able to observe and view their student's progress through Onfire.

## 2.) Pacing Guide

### Tentative Course Schedule

Students will be allowed to complete the course at a pace that best suits them. The students will be responsible for completing and turning in all assignments according to their individual needs.

A student may choose to go FASTER, than the minimum pace. Below is a suggested pacing guide. However, make sure to look at your school's deadlines, to ensure that you are completing courses on track. This is a 16-week pacing guide but can be done quicker.

### Term 3

Week 1	Unit: Non-Contact Forces <input type="checkbox"/> Lesson and QUIZ: The Force of Gravity At The Surface Of The Earth <input type="checkbox"/> Lesson and QUIZ: The Universal Law of Gravitation
Week 2	Unit: Non-Contact Forces <input type="checkbox"/> Lesson and QUIZ: Electric Forces <input type="checkbox"/> Activity: Exploring the Electrostatic Force PHET <input type="checkbox"/> Lesson and QUIZ: Magnetic Forces
Week 3	Unit: Non-Contact Forces <input type="checkbox"/> Lesson and Quiz: Electromagnets <input type="checkbox"/> Lesson and QUIZ: Energy Stored in Fields
Week 4	Unit: Non-Contact Forces <input type="checkbox"/> Unit Test: Non-Contact Forces Unit: Waves and Electromagnetic Spectrum <input type="checkbox"/> Lesson, Activity and Quiz: Mechanical Waves
Week 5	Unit: Waves and Electromagnetic Spectrum <input type="checkbox"/> Lesson and QUIZ: Electromagnetic Waves <input type="checkbox"/> Lesson and Quiz: Wave Behavior <input type="checkbox"/> Lesson and Quiz: Digital and Analog Signals

Week 6	<p>Unit: Waves and Electromagnetic Spectrum</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Activity: Digitization</li> <li><input type="checkbox"/> Lesson and Quiz: Interactions of Waves With Matter</li> <li><input type="checkbox"/> Activity: Wave Interference PhET</li> </ul>
Week 7	<p>Unit: Waves and Electromagnetic Spectrum</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lesson and Quiz: The Search For Knowledge and Understanding In Science</li> <li><input type="checkbox"/> Unit Project: Waves And Their Interactions In Everyday Technology</li> </ul>
Week 8	<p>Unit: Waves and Electromagnetic Spectrum</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Unit Test: Waves and Electromagnetic Spectrum</li> <li><input type="checkbox"/> Term 3 Post-Assessment and Grade Submission</li> </ul>

#### Term 4

Week 1	<p>Unit: Atomic Structure</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lesson and QUIZ: Mendeleev</li> <li><input type="checkbox"/> Lesson and QUIZ: Groups in the Periodic Table</li> </ul>
Week 2	<p>Unit: Atomic Structure</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Assignment: Missing Cousin Lab</li> <li><input type="checkbox"/> Lesson and QUIZ: Protons, Neutrons, and Electrons</li> <li><input type="checkbox"/> Lesson and QUIZ: Protons, Neutrons, and Electrons in Atoms</li> </ul>
Week 3	<p>Unit: Atomic Structure</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lesson and QUIZ: Ions</li> <li><input type="checkbox"/> Lesson and QUIZ: Ionic and Covalent Bonds</li> <li><input type="checkbox"/> Lesson and QUIZ: Molecules and Compounds</li> <li><input type="checkbox"/> Assignment: Elements vs. Molecules vs. Compounds vs. Mixtures</li> </ul>
Week 4	<p>Unit: Atomic Structure</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lesson and QUIZ: Chemical and Physical Properties and States of Matter</li> <li><input type="checkbox"/> Assignment: Physical and Chemical Properties</li> <li><input type="checkbox"/> Unit Test: Structure of Atoms</li> </ul>

Week 5	<p>Unit: Chemical Reactions</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lesson and Quiz: Atomic Number and Atomic Mass</li> <li><input type="checkbox"/> Lesson and Quiz: Describing Chemical Reactions</li> <li><input type="checkbox"/> Lesson and Quiz: Chemical Nomenclature</li> </ul>
Week 6	<p>Unit: Chemical Reactions</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lesson and Quiz: Mass Is Conserved</li> <li><input type="checkbox"/> Lesson and Quiz: Balancing Chemical Equations</li> </ul>
Week 7	<p>Unit: Chemical Reactions</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Assignment: Balancing Chemical Equations</li> <li><input type="checkbox"/> Lesson and Quiz: The Mole and Molar Mass</li> <li><input type="checkbox"/> Lesson and Quiz: Chemical Reactions Rates and Energy</li> </ul>
Week 8	<p>Unit: Chemical Reactions</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Unit Test: Chemical Reactions</li> </ul> <p>Unit: Term 4 Post-Assessment</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Term 4 Post-Assessment and Grade Submission</li> </ul>