



**CITY ON A HILL**  
*Classical Christian Education*

**Class** Physical Science II – Spring 2025

**Class Length** 70 Minutes

**Teacher** Mr. Jon S. Szabo

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**Class Description:** This class covers the remaining fifty percent of the Dincher physical science textbook (see Curriculum/ Tools below) with focus on the more detail (technical) aspects of physical science ranging from chemistry to the various patterns and forms of wave activity.

**Grades/Ages:** This class is designed for students in the 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> grades.

### **Responsibilities**

- **Parent Responsibility:** To establish and oversee an educational plan for the student. And, to grade and review the progress of the student. *In the Grammar stage this is a daily activity for each subject. In the Logic and Rhetoric stages this can become a weekly activity.*
- **Student Responsibility:** To actively engage with the teaching and study work. To respect the instructions and expectations of Dad and Mom. And, to come prepared to each CO-OP class.
- **Teacher-Tutor Responsibility:** To support (bolster) the educational plan of the parent. To offer passionate and accurate teaching/tutoring of the subject matter. And, to challenge the student in the subject.

**Curriculum/Tools for Learning:** Please purchase the following resources:

- *Exploring Creation with Physical Science (3<sup>rd</sup> Edition) – Vicki Dincher (Publisher: Apologia) ISBN 978-1-946506-51-1.* For utilizing an older or a newer addition, email Teacher your edition number and send photo of Table of Contents to see if it can be used.
- Pens, pencils, and notebook. Also, purchase of safety goggles and disposable gloves. The purchase of a microscope may be necessary, unless we share one in class. For at-home experiments, students may need certain household supplies (e.g., food coloring, salt, baking powder, stove top) with parent's permission. For a complete list of lab supplies possibly needed, see "Lab Supply List" at back of Dincher textbook.
- Use of a computer (Word, Excel) may be needed for some assignments.

**Grading Rubric:** As a reminder, although the teacher-tutor will provide each student/parent with a midsemester progress report and an end of semester progress report, it is the responsibility of the student's parents to determine the final grade for the student. The progress report provided by the teacher-tutor is meant to be a reflection of the work accomplished within the scope of the class and therefore NOT a reflection of the student's overall progress.

- Attendance & Participation: 10 %  
Students are expected to attend and engage with the class discussion.
- Homework & Lab Notes: 10 %  
A log that records "On Your Own" problems completed and additional lab work notes (strive for about one student-selected lab experiment for every module completed -see Dincher textbook and the "After Class Assignments" column on next page). We will complete as many lab experiments in class as time allows; other labs completed at home.
- Quizzes: 20 %  
Helps prepare the student for upcoming tests; takes up one-third of class hour.
- Tests: 45 %  
Each test is long enough to take one whole class hour to complete.
- Science Paper: 15 %  
Near the end of the semester, students present their findings on one aspect of physical science previously covered in class.

### **Classroom Behavior/Etiquette (Code of Conduct)**

*Although not all participants of City on a Hill activities confess Christ, there is still an expectation of the following general guidelines as a code of conduct.*

Love God and Love Others (Romans 13:8-10) - The Law of God directs our steps. The two greatest commands direct all that we do (Matthew 22:36-40). The 10 Commands clearly explain the moral law written on everyone's heart (Deuteronomy 20:3-17).

Respect Authority (Romans 13:1-5) - In words, actions, behavior, attitudes, and in secret.

Order of Authority: 1. God 2. Parents 3. *Teacher-Tutors* 4. Students

Dress and Speak like Men/Women - What we wear and what we say should speak of maturity.

Diligence in our Work, Play, and Rest - We are to do well in whatever we find ourselves doing.

## Meeting Dates and Content – Physical Science II Spring 2025

Date	Week	Class Topic ** <i>Come prepared for (i.e., read, practice, memorize):</i>	Homework ** <i>Complete after class</i>
Jan-14	1	Review Module 3 (Atoms, Periodic Table); Chemical Bonds in Module 4 (Part I), pp. 115-121a *	“On Your Own” problems 4.1-4.2
Jan-21	2	Chemical Bonds in Module 4 (Part II) , pp. 121b-145 *	“On Your Own” problems 4.3-4.10
Jan-28	3	Chemical Reactions and Energy in Module 5 (Part I), pp. 151-161a *	“On Your Own” problems 5.1-5.5
Feb-4	4	<b>Quiz 1</b> covering Modules 4 and 5 (Part I); Labs ____ & ____	Organize Labs & Notes from the past Modules 4 through 5 (Part I)
Feb-11	5	Chemical Reactions and Energy in Module 5, pp. 161b-180 (Part II)	“On Your Own” problems 5.6-5.12
Feb-18	6	Chemistry and Physics in the Life Sciences in Module 14 (Part I) pp. 495-503	“On Your Own” problems 14.1-14.5
Feb-25	7	Chemistry and Physics in the Life Sciences in Module 14 (Part II) pp. 504-514	“On Your Own” problems 14.6-14.9
Mar-4	BREAK		
Mar-11	8	<b>Quiz 2</b> covering Modules 5 (Part II) and 14; Labs ____ & ____	Organize Labs & Notes from the past Modules 5 (Part II) and 14
Mar-18	9	Physics-Electricity & Magnetism in Module 11 (Part I) pp. 393-416a *	“On Your Own” problems 11.1-11.6
Mar-25	10	<b>TEST 1</b> covering Modules 4, 5, 14, and 11 (Part 1)	Basic outline and structure of Science Paper should be complete
Apr-1	11	Physics-Electricity & Magnetism in Module 11 (Part II) pp. 416b-427 *; Physics-Light in Module 10 (Part I) pp. 349-367a *	“On Your Own” problems 11.7-11.10 “On Your Own” problem 10.1-10.5
Apr-8	12	Physics-Light in Module 10 (Part II) pp. 367b-388 *	“On Your Own” problems 10.6-10.13 Rehearse your Presentation
Apr-15	13	<b>Student In-Class Presentations on Science Paper</b>	Make any revisions to Paper from teacher’s review of your experiment
Apr-22	14	<b>Quiz 3</b> covering Modules 11 (Part II) and 10; Labs ____ & ____	Organize Labs & Notes from the past Modules 11 (Part II) and 10
Apr-29	BREAK		
May-6	15	Physics-Waves and Sound in Module 9 pp. 311-342	“On Your Own” problem 9.1-9.12
May-13	16	<b>TEST 2</b> covering Modules 11 (Part II) and 10 and 9 <b>Submit Written Completed Science Paper</b>	

\* Page suffix “a” (or “b”) refers to the last (or first) portion of page of assigned reading, typically stopping at a given “On Your Own” breakpoint of the given module or chapter. Certain modules will take more time to understand.

11-Jan	New Student Orientation
14-Jan	
11-Mar	Parent Training Classes
13-May	
11-Mar	Science Fair
29-Mar	Music Recital

### NOTE:

- All CO-OP classes and projects are a supplement, NOT a replacement of the education taking place at home.
- Parents are required to review any work to be turned in before class. Parents, please initial any work to be turned in.

**Reading and Assignment Acknowledgement**

We, (parents and student), have read this syllabus and understand the requirements for the following classes.

*Please use one signature sheet per student for all classes:*

Class: \_\_\_\_\_

Class: \_\_\_\_\_

Class: \_\_\_\_\_

Class: \_\_\_\_\_

Class: \_\_\_\_\_

\_\_\_\_\_  
Parent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Parent

\_\_\_\_\_  
Date

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Student

\_\_\_\_\_  
Date