



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

**Class** Physical Science I – Fall 2024

**Class Length** 70 Minutes

**Teacher** Mr. Jon S. Szabo

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**Class Description:** Covers the fifty percent of the Dincher physical science textbook (see Curriculum/Tools below), with a foundational understanding of mass and energy leading to the measurable, mathematical, structural, and dynamic understanding of our designed Earth and all that is in it.

**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 I Fall 2024

Date	Week	Class Topic ** <i>Come prepared for (i.e., read, practice, memorize):</i>	Homework ** <i>Complete after class</i>
Aug-20	1	“What is Science?” in Module 1, pp. 1-17a* (SH1)	“On Your Own” problems 1.1-1.10
Aug-27	2	“What is Mass?” in Module 1, pp. 17b-27a*, Module 2, pp. 41-48a*, and Module 3, pp. 79-110 (SH2)	“On Your Own” problems 1.11, 2.1-2.3, and 3.1-3.12
Sep-3	3	“What is Energy?” in Module 2, pp. 61b-73* and 8, pp. 271-288a* (SH3)	“On Your Own” problems 2.9-2.12, and 8.1-8.7
Sep-10	4	<b>Quiz 1</b> covering weeks 1 - 3; Labs _____, _____ & _____	Organize Labs & Notes for portions of Modules 1, 2, and 8 and all of 3.
Sep-17	5	“Earth – Land” in Module 12, pp. 433-445a* with Module 2, pp. 48b-61b* (SH4)	“On Your Own” problems 12.1-12.4 and 2.4-2.8
Sep-24	6	“Earth – Air” in Module 13, pp. 467-488a* (SH5)	“On Your Own” problems 13.1-13.9
Oct-1	7	“Earth – Sea” in Module 12, pp. 445b-462* (SH6)	“On Your Own” problems 12.5-12.12
Oct-8	8	<b>Quiz 2</b> covering weeks 5 - 7; Labs _____, _____ & _____ Discuss Science Paper – Focus of Study, Requirements	Organize Labs & Notes for all of Module 12 and most of Module 13
Oct-15	BREAK		
Oct-22	9	“Solar System & Universe” in Module 13, pp. 488b-490* (SH7)	“On Your Own” problem 13.10; Write 3 things on Theory of Relativity (p. 261)
Oct-29	10	<b>TEST 1</b> covering weeks 1 – 9	Look up “Temperature”, “Pressure”, and “Inertia” in back Glossary of textbook and write down definitions -show this next wk.
Nov-5	11	“Measuring Things Not in Motion” in Module 1, pp. 20-27a (review) with extra problems (SH8)	"On Your Own" problem 1.12 and problems from SH8
Nov-12	12	“Measuring Things in Motion” in Module 1, pp. 27b-35*, Module 6, pp. 187-215, and Module 7, pp. 225-235 (SH9)	On Your Own" problems 6.1-6.12 and 7.1-7.4
Nov-19	13	“History of Science Through the Ages” from SH10, with Module 7, pp. 236-262 and Module 8, pp. 288b-304*	On Your Own" problems 7.5-7.14 and 8.8-8.12
Nov-26	BREAK		
Dec-3	14	<b>Quiz 3</b> covering weeks 11 – 13 <b>Student In-Class Presentations on Science Paper</b>	Organize Labs & Notes for Modules 6 and 7 and the remainder of Modules 8 and 13
Dec-10	15	“Future of Science & Invention” in relation to Module 15, pp. 517-524 (SH11)	Prepare for Test 2 and finalize your Science Paper
Dec-17	16	<b>TEST 2</b> covering weeks 11 – 15 <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.

\*\* While using all of the Dincher textbook over the two semesters of Physical Science (I and II), Teacher is focusing on more basic, foundational subject matters of the Dincher textbook in the first semester, reserving the more complex subject matters (e.g., chemistry, electromagnetism) for the second semester. Thus, the modules covered above do not necessarily follow the order of the textbook Table of Contents. Supplementary Handouts (SH) by Teacher follow the above Fall 2024 sequence and expand on Dincher’s work in certain areas; a PDF file of all the handouts combined (from a previous Fall semester) will be emailed to students/parents prior to the start of this Fall semester.

6-Aug	Teacher Training Meeting
13-Aug	Returning Student Orientation
17-Aug	New Student Orientation
10-Sep	Parent Training Classes
12-Nov	
23-Nov	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

\_\_\_\_\_  
Student

\_\_\_\_\_  
Date