Grace Christian School

**Physical Science**

**GRADE:** 9 **DATE:** August 20, 2020

**BASIC TEXT(S):** Physical Science Sixth Edition.

Christopher D. Coyle, Jeff S. Foster, MS, Elwood Groves, MA: BJU Press., ©2020.

**OVERVIEW:** Physical Science is designed to give the students a basic introduction to chemistry and physics which will prepare them for all the upper level science courses. Topics in this course are covered in overview manner with emphasis on hands-on discovery through scientific investigation. Students will learn the basic structure of matter and how it acts through chemical and physical processes. The first semester the focus of study is on the structure of matter (chemistry) where students are introduced to pivotal topics such as accuracy, precision and significant digits; the structure of an atom and the Periodic Table of Elements; chemical nomenclature, chemical compounds, and chemical reactions. The second semester the focus is the motion of matter (physics) where students are introduced universal forces and the laws of motion; efficiency, work, and power; types and sources of energy; and electromagnetic spectrum, electricity and magnetism.

**MAJOR TOPICS & SKILLS:**

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| FIRST QUARTERUnit I - Chapters 1 - 61. Modeling our Orderly World
2. Matter

TEST1. The Atom
2. The Periodic Table

PROJECT1. Bonding and Compounds
2. The Chemistry of life

TEST | THIRD QUARTERUnit III - Chapters 11 - 161. Kinematics
2. Dynamics

TEST1. Work and Machines
2. Energy

PROJECT1. Thermodynamics
2. Fluids

TEST |
| SECOND QUARTERUnit II - Chapters 7 - 101. Chemical Reactions
2. Nuclear Changes

TEST1. Solutions
2. Acids, Bases, and Salts

TEST | FOURTH QUARTERUnit IV - Chapters 17 - 221. Periodic Motion and Waves
2. Sound

PROJECT1. Electricity
2. Magnetism

PROJECT1. Electromagnetic Energy
2. Light and Optics
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