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 QUARTER  Unit I - Chapters 1 - 6   1. Modeling our Orderly World 2. Matter   TEST   1. The Atom 2. The Periodic Table   PROJECT   1. Bonding and Compounds 2. The Chemistry of life   TEST | THIRD QUARTER  Unit III - Chapters 11 - 16   1. Kinematics 2. Dynamics   TEST   1. Work and Machines 2. Energy   PROJECT   1. Thermodynamics 2. Fluids   TEST |
| SECOND QUARTER  Unit II - Chapters 7 - 10   1. Chemical Reactions 2. Nuclear Changes   TEST   1. Solutions 2. Acids, Bases, and Salts   TEST | FOURTH QUARTER  Unit IV - Chapters 17 - 22   1. Periodic Motion and Waves 2. Sound   PROJECT   1. Electricity 2. Magnetism   PROJECT   1. Electromagnetic Energy 2. Light and Optics |