

# Physical Science I Syllabus

## RCAS Policies/Procedures

Students will be required to follow all RCAS policies and procedures. To view the RCAS High School Student Handbook, click [handbook](#).

## Course Description

Physical Science 1 will emphasize matter, energy, and their interactions. Topics will include kinetic theory, heat transfer, waves, conservation laws, atomic structure and theory, the periodic table, chemical bonds and reaction types. The emphasis will be on the close relationship between these areas and how they are important to the individual student and society. Critical thinking and lab skills will be an additional focus of this class.

**Grading:** Points shall be awarded for assignments, labs, quizzes, and tests. Points will be awarded and collected cumulatively through the year. Categories will be weighted as follows:

Tests: 35%

Labs: 35%

Assignments: 15%

Quizzes: 15%

**Textbook:** N/A

**Reading:** Handouts

**Instructional Resources:** Canvas and other resources as necessary.

## Course Essential Questions:

How is the periodic table a representation of atomic properties (periodic trends)?

How does the mass of the reactants compare to the mass of the products during a chemical reaction?

How do an atom's valence electrons determine stability and the types of bonds that an atom will form?

What are the ways that energy is transferred? How are wavelength and frequency related?

## Essential Learning Intentions:

Students will be able to predict the structure of an atom based on information from the Periodic Table.

Students will be able to predict an elements properties based on its location on the Periodic Table.

Students will be able to predict the sum of the masses of the reactants and products in a given chemical reaction.

Students will be able to balance chemical reactions.  
Students will be able to predict the outcome of a reaction based on their location of the reactants on the Periodic Table.

Students will be able to classify different reaction types.

Students will be able to name and write ionic and covalent compounds and molecules.

Students will be able to identify different ways that thermal energy is transferred.

Students will be able to describe the effect of how adding energy changes the relationship between wavelength and frequency.