



2024-2025

Rapid City  
Stevens High School

## **Physical Science 1**

### **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 is designed as an entry level introduction to the subjects of Chemistry and Physics. Critical thinking, measurement, mathematic conversions, atomic theory, the periodic table, and basic chemical reactions are explored. Taking Physical Science after passing either Chemistry, Physics, or both would be redundant and considered an incorrect sequence of coursework.

### **Textbook:**

Glencoe Physical Science

New curriculum will be piloted at times during this school year.

### **Required Resources:**

**“Limited Choice” Resources:** (students will be asked to choose at least one title from this list)

### **Student Choice:**

Will student be asked to choose additional reading material from the classroom or school library?

No

### **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 element's 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.