

Objective

By the end of this lesson, you will understand the concept of chemical reactions and be able to identify different types of reactions.

Materials and Prep

- Pen and paper for notes
- Access to a computer for research
- Basic knowledge of the periodic table

Activities

- **Experiment Time:** Perform a simple chemical reaction using household items like vinegar and baking soda. Observe the reaction and note any changes that occur.
- **Research Project:** Choose a famous chemist and create a presentation highlighting their contributions to the field of chemistry.
- **Molecular Models:** Use modeling kits or household items like marshmallows and toothpicks to create models of different molecules and compounds.

Talking Points

- **Chemical Reactions:** "Chemical reactions occur when substances combine to form new substances with different properties."
- **Types of Reactions:** "There are different types of chemical reactions, such as synthesis, decomposition, single replacement, and double replacement reactions."
- **Balancing Equations:** "Balancing chemical equations is important to ensure that the same number of each type of atom is present on both sides of the equation."
- **Real-World Applications:** "Chemical reactions are all around us, from cooking food to powering vehicles. Understanding chemistry helps us make sense of the world."