

Objective:

That students would master their understanding of balanced equations through the study of hydrocarbon combustion, single displacement, and double displacement reactions.

Target student audience: YR.1, First year chemistry

ChemSense User Tools: BEGINNING—first time at animation tool

ChemSense Tools used: ANIMATION, TEXT NOTES-SUMMARIZE / EXPLAIN
FEEDBACK-TEACHER

Specialized Tools needed: NA

Classroom Implementation

Time: 80-90 minutes

Student Grouping: pairs

Activity Type: Represent at the molecular level the chemical reactions that have been studied thus far.

Chemistry Concepts in Activity (linked to CA stds & ChemSense 5 themes):

AUHSD 6.C.1—Knows how to describe the chemical reactions by writing balanced equations

2.C.1—Knows how reactants interact to form products with different chemical properties

2.C.2—Knows the idea of atoms explains the conservation of matter: in chemical reactions, the number of atoms stays the same no matter how they are arranged; so their total mass stays the same

3.C.1—Knows atoms combine to form molecules by sharing electrons to form covalent or metallic bonds or by exchanging electrons to form ionic bonds.

3.C.4—Know that atoms and molecules in liquids move in a random pattern relative to one another because the intermolecular forces are too weak to hold the atoms or molecules in a solid form.

Pre-requisite Chemistry Concepts:

Students will have taken notes, done text reading, and performed a lab on the different types of reactions.

Inquiry Skills (linked to Nses):

ACTIVITY Summary:

Students will create an animation of a combustion, single displacement, and double displacement reactions to show their understanding of solids versus dissolved versus covalent compounds on the molecular level, and how that ties in to chemical reactions, and the Law of Conservation of Mass.

Sources: NA

Application:

An understanding of the different compounds on the molecular level as well as chemical reactions as expressed in balanced equations at the molecular level will enhance student understanding of many of the processes in biology as well as physics.