

# +45/45 (A) nice! :)

## Forming New Substances

Miss Campbell  
Period 4  
May 13

What is a  
Chemical reaction?

- A **chemical reaction** is the process when substances undergo change.
- Bubbles, color change, heat are clues to chemical reactions
- When bonds break & new ones are occurring

What is a  
Chemical formula?

- **Chemical symbol** = Element
- **Chemical formula** = shorthand notation for a compound of various elements using their symbols
- Chemical formula shows amount of atoms
- $H_2O$  = water - water has 2 hydrogen atoms & 1 oxygen atom
- **Subscript** = if written <sup>small</sup> and to the right of a symbol
- When there is no subscript there is only one atom
- If you know the name of the substance you can write its formula
- Covalent compounds usually have two or more compounds
- Prefix in a name represents the #
- If the name includes the name of a metal / anion it represents ions
- Charge = 0 for a ionic formula

What is a chemical  
equation?

- **Chemical equation** = shorthand description of a chemical reaction
- **Reactant** = starting materials in a chemical reaction
- **Product** = substance formed
- You must make sure the equation is right # & name
- In a chemical reaction all atoms become a part of the product
- Atoms are never lost or gained in a reaction
- **Coefficient** = # placed in front of a chemical symbol
- When counting atoms = Coefficient  $\times$  Subscript
- The mass stays the same

What does the law of  
conservation of mass state?

- **Law of conservation of mass** = mass is neither created nor destroyed
- The atoms must be the same on both sides of the arrow