Notes Name:

What are Chemical Reactions?

(Unit 4: Chemical Reactions)

Chemical Reactions:

How do substances change?

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Examples:

- Rusting of iron
- Metabolism of food in the body
- Cooking an egg
- Mixing baking soda and vinegar to produce carbon dioxide gas

Indications:

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Conservation of Atoms in Reactions:

- Principle of Matter: Matter cannot be _____ or _____.
- Atoms are made of _____.
- Compounds are made of _____ and used in reactions.
- In reactions atoms are not lost but _____.

Reactants → Products

- _____: "Yields" or "produces"
- _____: A substance that is used in a chemical reaction.
- _____: A substance that forms during a chemical reaction.

Notes Name:

Types of Reactions

- _____: Element or ion moves out of one compound and into another.
- _____: Part of one reactant is replaced by part of another reactant.

Chemical Energy

- Energy is stored within _____.
- _____– releases energy
- _____– requires energy

Writing Reactions

- _____: Usage of name of compounds to describe the reaction.
- _____: Usage of symbols that show relationship between reactants and products

Balanced Equations

- _____: conserved in chemical equations.
- _____: the amount of substance in a reaction.

Steps for Balancing Equations

1. Write a word equation for the reaction.
2. Write the formula for each reactant and product.
3. Count the atoms of each element on both sides of the equation.
4. Add coefficients to balance the number of atoms.

Hints for Balancing Equations

1. Write each formula correctly
2. Can not change SUBSCRIPTS within a formula
3. Never write "1" as a coefficient
4. Every time a coefficient is changed, make sure it doesn't unbalance another element
5. Always double check

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