# Matter Unit Vocabulary

**Vocabulary: atom, molecule, matter, chemical reaction, reactant, product, pure substance, physical property, property, chemical property, volume, mass, density, melting point, boiling point, solubility, flammability, odor, synthetic material, Law of Conservation of Matter**

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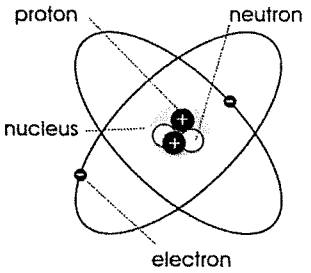
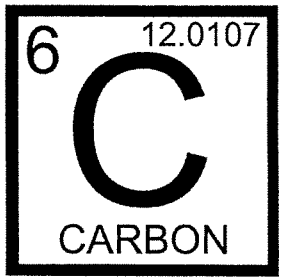
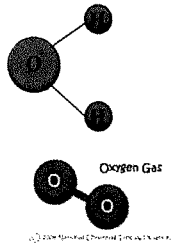
| **atom** | the smallest part of an element; the building blocks of matter |  |
| **element** | a substance composed of only one kind of atom; the simplest form of matter |  |
| **molecule** | a group of two or more atoms held together by chemical bonds |  |

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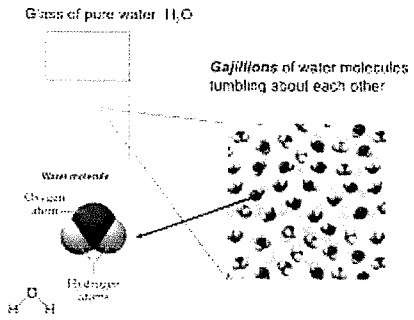
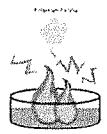
| **(pure) substance** | something that is made from all the same atoms or the same molecules |   |
| **property** | characteristics that can be observed about a substance | physical & chemical; specific & general |
| **physical properties** | characteristics of matter that can be observed without changing the substance | **density**, **mass**, **volume**, **melting point**, **boiling point**, **solubility**, color, texture, viscosity |
| **chemical properties** | characteristics of matter that are determined by the arrangement of atoms in the substance's molecules | **flammability**, reactivity   |

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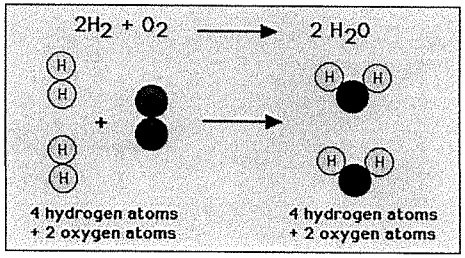
| **chemical reaction** | a process in which atoms in two or more molecules rearrange to form new substances |  |
| **reactant** | a starting substance that is part of a chemical reaction | $H_2 + O_2 \rightarrow H_2O$<br>*reactants* *products* |
| **product** | an ending substance that is made during a chemical reaction | $2\,SO_{2(g)} + O_{2(g)} \longrightarrow 2\,SO_{3(g)}$<br>**Reactants** **Products** |
| **Law of Conservation of Matter** | no atoms are gained or lost in a chemical reaction, they are just rearranged. The mass of the products is equal to the mass of the reactants. |  |

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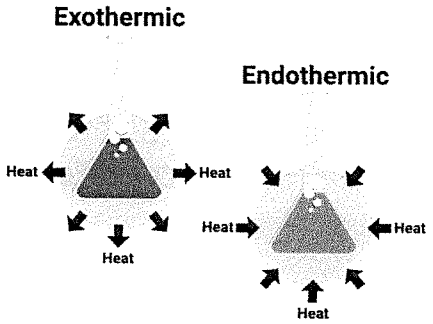
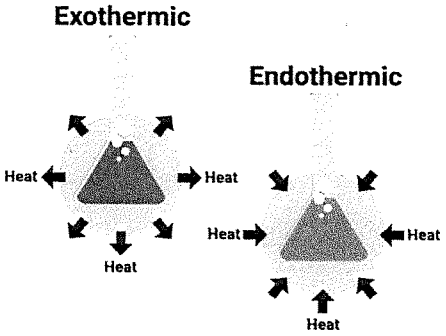
| **synthetic material** | a product made from a natural resource that has undergone a chemical process | nylon, plastic, polyester  |
| **endothermic** | A chemical reaction that takes in heat energy; feels cool |   |
| **exothermic** | A chemical reaction that gives off heat energy; feels warm |   |