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| **Element** |
| gold |
| silver |
| xenon |
| magnesium |
| hydrogen |
| helium |
| copper |
| carbon |
| is one of the 118 squares on the most up-to-date periodic table |
| same atom throughout (bonded or unbonded) |
| has a definite composition |
| can be represented by a chemical formula |
| cannot be chemically separated or physically separated |

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| **Compound** |
| PbI2 |
| BaSO4 |
| Rust |
| silver nitrate |
| the patina (copper (II) oxide) on the outside the Statue of Liberty |
| C6H12O6 (glucose) |
| C12H22O11 (sucrose) |
| Water |
| Sodium hydroxide |
| Sulfuric acid (battery acid) |
| Hydrochloric acid (stomach acid) |
| Is a combination of 2 or more elements found on the periodic table |
| 2 or more types of atoms chemically bonded together |
| Has a definite composition |
| can be represented by a chemical formula |
| has a definite ratio of elements |
| cannot be physically separated, but can be chemically separated (electrolysis, for example) |

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| **Mixture** |
| Made of 2 or more substances **not** bonded together |
| Pizza |
| Salad |
| Tea |
| Air |
| Cannot be represented by a chemical formula |
| Milk |
| More than one way to make it |
| Chocolate Milk |
| Oil and Vinegar |
| Salad Dressing |
| Sea Water |
| Can be physically separated |
| Variable composition |
| Properties of the new substance are not much different than the properties of the components |

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| **Compound** |
| Made of 2 or more elements bonded together |
| Can be represented by a chemical formula |
| Silver nitrate |
| Copper (II) oxide |
| Fool’s gold, iron (II) sulfide |
| Stomach acid, HCl |
| Definite composition |
| PbI2 |
| NaCl |
| H2O |
| Pure Water |
| Can be chemically separated, but not physically separated |
| Definite composition |
| Only one ratio between components that works! |
| Properties of the new substance are much different than the properties of the constituent components |