

## GLOSSARY AND CREDITS

In this unit we will take a look at the aspects of matter we have looked at, but have not really seen. We intend to discover and develop together the ways matter behaves and the order this matter displays as it exists all around us.

### VOCABULARY

|                       |  |
|-----------------------|--|
| atomic mass           | The relative mass of an atom as compared to the carbon-12 atom.  |
| Avogadro's hypothesis | A hypothesis that equal volumes of gas under equal conditions have equal numbers of molecules.   |
| Avogadro's number     | $6.02 \times 10^{23}$ , the number of chemical units in a mole.  |
| Boyle's Law           | The inverse relationship between pressure and volume of gases such that as pressure increases, volume decreases by the same fraction of change; temperature and number of molecules remain constant. |
| Charles' Law          | At constant pressure, the volume of a given amount of gas is directly proportional to its absolute temperature.  |
| Combined Gas Law      | The mathematical relationship which allows the three variables of pressure, volume, and temperature to change simultaneously.  |
| diatomic              | These elements never exist in nature as single atoms; in pure form they form molecules consisting of two atoms (H, N, O, F, Cl, Br, I).  |
| diffusion             | The process of intermingling of atoms (molecules) from one substance into another.   |

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|--------------------------|--|
| equation                 | The symbolic representation of a chemical reaction based on the Conservation of mass.  |
| evaporation              | A dynamic situation when the number of molecules leaving the liquid is greater than the number returning.                                |
| ideal gas                | Volume decreases by the same fraction of change; temperature and number of molecules remain constant.                                    |
| isotope                  | One of two or more atoms having the same number of protons, but different numbers of neutrons.   |
| kinetic energy           | The energy of motion which is represented as $K.E. = \frac{1}{2} mv^2$ , where $m$ = mass, and $v$ = velocity of the particle in motion. |
| Kinetic Molecular Theory | The theory that all matter is particulate, in continuous motion, and increasingly spread out from solids to gases.                       |
| manometer                | A device used to measure the pressure of an enclosed gas.  |
| Mass Number              | The sum of the protons and neutrons in an atom.  |
| mole                     | The amount of a substance that contains the same number of chemical units as 12 g of Carbon-12.  |
| phase diagram            | Graph showing how phases are affected by changes in temperature or pressure.   |
| pressure group           | The total force of contained gas molecules striking and pushing against the walls of their container.                                    |
| product                  | The substance yielded as a result of a chemical reaction.  |
| reactant                 | One of the starting substances (ingredients) that is involved in a chemical reaction.  |
| temperature              | An indicator of average kinetic energy.  |
| triple point             | The temperature and pressure at which all three phases exist simultaneously.   |