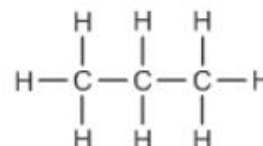


## Vocabulary: Molecule Builder



### Vocabulary

- **Chemical bond** – a strong force holding two atoms together in a molecule or crystal structure.
- **Chemical formula** – a group of symbols that describe the proportions of atoms of different elements in a molecule or compound.
  - In a chemical formula, *subscripts* indicate how many of each type of atom are present.
    - For example, the chemical formula for water, H<sub>2</sub>O, indicates there are two hydrogen atoms and one oxygen atom in a molecule of water.
- **Covalent bond** – a chemical bond in which atoms share one or more pairs of electrons.
- **Double covalent bond** – a covalent bond in which two pairs of electrons are shared by the bonded atoms.
- **Cyclic molecule** – a molecule that forms a ring structure.
- **Hydrocarbon** – a substance composed of carbon and hydrogen.
  - Fossil fuels such as oil and natural gas are mostly composed of hydrocarbons.
- **Ionic bond** – a chemical bond formed when electrons are transferred from one atom to another.
- **Isomers** – compounds with the same chemical formula but different structures.
  - *Allotropes* are elements that have different structures, such as graphite and diamond..
- **Lewis structure** – a diagram that illustrates the chemical bonds in a molecule.
  - In a Lewis structure, a line segment between atoms represents a pair of shared electrons in a covalent bond.
  - Many Lewis structures show electrons that are not involved in bonding. These electrons are not shown in the *Molecule Builder* Gizmo.
- **Molecule** – a group of two or more atoms joined by covalent bonds.
- **Organic compound** – a molecule that contains carbon-hydrogen bonds.
  - Most (but not all) organic compounds are produced by living things.



Lewis structure of propane, C<sub>3</sub>H<sub>8</sub>