

## VSEPR AND MOLECULAR GEOMETRY

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### **Models:**

- Models are attempts to explain how nature operates on the microscopic level based on experiences in the macroscopic world.
  - o Models can be physical such as DNA model.
  - o Models can be mathematical.
  - o Models can be theoretical or philosophical

### **Fundamental Properties of Models:**

- A model does not equal reality.
- Models are oversimplifications, and are therefore often wrong
- Models become more complicated as they age.
- We must understand the underlying assumptions in a model so that we don't misuse it.

### **VSEPR Model:**

- **V**alence **S**hell **E**lectron **P**air **R**epulsion
- The structure around a given atom is determined principally by minimizing electron pair repulsions.

### **Predicting a VSEPR Structure:**

- Draw Lewis structure.
- Put pairs as far apart as possible.
- Determine positions of atoms from the way electron pairs are shared.
- Determine the name of molecular structure from positions of the atoms.