

## CHAPTER OVERVIEW

### 2: Atoms, Molecules, and Chemical Reactions

The atomic theory, first proposed in modern form by John Dalton, is one of the most important and useful ideas in chemistry. It interprets observations of the every-day world in terms of particles called atoms and molecules. Macroscopic events—those which humans can observe or experience with their unaided senses—are interpreted by means of microscopic objects—those so small that a special instrument or apparatus must be used to detect them. (Perhaps the term submicroscopic really ought to be used, because most atoms and molecules are much too small to be seen even under a microscope.) In any event, chemists continually try to explain the macroscopic world in microscopic terms.

To get a sense for just how small the atoms we will be working with in the next chapter are, check out this Ted-Ed video called 'Just How Small is an Atom'.

[2.1: Prelude to Atoms and Reactions](#)

[2.2: Macroscopic Properties and Microscopic Models](#)

[2.3: The Atomic Theory](#)

[2.3.1: Foods- Elemental Diets](#)

[2.4: Macroscopic and Microscopic Views of a Chemical Reaction](#)

[2.4.1: Foods- The Mineral Nutrients Potassium and Iodine](#)

[2.5: Testing the Atomic Theory](#)

[2.5.1: Biology- Water](#)

[2.6: Atomic Weights](#)

[2.7: The Amount of Substance- Moles](#)

[2.8: The Mole](#)

[2.9: The Amount of Substance](#)

[2.10: The Avogadro Constant](#)

[2.11: The Molar Mass](#)

[2.11.1: Biology- Water](#)

[2.12: Formulas and Composition](#)

[2.12.1: Biology- Formula and Composition of Water and Glucose](#)

[2.12.2: Environment- Fertilizers, Formulas, and Ecological Stoichiometry](#)

[2.12.3: Foods- Iron Supplements](#)

[2.12.4: Foods - Salt Additives](#)

[2.12.5: Lecture Demonstrations](#)

[2.13: Balancing Chemical Equations](#)

---

This page titled [2: Atoms, Molecules, and Chemical Reactions](#) is shared under a [CC BY-NC-SA 4.0](#) license and was authored, remixed, and/or curated by .

---

This page titled [2: Atoms, Molecules, and Chemical Reactions](#) is shared under a [CC BY-NC-SA 4.0](#) license and was authored, remixed, and/or curated by Ed Vitz, John W. Moore, Justin Shorb, Xavier Prat-Resina, Tim Wendorff, & Adam Hahn.