

[illegible]

Most of us are quite familiar with the core principle of atomic theory—the idea that matter is composed of atoms—because we have been told that this is so since childhood. But how many of us really, and we mean *really* believe it, use it in our day-to-day life, understand its implications, or know the reasons why it is assumed to be true? It seems so completely and totally impossible and improbable because we do not experience atoms directly and it is easy to go through life quite successfully, at least for the vast majority of us, without having to take atoms seriously. The average person's brain is simply not wired to believe in the reality of things like atoms in a concrete and day-to-day way. Yet most scientists, and certainly most chemists, would agree that Feynman's deceptively simple statement contains the essence of chemistry.

- 1.1: What Do You Think You Know About Atoms?
- 1.2: Atomic Realities and Scientific Theories
- 1.3: Some History of Atomic Theory
- 1.4: Identifying and Isolating Elements
- 1.5: Evidence for Atoms
- 1.6: The Divisible Atom
- 1.7: Interactions Between Atoms and Molecules
- 1.8: Interactions Between Helium Atoms and Hydrogen Molecules
- 1.9: In-Text References

Thumbnail: Spinning Buckminsterfullerene ( $C_{60}$ ). (CC BY-SA 3.0; unported; [Sponk](#)).

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