



The student is expected to:

TEKS

4B investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules and

9A compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids



2.1

Atoms, Ions, and Molecules

TEKS 3E

KEY CONCEPT

All living things are based on atoms and their interactions.





2.1

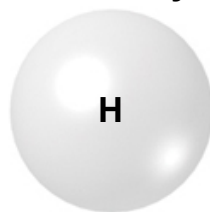
Atoms, Ions, and Molecules

TEKS 3E

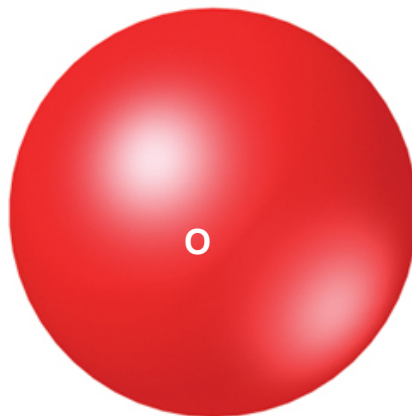
▶ Living things consist of atoms of different elements.

- An atom is the smallest basic unit of matter.
- An element is one type of atom.

Hydrogen atom (H)



Oxygen atom (O)





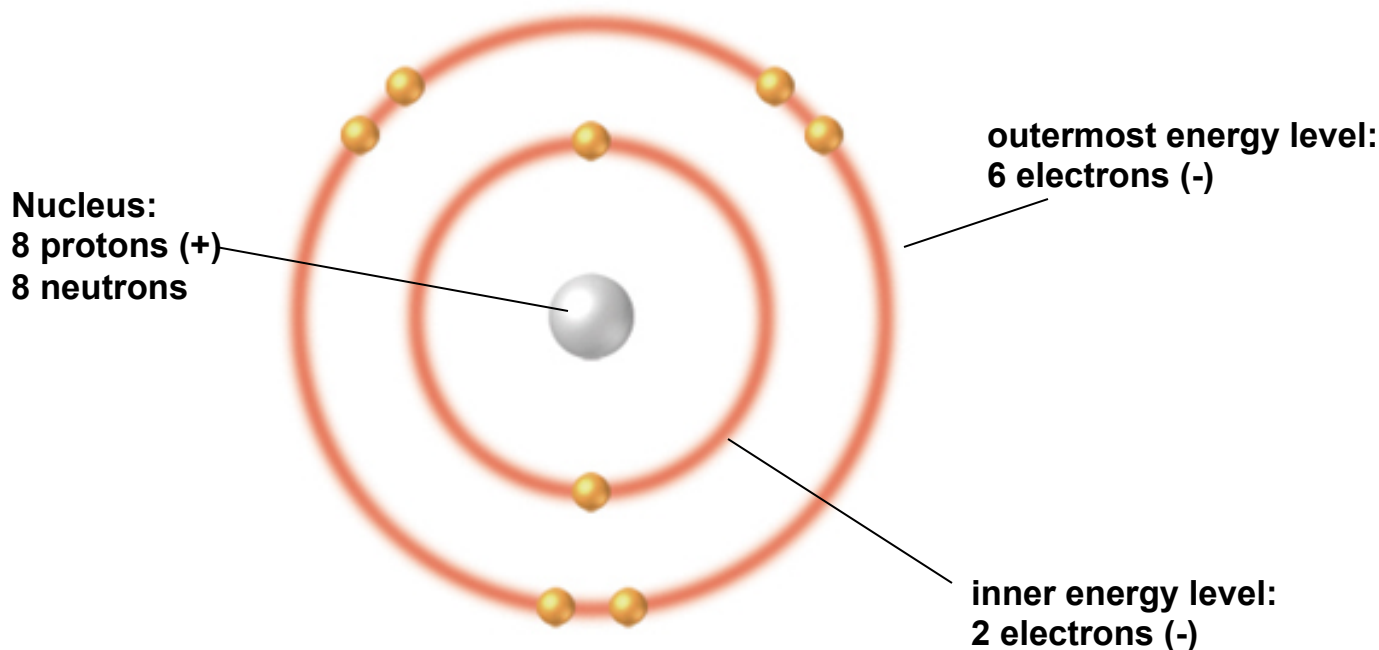
2.1

Atoms, Ions, and Molecules

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- An atom has a nucleus and electrons.
 - The nucleus has protons and neutrons.
 - Electrons are in energy levels outside nucleus.

Oxygen atom (O)



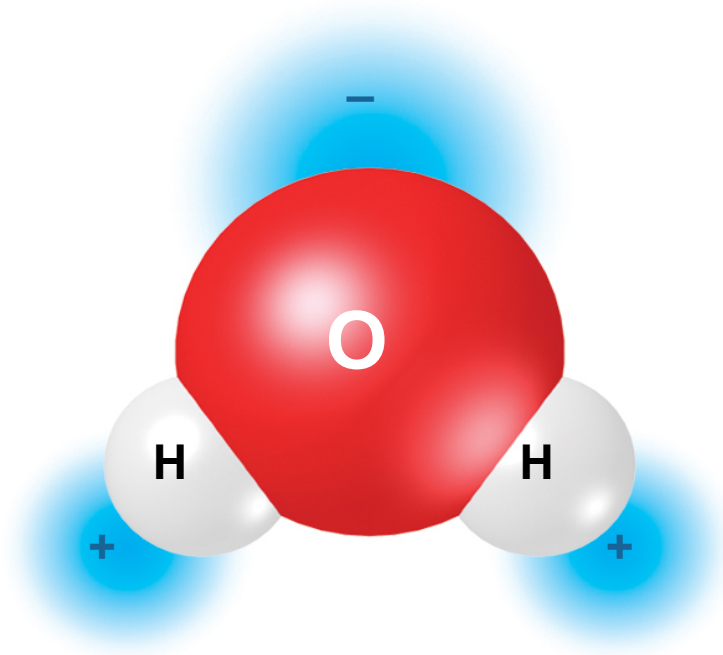


2.1

Atoms, Ions, and Molecules

TEKS 3E

- A compound is made of atoms of different elements bonded together.
 - water (H_2O)



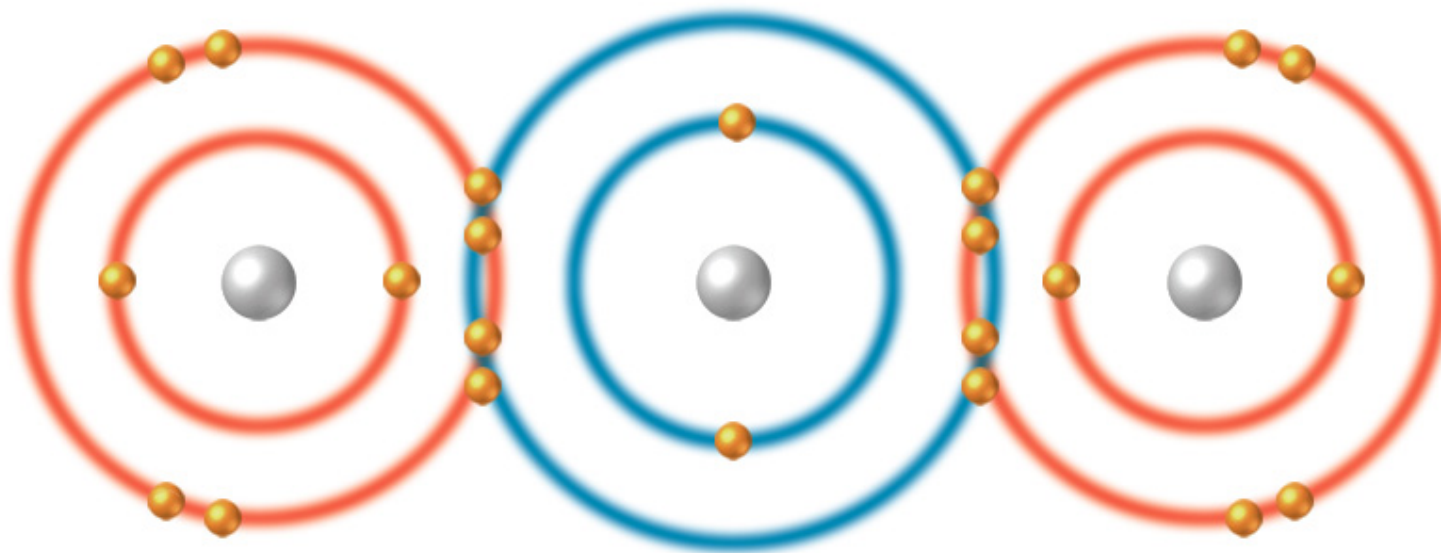


2.1

Atoms, Ions, and Molecules

TEKS 3E

- A compound is made of atoms of different elements bonded together.
 - water (H_2O)
 - carbon dioxide (CO_2)





- A compound is made of atoms of different elements bonded together.
 - water (H_2O)
 - carbon dioxide (CO_2)
 - many other carbon-based compounds in living things



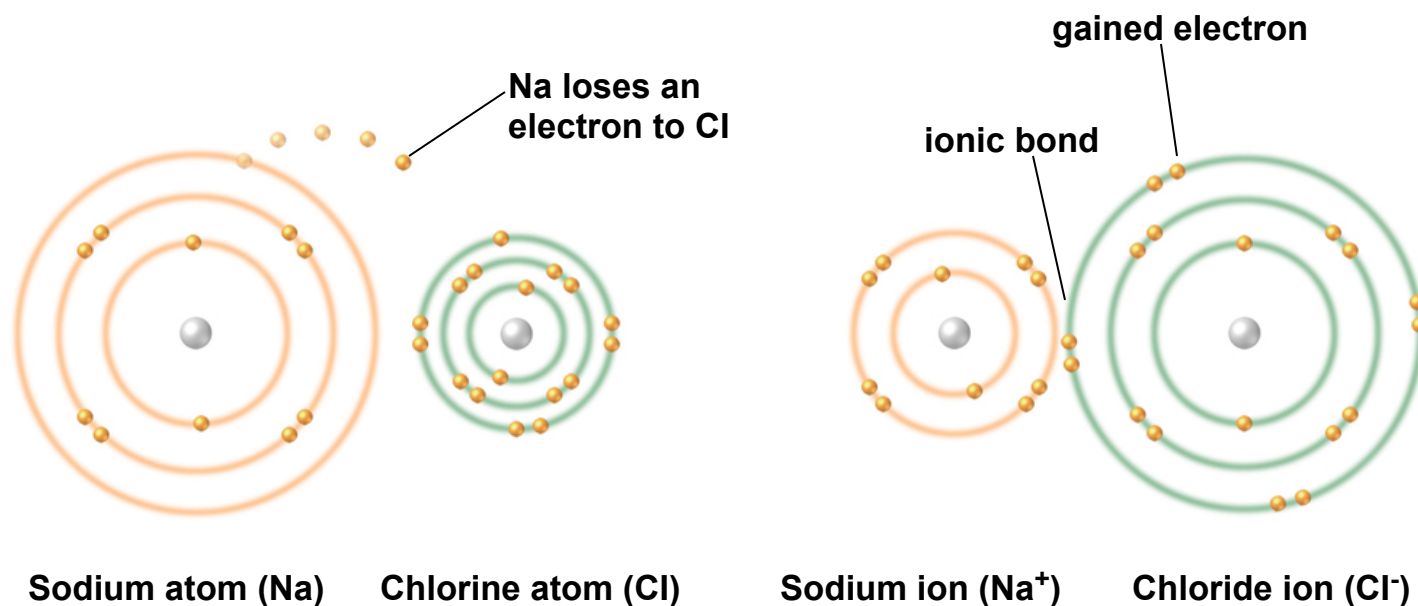
2.1

Atoms, Ions, and Molecules

TEKS 3E

► Ions form when atoms gain or lose electrons.

- An ion is an atom that has gained or lost one or more electrons.
 - positive ions
 - negative ions
- Ionic bonds form between oppositely charged ions.





2.1

Atoms, Ions, and Molecules

TEKS 3E

► Atoms share pairs of electrons in covalent bonds.

- A covalent bond forms when atoms share a pair of electrons.
 - multiple covalent bonds
 - diatomic molecules

