■ **We can also describe an atom by its atomic mass**

Atomic mass = mass of protons + mass of neutrons + mass of electrons

Electrons are so light, we usually ignore them in biology.

Therefore, the atomic mass ≈ mass number = mass of protons + mass of neutrons
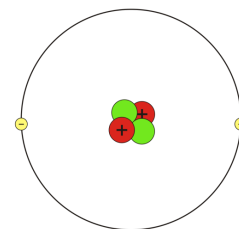
Note: In this case, the description of atomic mass applies to biology.

In chemistry, the atomic mass is the weighted average mass of all isotopes (what we usually see in the periodic table).

Protons, Neutrons, and Electrons

	Charge	Mass (amu)	Location
Proton	+1	1	nucleus
Neutron	0	1	nucleus
Electron	−1	0	orbitals

Example: Helium (He)

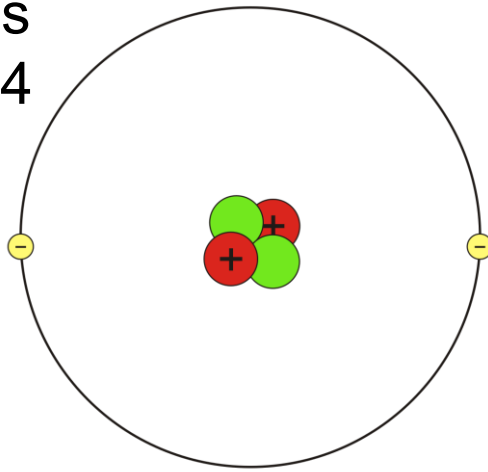Atomic mass (He) = 2 × 1amu + 2 × 1amu = 4 amu

In this case, atomic mass = mass number

In the case of chemistry, it is equal to 4.002602, which is the average mass of helium isotopes (atomic mass ≠ mass number)

- We can also describe an atom by its atomic mass

  – **Atomic mass** = number of protons + neutrons

    • *Electrons are so light, we usually ignore them in biology*

Atomic mass
of helium = 4

Helium (He)

Protons, Neutrons, and Electrons

	Charge	Mass (amu)	Location
Proton	+1	1	nucleus
Neutron	o	1	nucleus
Electron	−1	o	orbitals

Figure: https://commons.wikimedia.org/wiki/File:Helium-Bohr.svg
Figure from OpenStax Biology 2e