Notes: Mass # vs Average atomic Mass

BIG IDEAS	***DETAILS***
Mass Number	Electrons are so small they don't contribute to mass. But both protons and neutrons do! So mass number = protons + neutrons. Mass number is calculated for specific, individual atoms. Protons & neutrons are so tiny they have their own unit - the atomic mass unit, or amu. ← 1 proton/neutron weighs 1 amu
Isotopes	The number of ~~electrons~~ protons determines what element an atom is. Isotopes of an element have different numbers of neutrons. Since both have mass, different isotopes of an element will have different mass numbers. Isotopes are named using their mass numbers. An atom of boron with 6 neutrons is called boron - 11.
Isotope Abundance	Elements that have multiple isotopes have different amounts of each isotope that occur in the world. For example, 20% of boron is Boron-10, while 80% is Boron-11.
Atomic Mass	Atomic mass is the average mass of all the boron in the world. Since the abundance is not 50/50, you have to calculate a weighted average instead of adding up and dividing by the number of isotopes.
Calculating a Weighted Average	Write a formula for calculating average atomic mass based on his examples: Average atomic mass = abundance isotope 1 × ~~abundance~~ mass isotope 1 + abundance isotope 2 * mass isotope 2 OR Atomic mass = $\sum$ (abundance isotope)(mass isotope) ↑ sum