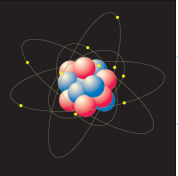


Atomic Structure Notes

Atoms:

- **Smallest** particle of an element that has all the **properties** of that element.
- -Atoms are the basic building blocks of matter that make up everyday objects. 
- 2 main parts of an atom:
 - Nucleus - 99.9% of the atom's mass
 - Electron cloud or energy rings
- Atoms are made of subatomic particles: protons, neutrons, & electrons

Atoms are composed of three primary particles:
protons, neutrons, and electrons

Particle	Symbol	Location	Electrical Charge	Relative Mass (amu)	How do you find out how many?
Electron					
Proton					
Neutron					

Atoms are composed of three primary particles: protons, neutrons, and electrons

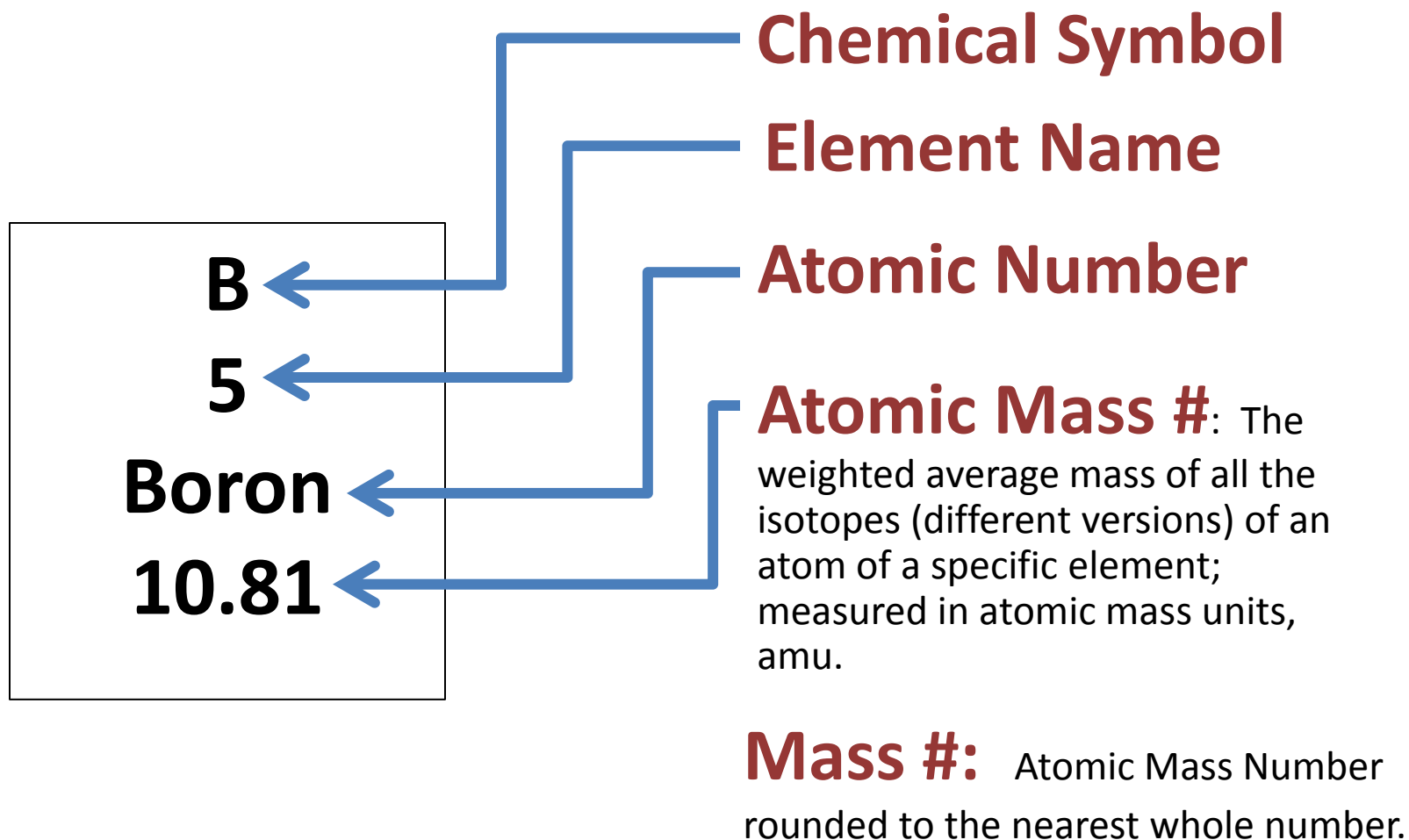
Particle	Symbol	Location	Electrical Charge	Relative Mass (amu)	How do you find out how many?
Electron	e^-	Orbits nucleus in energy levels	-1 (negative)	1/1840	Atoms are neutral and therefore have the same # of electrons as protons
Proton	p^+	Inside Nucleus	+1 (positive)	1	Atomic # (# of protons in an atom's nucleus), Element specific
Neutron	n^0	Inside Nucleus	0 (no charge/neutral)	1	Mass # minus atomic #

Electron Energy Levels

There is a **unique** number of electrons that can fit in each electron level.

Energy Level	How many electrons it holds up to
1	2
2	8
3	18

Determining Atomic Structure Using the Periodic Table



ATOMIC STRUCTURE DIAGRAMS

Step 1: Complete the squares for each element by adding the atomic number, name and atomic mass.

- Write the atomic number at the top of the square.
- Write the element's name under the symbol.
- Write the atomic mass at the bottom of the square.

Step 2: Determine the number of protons, neutrons, and electrons in each element.

Step 3: Create an atomic structure diagram for each element.

Step 4: Draw the Bonding Structure for each element.

5
B
Boron
10.81

P = 5
N = 6
E = 5

Atomic Structure:

Bonding Structure: