

Unit 2 – Ch 4.3 – Distinguishing Between Atoms

ELEMENT:

- **DEFINITION:**

- Every element is made up of its own type of _____ comprised of its own number of _____, _____, and _____.
- These three are collectively called _____.

How Are Elements Different?

- Different _____
- **ALWAYS** indicates the number of _____.
- Uniquely _____ an element.
- _____ Atoms = **ALWAYS** the same number of _____
- Ex #1: _____ Ex #2: _____

IONS (Not Neutral):

- **DEFINITION:**

- Number of _____ will _____ change.
- Charge on atom depends _____.

- **CATIONS (+): Definition** →

- Ex #1: _____ Ex #2: _____

- **ANIONS (-): Definition** →

- Ex #1: _____ Ex #2: _____

MASS NUMBER (X):

- **DEFINITION:**
 - **NOT** exactly the same value as _____.
 - **Atomic Mass** = _____ of _____, _____, and _____ in one atom.
 - **MASS NUMBER** = _____

NUCLIDES...Expression of an Atom: Represented in THREE (3) ways:

- **Expression #1:**

- **Expression #2:**

- **Expression #3:**

PRACTICE:

Ex #1: How many neutrons are present in potassium-39?

Atomic # = _____ e^- = _____
Mass # = _____ n^0 = _____
 p^+ = _____ Atomic Mass = _____

Ex #2: What is the mass # of nitrogen with 7 neutrons?

Atomic # = _____ e^- = _____
Mass # = _____ n^0 = _____
 p^+ = _____ Atomic Mass = _____

Ex #3: What is the mass # in a calcium cation? # neutrons?

Atomic # = _____ e^- = _____
Mass # = _____ n^0 = _____
 p^+ = _____ Atomic Mass = _____

- Atoms of the _____ element _____ have the same number of _____.
 - BUT may differ in _____ and _____.