**Notes – Periodic Table** #1

**Boxes **

Each box represents an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Boxes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_ atomic number from left to right

**A**tomic number = #**P**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = #**E**lectrons **(APE)**

Each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 and therefore, a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ATOMIC number

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**Rows = Periods**

**(number the periods 1-7)**

Rows are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Periods represent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 used by an atom’s electrons

Atoms in the \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ all have electrons in the \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

\*The period # tells us how many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an atom has.

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**Columns = Groups/Families**

**(number the groups/families 1-18)**

Columns are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Atoms in the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have similar \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ properties.

\*The group # tells us how many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an atom has.

**VALENCE ELECTRONS (VE)**

Elements in the same column have similar properties:

 They have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_ energy level

 Electrons in last energy level are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Electrons

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - cause all the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes!

**Valence Electrons Continued:**

 For Groups \_\_\_\_\_\_ through\_\_\_\_\_\_, ignore the “1” (or tenth’s place) when deciding how many valence electrons an atom has.

 **Rules:**

 Group 1 = \_\_\_\_ valence electron

 Group 2 = \_\_\_\_ valence electrons

 Group 13= \_\_\_\_ valence electrons

 Group 14= \_\_\_\_ valence electrons

 Group 15= \_\_\_\_ valence electrons

 Group 16= \_\_\_\_ valence electrons

 Group 17= \_\_\_\_ valence electrons

 Group 18= \_\_\_\_ valence electrons

\*\*special case for He= only 2 valence electrons even though in Group 18

Octet Rule (8)- the maximum number of \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ allowed in an energy level.

\_\_\_\_\_\_\_\_\_\_\_\_ is a special case in which it only needs \_\_\_\_\_ valence \_\_\_\_\_\_\_\_\_\_\_ to be full.

**Practice-**

What element is in Group 2, Period 2?

What element is in Group 16, Period 3?

How many valence electrons are in Group 14?

How many valence electrons are in Group 2?

How many valence electrons are in Group 18 (except He)?