**LEWIS DIAGRAMS – notes Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Also called: ***Lewis-Dot Diagrams***

1. What are valence electrons? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Lewis Diagrams are similar to Bohr models but what is missing? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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We will only use the first 20 elements so:

Elements in column **1** have how many valence electrons? \_\_\_\_\_\_\_

Elements in column **2** have how many valence electrons? \_\_\_\_\_\_\_

Element in column 1**3** – 1**8** have a range of how many valence electrons? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Making Lewis Diagrams for Atoms**

**Quick Method** – place electrons singly - equally around the shell until 4 are places, after which add in electrons to make pairs.

Magnesium Sulphur

**Making Lewis Diagrams for Covalent Compounds -** elections are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How many electrons make a full outer shell? \_\_\_\_\_\_\_\_ Except for He and H that require \_\_\_\_\_\_\_\_\_ electrons.

A covalent bond (also known as a bonding pair) is shown with a line connecting the elements.

|  |  |
| --- | --- |
| Screen Shot 2013-11-24 at 1 | Screen Shot 2013-11-24 at 1 |
| Screen Shot 2013-11-24 at 1 | Screen Shot 2013-11-24 at 1 |

Label the bonding pairs and lone pairs above.

Draw a Lewis diagram for…. Carbon Tetrafluoride Phosphorus Trichloride

**Making Lewis Diagrams for Ionic Compounds –** electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Draw the Lewis Diagram for…. Calcium Chloride Potassium Fluoride

Step 1: Draw Lewis Diagrams

of all element, show transfer

of electrons from metals to

non-metals

Step 2: Place square brackets

around each ion. Include the

charge of each ion on the top

right corner