**Name:**

**Bohr Diagrams Date:**



Bohr Diagram = a diagram that shows how many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are in each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The first shell can hold up to \_\_\_\_\_\_\_\_\_ electrons maximum

Each shell after can hold up to \_\_\_\_\_\_\_\_\_ electrons maximum

The outermost shell that contains electrons is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the electrons that are in the outermost shell

\*\*\* These electrons are the ones involved in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The element’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tells you how many energy shells are involved with it

 So, elements in period \_\_\_\_\_\_\_\_ fill the 1st valence shell

 Elements in period 4 fill the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ valence shell, etc.

(EXCEPT for the transition metals), the element’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tells you how many electrons are in the outermost shell

 So, elements in group \_\_\_\_\_\_\_ have 2 valence electrons

 Elements in group 7 have \_\_\_\_\_\_\_\_\_ valence electrons

Noble gases have a \_\_\_\_\_\_\_\_\_\_\_\_\_ valence shell (hence why they are so stable and non-reactive)

Ok, now practice!

**Name:**

**Lewis Diagrams Date:**



**Lewis Diagrams** shows only the element’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

These are important because they are the ones involved in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The electrons are represented as dots \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ until the 5th electron, and then they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Notice:

Elements in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have only \_\_\_\_\_\_\_\_\_\_ electron

Elements in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have only \_\_\_\_\_\_\_\_\_\_ electrons

Elements in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have \_\_\_\_\_\_\_\_\_\_ electrons

Electrons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ one at a time from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ across each period

Think about it: look at how many valence electrons are in the valence shells of the alkali metals versus the noble gases. Do you think this contributes to the element’s reactivity in those groups? Explain why or why not? (With what you know right now… don’t look it up!)