

Monday, October 27 – The Bohr Model

Objective: Review electron placement in energy levels.

Prompt (image shown on board):

Observe the Bohr model below.

Question: How many electrons can fit on each of the first four energy levels?

1. Fill in the blanks:

- Level 1: ____ electrons (only has an **s** sublevel)
- Level 2: ____ electrons (has an **s** and a **p** sublevel)
- Level 3: ____ electrons (has an **s**, **p**, and a **d** sublevel)
- Level 4: ____ electrons (has an **s**, **p**, **d**, and an **f** sublevel)

2. **True or False:** Electrons in higher energy levels are farther from the nucleus.

☐ True ☐ False

Tuesday, October 28 – Excited and Ground States

Objective: Explain when atoms emit photons.

Prompt (diagram on screen):

An electron in a hydrogen atom moves from the **n = 2** level to the **n = 5** level and then falls back to **n = 2**.

1. Fill in the blank: When the electron moves **up**, the atom is being ____ (absorbing/emitting) energy.
 2. Fill in the blank: When the electron falls **down**, the atom is ____ (absorbing/emitting) energy.
 3. **Multiple Choice:** When will a photon of light be produced?
 - A. When the electron absorbs energy
 - B. When the electron returns to ground state
 - C. When the atom loses a proton
 - D. When the atom becomes an ion
 4. **True or False:** The color of the light depends on how far the electron falls.
☐ True ☐ False
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Wednesday, October 29 – Group Numbers

Objective: Recognize periodic table patterns.

Prompt: You previously circled numbers at the top of each vertical column (group).

Question: What do you THINK those numbers represent? Try your best on these OR wait until tomorrow until you are sure 😊

1. Fill in the blank: Group numbers tell us the number of _____ electrons an atom has.
 2. **True or False:** All elements in the same group have similar chemical properties.
☐ True ☐ False
 3. **Multiple Choice:** Which group has 7 valence electrons?
A. Group 1
B. Group 2
C. Group 17
D. Group 18
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Thursday, October 30 – Valence Electrons Practice

Objective: Identify valence electrons in s- and p-block elements.

Prompt: Using your periodic table, determine the number of valence electrons for the following elements.

Element	T	Group #	Valence e ⁻
Sodium (Na)	s	_____	_____
Magnesium (Mg)	s	_____	_____
Aluminum (Al)	p	_____	_____
Sulfur (S)	p	_____	_____
Chlorine (Cl)	p	_____	_____
Argon (Ar)	p	_____	_____

Multiple Choice: Which of the following has a full outer shell?

A. Sodium B. Sulfur C. Argon D. Aluminum

 Friday, October 31 – Happy Halloween!

Objective: Write noble-gas electron configurations.

Prompt: Write the noble-gas shorthand configuration (no spaces) for the following elements.

Example: $[\text{He}]1s^22s^1$

Element	Configuration
Sodium (Na)	
Phosphorus (P)	
Chlorine (Cl)	

Multiple Choice: Which of these correctly shows Silicon's configuration?

- A. $[\text{Ne}]3s^23p^2$
- B. $[\text{He}]2s^22p^63s^23p^2$
- C. $[\text{Ar}]4s^23d^{10}4p^2$
- D. $[\text{Ne}]2s^23p^2$

True or False: The noble-gas symbol in brackets represents the inner electrons that do not change during bonding.

☐ True ☐ False