

## 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

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## 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 <sup>-</sup>
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

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🎃 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:* [He]1s22s1

Element	Configuration
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Sodium (Na)
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Phosphorus (P)
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Chlorine (Cl)
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**Multiple Choice:** Which of these correctly shows Silicon's configuration?

- A. [Ne]3s23p2
- B. [He]2s22p63s23p2
- C. [Ar]4s23d104p2
- D. [Ne]2s23p2

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

True     False