

## UNIT 3: Test Review

### Agenda:

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Topic	Isotopes	Ions	Ions	Test Review	Test Review
Homework	1-3, C1-2	4-6, C3	20-22, C4	7-12, C5	13-19, C6

### Objective 1: SWBAT read the periodic table.

- Which has more neutrons: Rubidium or Zinc?
  
- Rank the following elements from **largest** to **smallest** atomic mass.  

<u>Element:</u>	<u>Rank:</u>
Magnesium	_____
Potassium	_____
Krypton	_____
Copper	_____
Indium	_____
  
- Ms. Kline has identified an atom with an atomic mass of 48, 22 protons, 26 neutrons, and 22 electrons. She thinks it is iron, because iron's atomic matches the number of neutrons she has found. Is she correct?

### Objective 2: Students will be able to describe structure of the atom.

- Label the diagram below with the particles name and charges.

Name: \_\_\_\_\_

Charge: \_\_\_\_\_

Name: \_\_\_\_\_

Charge: Neutral

- If an atom is neutral, what does that tell us about the number of protons and electrons the atom has?
  
- Which two particles contribute to an atom's mass? Where are those particles found?

**Objective 3: Students will be able to describe isotopes of an atom and calculate average**

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7. List the protons, neutrons, and electrons of each of the three isotopes of oxygen:  $^{16}\text{O}$ ,  $^{17}\text{O}$ , and  $^{18}\text{O}$ .
8. All isotopes will have the same number of \_\_\_\_\_ and \_\_\_\_\_ but a different number of \_\_\_\_\_.

**Objective 4: Differentiate between element, compound and mixture**

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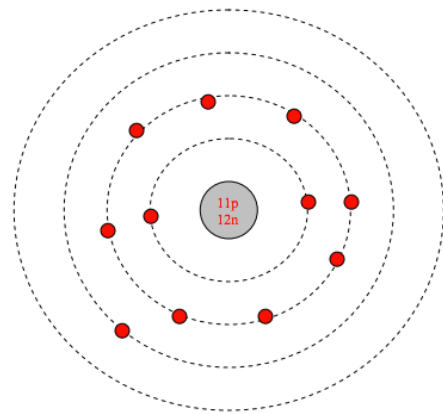
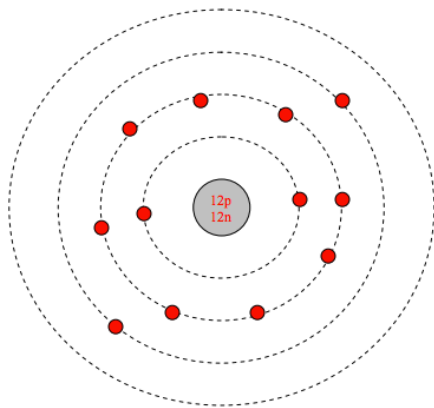
9. What is an element? List **three** examples.
10. What is a compound? List **three** examples.
11. What is a mixture? List **three** examples.
12. What is the difference between a homogenous mixture and a heterogenous mixture?

**Objective 5: Define energy levels in an atom and create Bohr models for common elements.**

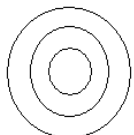
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13. How many electrons are in the:  
1<sup>st</sup> level of the Bohr Model: \_\_\_\_\_  
2<sup>nd</sup> level of the Bohr Model: \_\_\_\_\_  
3<sup>rd</sup> level of the Bohr Model: \_\_\_\_\_

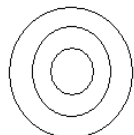
14. Label the following Bohr Models:



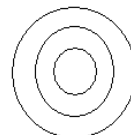
15. Draw the correct Bohr Models for the following atoms:



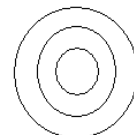
Neon



Argon



Oxygen



Lithium

**Objective 6: Students will be able to define valence electrons.**

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16. Fill in the table below with the correct number of electrons in each shell:

Shell	Number of Electrons
1	
2	
3	
4	

17. Fill in the table below with the correct number of valence electrons for each element:

Element	Valence Electrons
C	
Se	
Rb	
Ne	

18. Oxygen forms three stable isotopes of  $^{16}\text{O}$ ,  $^{17}\text{O}$ , and  $^{18}\text{O}$ . Do all three isotopes have the same number of valence electrons? Explain.

19. If an atom has 57 electrons, how many are valence electrons? How do you know?

**Objective 6: Students will be able to define an ion and explain the formation of positive and negative ions.**

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20. Ions form when an atom gains or loses \_\_\_\_\_.

21. Fill in the table below with the appropriate charges of each atom:

Element	Change	Charge
Potassium	Lost 1 electron	
Chlorine	Gained 1 electron	
Copper	Lost 2 electrons	
Sulfur	Gained 2 electrons	
Calcium		+2
Lead		+2
Iron		+3
Oxygen		-2

22. Why do ions form?

**Objective 6: Students will be able to convert among atoms, molar mass, and moles.**

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C1. How many moles are in 3.5 grams of Tellerium?

C2. How many atoms are in 4.7 moles of water?

C3. How many atoms are in 17.2 grams of Iodine?

C4. How many moles are in  $6.5 \times 10^{32}$  atoms of Strontium?

C5. How many grams are in  $7.7 \times 10^{77}$  atoms of NaCl?

C6. How many grams are in 0.57 moles of MgS?