

Name:

Block:

Unit 2 Test Review

1. Which part of the atom is responsible for chemical bonding?

2. What are valence electrons (be specific)?

3. How many valence electrons do most atoms need to have a complete outer shell and be happy?

4. Why do atoms bond? _____
5. Which atoms need only two valence electrons?

6. How many valence electrons do elements in Group 1, the Alkali Metals, have?

7. How many valence electrons do elements in Group 2, the Alkaline Earth Metals, have?

8. Complete the chart:

Group Number	Number of valence electrons
13	
14	
15	
16	
17	
18	

9. How do ions form? _____
10. If an element gives away an electron, will it form a positive ion or a negative ion?

11. If an element gains an electron, will it form a positive ion or a negative ion?

12. Why does an ion have a charge (be specific)?

13. How do ionic bonds form? _____
14. How do covalent bonds form? _____

15. Fill in the table below:

	List at least 3 properties
Ionic compounds	
Covalent molecules	

16. Bond the following atoms using arrows (M&NM) or circles (NM&NM). Determine if they are ionic or covalent, circle your choice. Show the valence electrons and how they are either shared between the atoms or how they are transferred between atoms. Then write the chemical formula in the space provided.

Ionic or covalent	Ionic or covalent
C Cl	Mg Cl
Formula _____	Formula _____

17. Fill in the following table by writing an "X" in the correct box:

Property	Metal	Non-Metal
Malleable		
Ductile		
Dull		
Luster		
Poor conductor		

18. Do elements have similar properties if they are in the same group or the same period? Why?

19. What happens to the valence electrons going across a period?

20. What happens to the number of valence electrons going down a group?

11. The periodic table below was discovered on a mysterious planet with many unknown elements. Determine the properties of the mysterious elements using the patterns of the periodic table that you already know.

	IA																		8A	
1		2A																		
2	D																			
3			3B	4B	5B	6B	7B	__	8B	__	1B	2B								
4		X																		
5	G																			J
6																				
7																				



				Q										
							R							



- a) Which element has 2 valence electrons?
- b) Which element is a lanthanide?
- c) Which two elements have similar properties?
- d) Which elements are in the same period?
- e) Which two elements both have 5 orbitals?
- f) Which two elements both have 3 orbitals?
- g) Which element is an actinide?
- h) Which elements are non-metals?
- i) Which element would be non-reactive?
- j) Which element has 4 valence electrons?
- k) How many valence electrons does "L" have?
- l) Which element would have a 1- charge?
- m) How many orbitals does "X" have?
- n) What charge will "D" probably take on?