

Chemistry Review BTR ____

Find **Calcium** on the periodic table (Ca).

calcium
20
Ca
40.078

1. What is the **atomic number** for Ca?
2. What is the **atomic weight**?
3. Number of **protons**?
4. Number of **electrons**?
5. Number of **neutrons**?
6. Draw the two diagrams of a Calcium atom: (Bohr energy-level model & Dot diagram)
7. Is this atom of Calcium a **stable & nonreactive** atom or a **reactive atom likely to form chemical bonds** ...Explain WHY?
8. If this Calcium atom lost two electrons, would it become a positive or negative ion ... Explain WHY?
9. How many total electrons are shared by the atoms in this chemical bond (C = O)
A) 1 B) 2 C) 4 D) 8
10. A _____ bond is formed when electrons are shared equally?
A) Ionic
B) Polar Covalent
C) Nonpolar Covalent
D) Hydrogen
11. Typically, a sodium atom is composed of 11 electrons, 11 protons, and 11neutrons. An **isotope** of sodium could:
A) Have more than 11 electrons
B) Have more than 11 neutrons
C) Have more than 11 protons
D) Have more than 11 protons plus neutrons
12. Give an example of **cohesion** you observed in class?
13. Give an example of **adhesion** you observed in class?
14. Explain why water will dissolve salt but not vegetable oil?

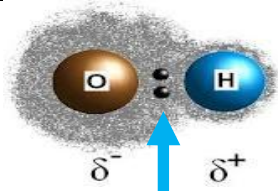
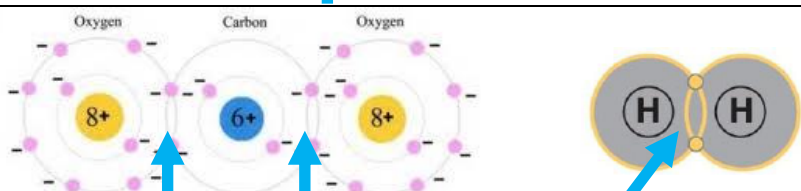
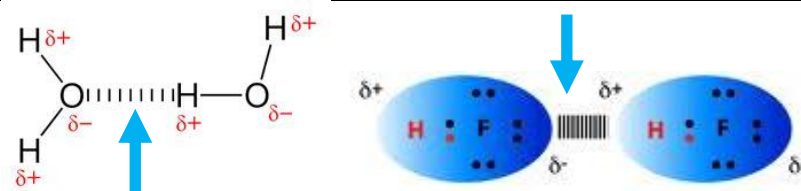
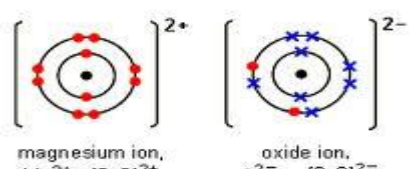
15. Compare the **4 types of Chemical BONDS**: Match all that apply to each description or diagram

I = Ionic

PC = Polar Covalent

NC = Nonpolar Covalent

H = Hydrogen

a) Holds together atoms to improve their stability	
b) Responsible for surface tension that keeps small insects afloat	
c) Forms after electrons are traded between unstable atoms	
d) Forms after electrons are shared between unstable atoms	
e) Causes water drops to “stick” together	
f) 	
g) 	
h) 	
i) 	

16. How many **protons** does the magnesium atom have in letter i above? _____

17. Changing the number of _____ would change an atom into a different element?

- a) electrons b) neutrons c) protons d) negative charges

18. Which best describes the density of **LIQUID** H₂O molecules containing a floating ice cube?

- a) packed more tightly than the frozen H₂O molecules
b) packed more loosely than the frozen H₂O molecules
c) packed the same as the frozen H₂O molecules

Analogies: Fill in the blank to complete the comparison

19. pH 10 : Base :: pH 3 : _____

20. electron : negative :: _____ : neutral

21. Polar H₂O : _____ :: Nonpolar mineral spirits : Nonpolar Oil-based paint