

Chemical Bonds, Water and pH –REVIEW

Fill in the table below:

<u>PARTS OF AN ATOM</u>	<u>LOCATION</u>	<u>ELECTRICAL CHARGE</u>	<u>MASS</u>

Match:

1. Two or more atoms share electrons to form a molecule
 2. An electron transfers from one atom to another to leaving a positive and negative ion which are then strongly attracted to each other
 3. It is a weak attraction between polar molecules (like magnets)
 4. This bond will dissociate (come apart) in water
 5. It's how water molecules interact with each other
 6. It's the strongest of the bonds
- a. Hydrogen bond
b. Ionic bond
c. Covalent bond

What's an ion?:

What's an isotope?:

Draw a water molecule below: (label each atom, label where the + and – charges are)

Draw a few water molecules like the one above, draw dashed lines to show where they are attracted to each other:

Describe how water molecules are like magnets:

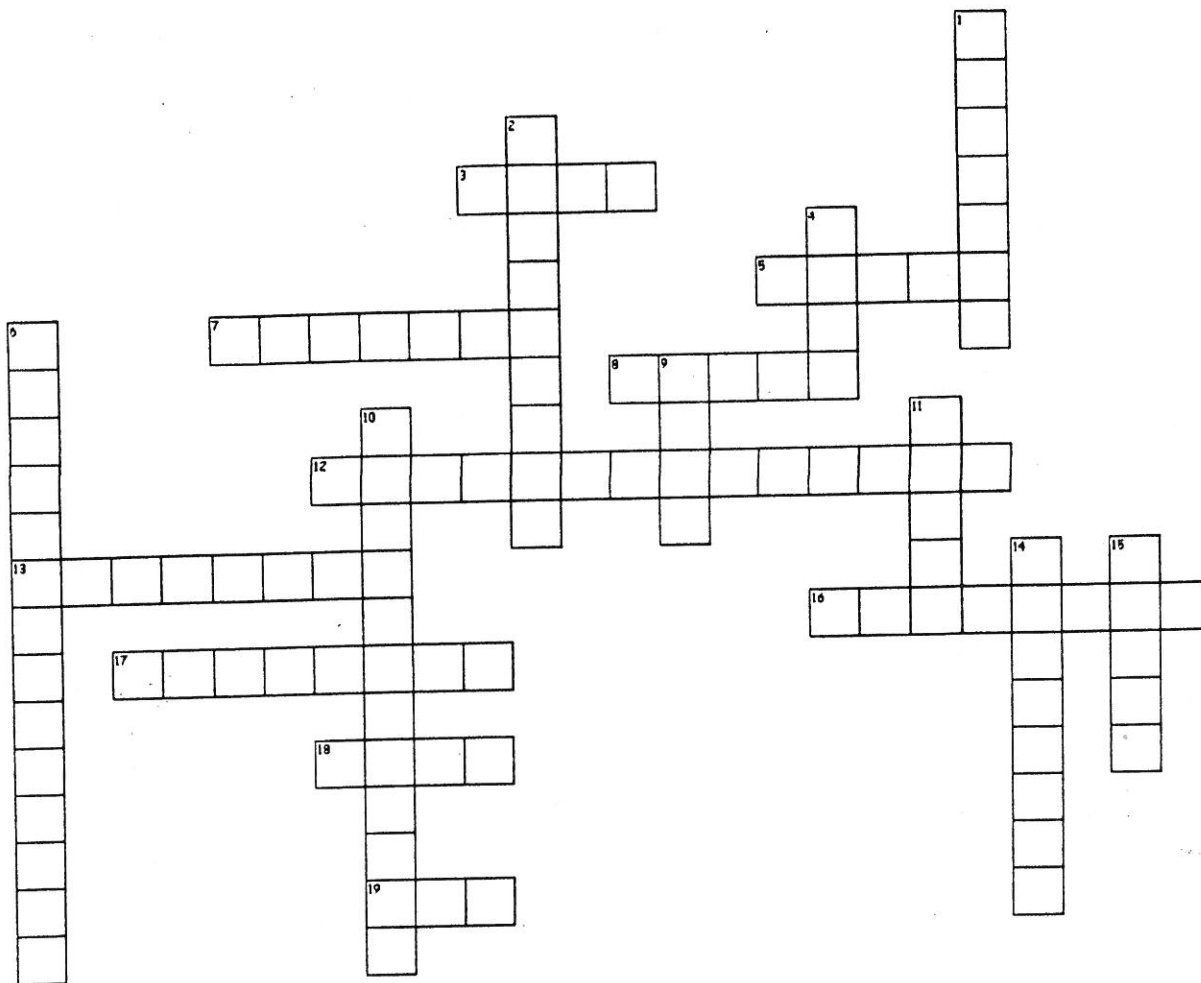
List the 6 properties of water that were described in class. (Created by the “magnet” quality mentioned above):

Draw the pH scale below: (label on the scale about where you would find lemonade, sulfuric acid, water, soap, drain cleaner) (color the section for strong acids red, section for weak acids yellow, weak bases green, strong bases blue)

What is a buffer?:

What is a neutralization reaction? Give an example:

pH and the properties of water



ACROSS:

- 3. One of two things you get when you mix an acid and a base
- 5. It's the kind of covalent bond where electrons are not shared equally
- 7. If a substance is not an acid or a base it is this
- 8. one of two things you get when you mix an acid and a base
- 12. the type of reaction when an acid is mixed with a base
- 13. it's a chemical bond where atoms share electrons
- 16. it's the "H" in pH
- 17. an acid with a pH of 2 is this many times stronger than an acid with a pH of 5
- 18. a pH of 8 is a weak _____
- 19. each step on the pH scale is this many times stronger or weaker than the next one.

DOWN:

- 1. These are chemicals that keep the pH of a solution from changing much (keep it steady)
- 2. _____ action allows water to "climb" up a straw or up a tall tree
- 4. It's how acidic foods taste
- 6. It's what allows a paperclip to float or a "water skipper" bug to walk on water
- 9. a pH of 1 or 2 is a strong _____
- 10. it takes a lot of energy to warm up water because it has a high _____ (2 words)
- 11. water is less dense when it is a _____
- 14. water molecules sticking to other water molecules
- 15. it's the pH of salts and pure water