

# Microbiology for Health Sciences

## Chapter 2 Study Aid

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

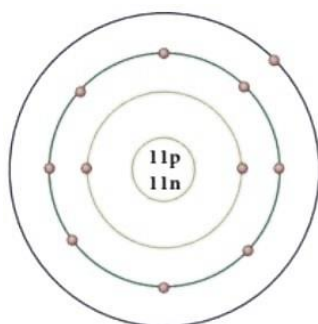
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PRINT AND HANDWRITE YOUR ANSWERS!

1. What is an element?
2. An \_\_\_\_\_ is the smallest unit of an element.
3. What are the 3 subatomic particles? And what are their charges?

4. How is the atomic number determined?
5. How is the atomic mass determined?
6. What is an isotope? Are some isotopes radioactive?

7. Draw a Hydrogen atom, labeling the subatomic particles. Draw an oxygen atom, labeling the subatomic particles (electrons, neutrons, protons). Here's an example of sodium:



Sodium atom (Na)

8. What is an ion?
9. Remember that chemical reactions are following the electrons. In an ionic bond, are the electrons shared or are they gained/lost? \_\_\_\_\_ What is an example of an ionic bond?

10. In covalent bonds, are the electrons shared or are they gained/lost? \_\_\_\_\_ Are covalent bonds stronger or weaker than ionic bonds? \_\_\_\_\_
11. With covalent bonds, sometimes the bond can be “polar” allowing hydrogen bonds. A good example of this is water. Look at slide 22 and draw the water molecules you see highlighting the hydrogen bond.
12. What unique properties does water have that makes it so important for life?
13. pH is a measure of \_\_\_\_\_ ions in solution.

14. What is the pH scale (you can draw it). What number on the scale is considered acidic? What number on the scale is considered neutral? What number on the scale is considered basic (alkaline)?

15. What are the 4 types of macromolecules? And what are the monomers of each?

16. Monomers are joined to form \_\_\_\_\_.

17. Carbs: what is a monosaccharide? What is a disaccharide? What is a polysaccharide?