

YOU MUST HAND WRITE ALL OF THESE ANSWERS!

1. Draw the structure of an atom (include protons, neutrons and electrons).
2. What is matter?
3. What are the 4 elements found in the largest amounts in living organisms?
4. What is atomic number?
5. What is atomic mass?
6. What is an isotope?
7. What is a radioisotope?
8. What is radioactive decay?
9. Describe the octet rule.
10. What happens to the electrons in an ionic bond?
11. Give an example of an ionic bond.
12. What happens to the electrons in a covalent bond?
13. Give an example of a covalent bond.

14. What is a polar covalent bond? How does this result in hydrogen bonds?

15. Discuss the properties of water that make it essential to life.

16. pH is a measure of \_\_\_\_\_.

17. As  $H^+$  ions increase, the pH decreases/increases (circle one).

18. As  $H^+$  ions decrease, the pH decreases/increases (circle one).

19. What makes carbon a perfect building block for life?