

AP Biology Biomolecules Guided Reading Worksheet 9-21-09

\*Log on to the following website:

[http://www.phschool.com/science/biology\\_place/index.html](http://www.phschool.com/science/biology_place/index.html)

\*click on biocoach

\*click on building biomolecules

\*click on concept 1 on the left hand navigation bar

1. Give the six most abundant elements of life and their acronym.

\*\*Click on the practice button and do the practice until you get all the atoms correct

\*\*Concept 2

2. Explain how these elements are joined together.

3. What determines an atoms ability to join with other atoms?

4. From an electron standpoint explain what a covalent bond is.

5. Explain what is meant by an atoms valence.

\*\*Concept 3

6. Explain why there are so many carbon compounds.

7. What is the chemistry of carbon called?

8. Explain what a hydrocarbon is.

9. Give 3 examples of hydrocarbons.

\*\*click on the review button

10. What can happen with atoms whose valence is greater than 1?

11. Give a common example of a molecule formed from this process.

12. What is unique about carbons 4 valence bonds?

\*\*Click on the practice button and work this until you understand how to construct the model

\*\*Concept 4

13. Explain what a structural isomer is and how they are fomed.

14. Explain what an enantiomer is and how they are formed.

15. Explain what geometric isomers are and how they are formed.

\*\*Concept 5

16. Explain why polar molecules are formed.

\*\*Click the review button

17. Explain what a hydrogen bond is

18. Explain how hydrogen bonds are formed in the first place.

19. Give 3 examples of hydrogen bonds.

\*\*Concept 6

20. Explain the structure of a hydroxyl group and give an example of one.

21. Explain the structure of a carbonyl group and the 2 forms they exist in.

22. Explain the structure of a carboxyl group and examples of 2 molecules that form from them.

23. Give the 3 types of bonds nitrogen will form.

24. Explain the structure of an amino group.

25. Explain the structure of the 2 molecules in the sulfhydryl group.

26. Give 2 common molecules containing phosphate groups.

\*\*Do the self quiz until you can get 100% without using your notes.