Construct a Macromolecule

Name ________________________________ Date ________________________ Per.____________

HS-LS1-6: Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

Procedure: As a group, you will construct a carbohydrate, lipid, nucleic acid, and an amino acid. Use the correct amount of bonds in your specimen. Choose from the lists below. Before making your choice, use your current knowledge and do some research to label each list.

1.________________	2.__________________	3. __________________	4. ________________
sucrose	sugar +phosphate +	estrogen	glycine
fructose	(an item below)	cholesterol	alanine
lactose	* thymine	lecithin	cystocine
galactose	* adenine	testosterone	lysine
ribose	* uracil	linoleic acid	leucine
deoxyribose	* cytosine	oleic acid	methionine
glucose	* guanine	stearic acid	isoleucine
threose		palmitic acid	valine
erythrose		progesterone	aspartic acid

Now that you know the name of the macromolecule for each list, cite specific molecular evidence in the corresponding boxes below. What do each item in the list have in common?

1.	2.	3.	4.

Begin to construct your macromolecules. Once your group has built the four molecules, check with your instructor before taping or gluing them.

Follow up questions:

1. What was the name of your lipid? ________________________________ Is it a saturated or unsaturated molecule? ________________________________ How do you know?

2. What is common in all the macromolecules?

3. What is a carbon backbone?

4. The result of photosynthesis is glucose. Why is this important to other macromolecules?

N	**N**	**N**	**N**	**N**	**N**	**N**
N	**N**	**N**	**N**	**N**	**N**	**N**
N	**N**	**N**	**N**	**N**	**N**	**N**
O	**O**	**O**	**O**	**O**	**O**	**O**
O	**O**	**O**	**O**	**O**	**O**	**O**
O	**O**	**O**	**O**	**O**	**O**	**O**
P	**P**	**P**	**P**	**P**	**P**	**P**
P	**P**	**P**	**P**	**P**	**P**	**P**

R	R	R	R	R	R	R
R	R	R	R	R	R	R
C	C	C	C	C	C	C
C	C	C	C	C	C	C
C	C	C	C	C	C	C
C	C	C	C	C	C	C
C	C	C	C	C	C	C
C	C	C	C	C	C	C

H	H	H	H	H	H	H
H	H	H	H	H	H	H
H	H	H	H	H	H	H
H	H	H	H	H	H	H
H	H	H	H	H	H	H
H	H	H	H	H	H	H
H	H	H	H	H	H	H
H	H	H	H	H	H	H
H	H	H	H	H	H	H

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If you need more bonds, it is okay to draw more……..