Name: _____

Modeling Macromolecules

Carbohydrate Construction

Draw & Create a Monosaccharide:	Teacher Initials	Real Life example
Draw & Create a Disaccharide:	Teacher Initials	Real Life example
		How many water molecules produced?
Draw & Create a Polysaccharide: (4 unit polymer)	Teacher Initials	Real Life example
		How many water molecules produced?

Lipid Construction

Draw & Create a Triglyceride with saturated fatty acids	Teacher Initials	What is the difference between a saturated and an unsaturated fat?
Draw & Create a Triglyceride with unsaturated fatty acids	Teacher Initials	How many water molecules produced?

Protein Construction:

Draw & Create an Amino Acid	Teacher Initials	Real Life example
Draw & Create a Polypeptide (3 monomers long)	Teacher Initials	How many water molecules Produced?
		What is meant by primary structure?
Draw & Demonstrate the 4 stages of protein structure	Teacher Initials	What is meant by quaternary structure (hemoglobin is an example)

Nucleic Acid Construction:

Draw & Create a Nucleic Acid	Teacher Initials	What is the difference between DNA & RNA monomers?
Draw & Create a Nucleic Acid Polymer with 3 monomers	Teacher Initials	Name and indicate the location of 2 types of bonds that occur in this polymer.

Analysis:

1. Define monomer and give an example.
2. Define polymer and give an example.
3. How are monomers and polymers related?
4. Draw a Venn diagram to compare and contrast the terms **dehydration synthesis** and **hydrolysis**
5. How many water molecules would be needed to break a 4 monomer polysaccharide into 4 monosaccharides?