Name: _____ Row: _____

Date: _____ Period: _____

Macromolecule Worksheet

1. Explain how monomers are related to polymers.

2. When polymers are broken down into monomers, what would your body do with those monomers?

3. Draw a line to match the **monomer** on the left to the **macromolecule** on the right.

Fatty acids and glycerol	protein
Monosaccharide	lipid
Nucleotide	nucleic acid
Amino acid	carbohydrate

4. Draw a line to match the **polymer** on the left to the **macromolecule** on the right.

DNA	protein
Enzyme	lipid
Triglyceride	nucleic acid
Polysaccharide	carbohydrate

5. Draw a line to match the **monomer** on the left to the **polymer** on the right.

Fatty acids and glycerol	polysaccharide
Monosaccharide	RNA
Nucleotide	enzyme
Amino acid	phospholipid

6. Draw a line to match the **monomer** on the left to the **polymer** on the right.

Fatty acids and glycerol	enzyme
Glucose	triglyceride
Nucleotide	starch
Amino acid	DNA

7. Draw a line to match the **monomer** on the left to the **polymer** on the right.

Amino acid	glycogen
Nucleotide	phospholipid
Monosaccharide	protein collagen
Fatty acids and glycerol	DNA

8. Draw a line to match the **polymer** on the left to the **macromolecule** on the right.

Cholesterol	protein
Enzyme	nucleic acid
RNA	carbohydrate
Cellulose	lipid

Name: _____ Row: _____

Date: _____ Period: _____

Macromolecule Worksheet

1. What are the definitions of a monomer and polymer?

   Monomer = _____

   Polymer = _____

2. Draw a starch polymer containing its many monomers. Use hexagons as a monomer. Label which is a monomer and which is a polymer.

3. Explain how monomers are related to polymers.

4. When polymers are broken down into monomers, what are those monomers then used for?

5. Complete the chart below. Remember *mono* means one and *poly* means many.

Macromolecules	**Food Example**	**Monomer**	**Polymer**
Carbohydrates			
Lipids			
Proteins			
Nucleic Acids			

6. Monomer of a carbohydrate? _____ polymer? _____

7. How many rings are in a monosaccharide? ____ Disaccharide? ____ Polysaccharide? _____

   What is the most common monosaccharide? _____

   What is the most common polysaccharide in plants? _____ in animals? _____

8. Monomer of a lipid? _____ polymer? _____

9. Circle the Answer: Are lipids polar or non-polar? Polar Non-Polar

   Are lipids soluble in water? Yes No

   Is water polar or non-polar? Polar Non-Polar

10. Monomer of a protein? _____ polymer? _____

11. Draw the general chemical structure of an amino acid.

12. What kind of bond holds amino acids together? _____

13. How can a chain of amino acids turn into a protein? _____

_____

14. Monomer of a nucleic acid? _____ polymer? _____

15. What two functions do nucleic acids have?

    a. _____

    b. _____

16. What are the three parts that make up a nucleotide? Draw a nucleotide.

    a. _____

    b. _____

    c. _____

17. What kind of bond holds the two strands of the double helix together? _____