

Name : \_\_\_\_\_ Date : \_\_\_\_\_

# Macromolecules Worksheet

**Carbohydrates** are classified by \_\_\_\_\_.

The most common simple sugars are glucose, galactose, and fructose, made of a single sugar molecule. These can be classified as \_\_\_\_\_.

Sucrose and \_\_\_\_\_ are classified as disaccharides, made of two monosaccharides joined by a dehydration reaction.

The most complex carbohydrates are starch, \_\_\_\_\_, and cellulose, classified as \_\_\_\_\_.

**Lipids** most abundant form are \_\_\_\_\_.

Triglycerides building blocks are 1 \_\_\_\_\_ and 3 \_\_\_\_\_ per molecule.

If a triglyceride only contains \_\_\_\_\_ bonds that contain the maximum number of \_\_\_\_\_, then it is classified as a saturated fat.

If a triglyceride contains one or more \_\_\_\_\_ bonds, it is classified as an unsaturated fat.

Lipids are also responsible for a major component of the cell membrane wall that is both attracted to and repelled by \_\_\_\_\_.

The tail of this structure is made of 2 \_\_\_\_\_ that are water insoluble (hydrophobic).

The head of this structure is made of a single \_\_\_\_\_ that is water soluble (hydrophilic).

**Proteins** are building blocks of amino acids held together by \_\_\_\_\_ bonds. These covalent bonds link the amino end of one amino acid with the carboxyl end of another.

**Nucleic Acids** are polymers made of building blocks called \_\_\_\_\_.

There are two types of nucleic acids.

\_\_\_\_\_ is composed of nucleotides that have ribose sugar.

\_\_\_\_\_ is composed of nucleotides that have deoxyribose sugar.

Name : \_\_\_\_\_ Date : \_\_\_\_\_

# Macromolecules Worksheet

## Answers

**Carbohydrates** are classified by chemical structure and composition.

The most common simple sugars are glucose, galactose, and fructose, made of a single sugar molecule. These can be classified as monosaccharide.

Sucrose and lactose are classified as disaccharides, made of two monosaccharides joined by a dehydration reaction.

The most complex carbohydrates are starch, glycogen, and cellulose, classified as polysaccharide.

**Lipids** most abundant form are triglycerides.

Triglycerides building blocks are 1 glycerol and 3 fatty acid per molecule.

If a triglyceride only contains single bonds that contain the maximum number of hydrogen atoms, then it is classified as a saturated fat.

If a triglyceride contains one or more double bonds, it is classified as an unsaturated fat.

Lipids are also responsible for a major component of the cell membrane wall that is both attracted to and repelled by water.

The tail of this structure is made of 2 fatty acid that are water insoluble (hydrophobic).

The head of this structure is made of a single glycerol molecule that is water soluble (hydrophilic).

**Proteins** are building blocks of amino acids held together by peptide bonds. These covalent bonds link the amino end of one amino acid with the carboxyl end of another.

**Nucleic Acids** are polymers made of building blocks called nucleotide.

There are two types of nucleic acids.

RNA is composed of nucleotides that have ribose sugar.

DNA is composed of nucleotides that have deoxyribose sugar.