

Name: _____

Biomolecules

READ the following passage:

Macromolecules are large molecules. Macromolecules are large structures made of many smaller structures linked together.

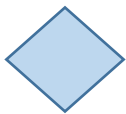
The small single structure is a **monomer** (mono=one). The larger structure is made of several monomers. It is called a **polymer** (poly=many).

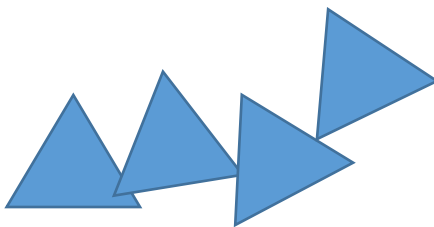
Biomolecules are the macromolecules in all living things. They are life's building blocks. There are four groups of biomolecules: **carbohydrates**, **lipids**, **proteins** and **nucleic acids**.

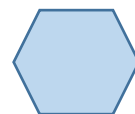
Complete the sentences below:

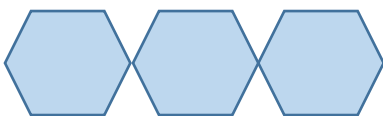
1. Large molecules are called _____
2. Macromolecules are made up of many _____
3. When several monomers are put together, they make a _____
4. Macromolecules found in living things are called _____
5. Carbohydrates, lipids, proteins and nucleic acids are the four groups of _____
6. The four groups of biomolecules are _____

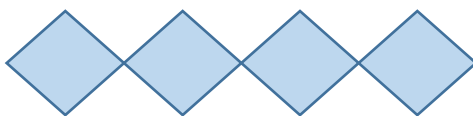
Label the following as a monomer or polymer.













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Carbohydrates

READ the following passage:

Carbohydrates are a polymer that make up plant and animal matter. They are **made of the elements carbon, hydrogen and oxygen (C, H, O)**. Their **monomer** (building block) is a single sugar called a **monosaccharide**.

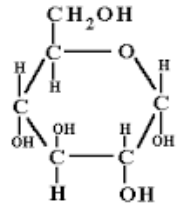
Function of carbohydrates – **Quick energy**, short term energy storage

Examples of carbohydrates:

Starch and cellulose – in plants

Glycogen – in animals

Foods: bread, vegetables, fruits, sugar



Glucose

Complete the sentences below:

1. Carbohydrates make up _____
2. The elements in carbohydrates are _____
3. The monomer of carbohydrates is a single sugar called a _____
4. The function of carbohydrates is that they provide _____
5. Starch and cellulose are carbohydrates found in _____
6. Glycogen is a carbohydrate found in _____
7. You get carbohydrates through your food when you eat _____,
_____, _____ and _____

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Lipids

READ the following passage:

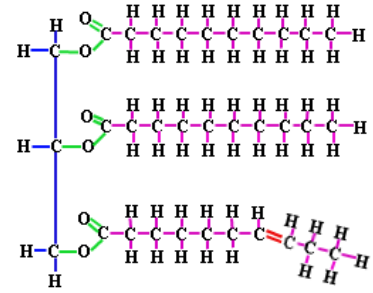
Lipids are a **biomolecule**. Their building block is a **fatty acid chain and glycerol**. They are **made of carbon, hydrogen and oxygen (C, H, O)**.

Function of lipids - **long-term storage of energy, insulation** (keeps you warm), and **protect organs**
Lipids are also a major structure in **cell membranes**

Examples of lipids:

Wax coating on plants

Fat, cooking oil



Complete the sentences below:

1. Lipids are built with _____ and _____
2. The elements in Lipids are _____.
3. Lipids have 3 main functions: _____, _____, and _____
4. Lipids are also found in cell _____.
5. Examples of lipids are _____

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Proteins

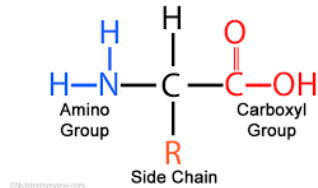
READ the following passage:

Proteins build our bodies. Their **monomer** is an **amino acid**. Proteins are made of amino acids connected in long chains. When chains of amino acids are joined together, a **protein** is formed. Proteins are called **polypeptides (polymer)**.

They are formed of **carbon, hydrogen, oxygen and nitrogen (C, H, O, N)**

Function of proteins – build our cells
Transport molecules in the body
Speed up chemical reactions

Amino Acid Structure



Examples of proteins:

Enzymes, hormones, keratin, collagen

Foods: beans, eggs, meat

Complete the sentences below:

1. Proteins _____ our bodies.
2. The monomer of a protein is an _____
3. A protein polymer is called a _____
4. The elements in proteins are _____
5. Proteins have several functions. They _____ our cells, they _____ molecules in the body and the _____ up chemical reactions.
6. Examples of proteins are _____, hormones, keratin and collagen

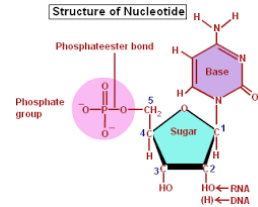
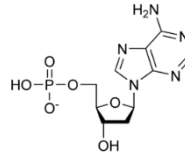
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Nucleic Acids

READ the following passage:

Nucleic acids contain our **genetic** material. Their **monomer** is a **nucleotide**. **Nucleic acids** are a **polymer** made of chains of nucleotides. They are **made of carbon, hydrogen, oxygen, nitrogen and phosphorus (C, H, O, N, P)**.

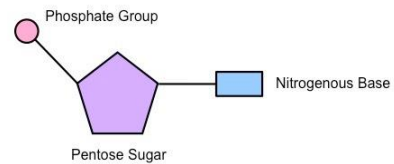
Function of nucleic acids – provide **genetic information**



Look for a **3 part shape** with N and P

Examples of nucleic acids:

DNA, RNA



Complete the sentences below:

1. Nucleic Acids contain our _____ material.
2. The monomer of nucleic acids is a _____
3. Nucleic Acids are made of the elements _____
4. The function of nucleic acids is to provide _____ information.
5. Nucleic acids have a _____ shape.
6. Examples of nucleic acids are _____.

