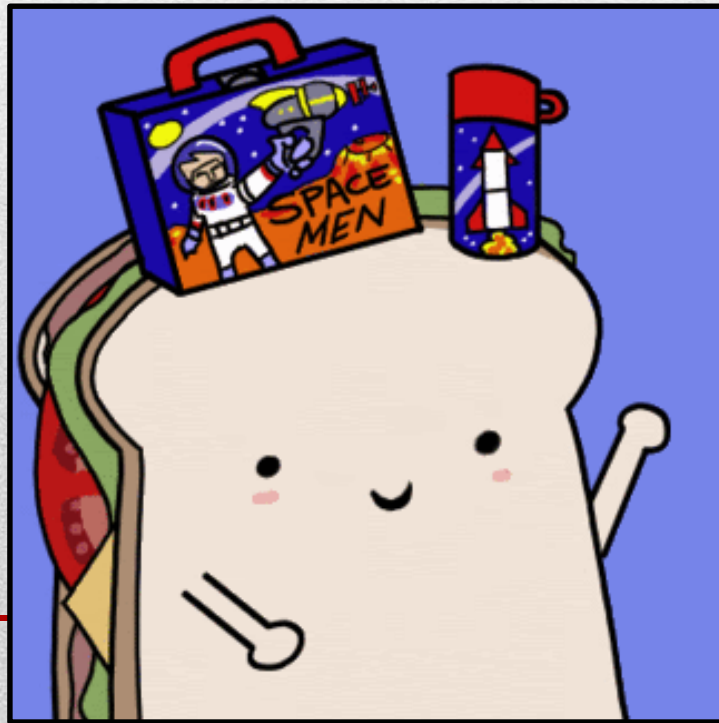


NUTRITION



What is food made of?



Nutrients and Food

- **Food:**
 - Any substance that is ingested (eaten) and sustains life
-

Nutrients and Food

- **Nutrients:**
 - Food is broken down into substances our cells can use; we call these substances nutrients
 - Nutrients are required to meet the needs of the body
-

What are some nutrients?

- There are six types of nutrients:

- Carbohydrates

- Proteins

- Fats

- Water

- Vitamins

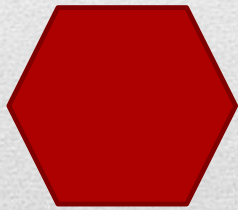
- Minerals



We call these the macronutrients

Carbohydrates

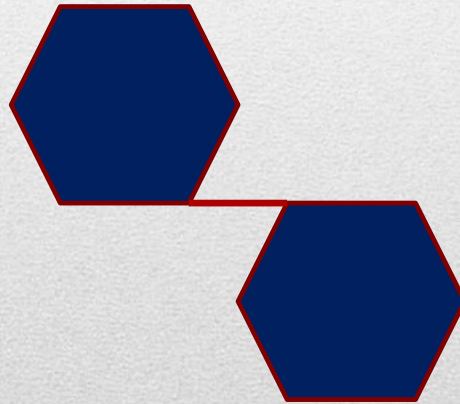
- What are they?
 - A single molecule of sugar or chains of sugar molecules



Single sugar

=

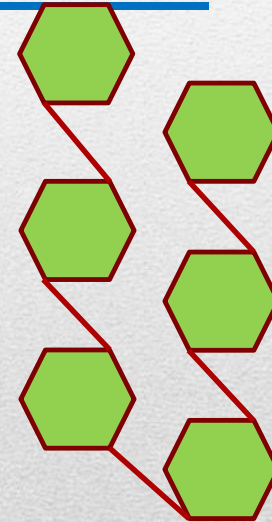
monosaccharides



Double sugar

=

disaccharides



Complex sugar

=

polysaccharides

Carbohydrates

- What is their function?
 - The body's main source of energy
 - In what foods are they found?
 - *Monosaccharides and disaccharides:*
fruits, fruit juices, pastries, sweets, soft drinks, granulated sugar
 - Easy to digest
-

Carbohydrates

- *Polysaccharides (starches):*
bread, cereal, potatoes, pasta,
rice
 - Longer to digest
-

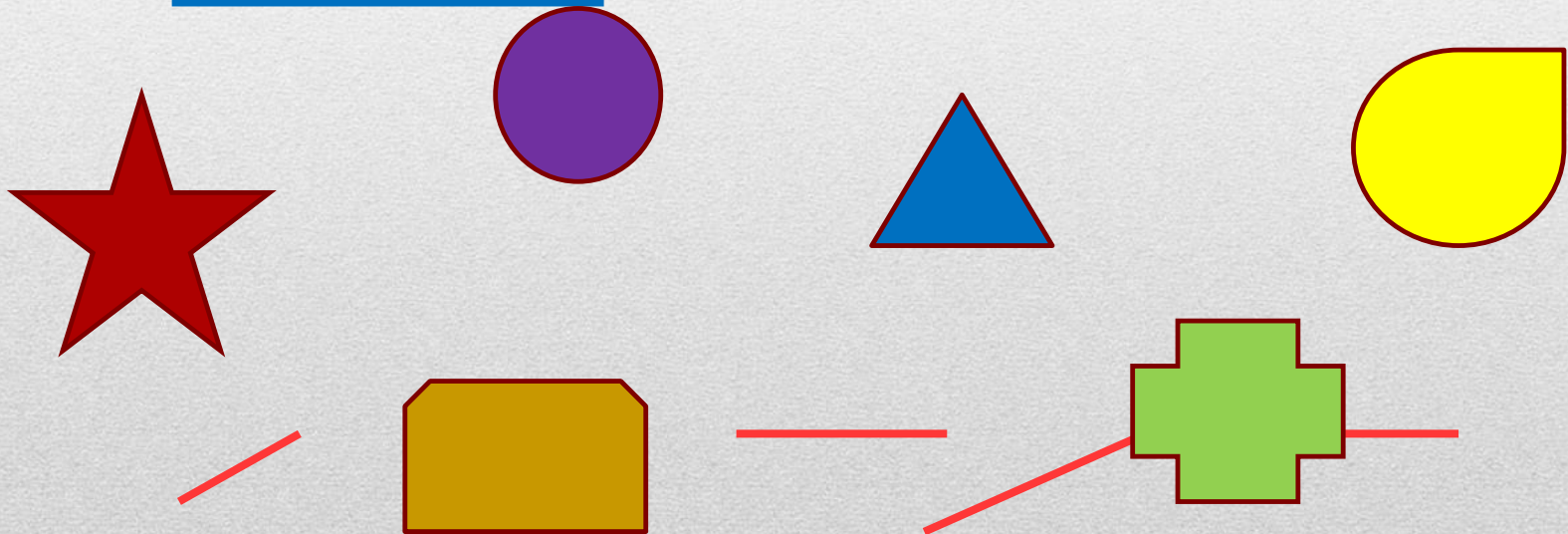
Carbohydrates

Dietary Fibre

- *A type of carbohydrate that we cannot digest*
 - *Regulates metabolism*
 - *good for the digestive tract*
 - *Keeps us regular*
 - *PREVENTS constipation*
 - *Found in: fruits, vegetables, whole grain cereals*
-

Proteins

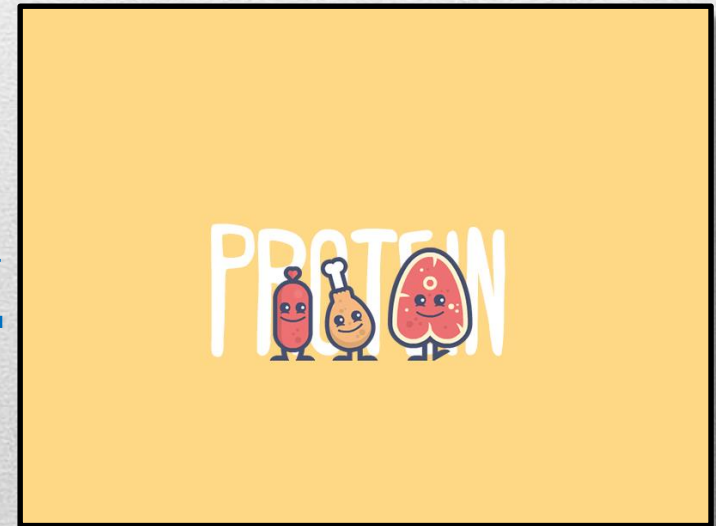
- What are they?
 - Large molecules composed of chains of amino acids



These are the individual amino acids

Proteins

- What is their function?
 - Build and repair cells and tissues
 - Provide energy (3rd source)

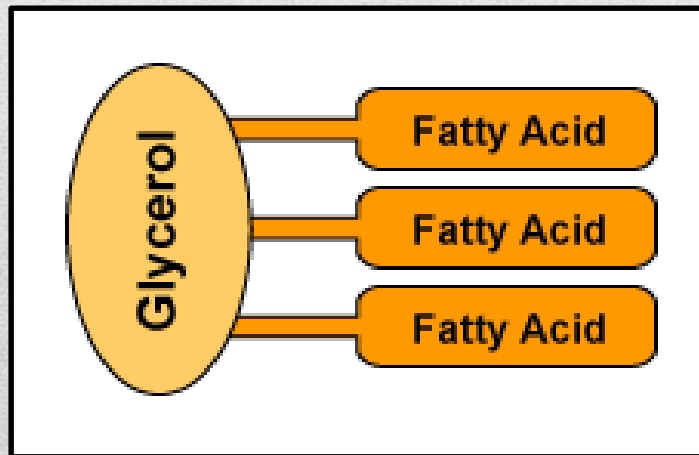


Proteins

- In what foods are they found?
 - Dairy products
 - Meat
 - Fish
 - Eggs
 - Nuts
 - Legumes
 - Tofu
-

Fats (Lipids)

- What are they?
- Molecules composed of fatty acids and a glycerol group



Fats (Lipids)

- What is their function?
 - Store and provide energy (2nd source)
 - Building blocks of hormones and cell membranes
 - Protect organs and insulate body from cold
-

Fats (Lipids)

- *Saturated fats*
 - Animal sources (solid at room temperature)
 - Linked to increased cholesterol levels
 - *Unsaturated fats*
 - Vegetable sources (Liquid at room temperature)
 - Linked to reduced cholesterol levels
-

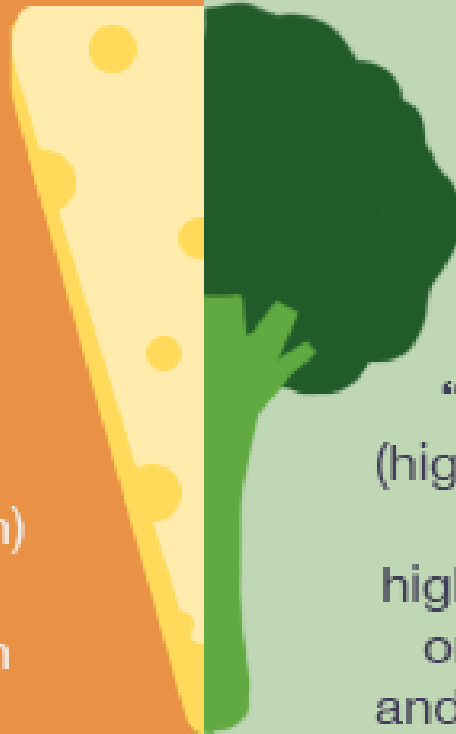
Saturated Fat

meats, butter,
dairy products

solid at room
temperature

increase levels of
“bad” cholesterol
(low-density lipoprotein)

low-density lipoprotein
clogs arteries



Unsaturated Fat

vegetable oils

liquid at room
temperature

increase levels of
“good” cholesterol
(high-density lipoprotein)

high-density lipoprotein,
or HDL, “grabs” LDL
and escorts it to the liver
where **LDL is broken down
and eventually removed
from the body**

Fats (Lipids)



- In what foods are they found?

-Dairy products

-Eggs

-Vegetable oils

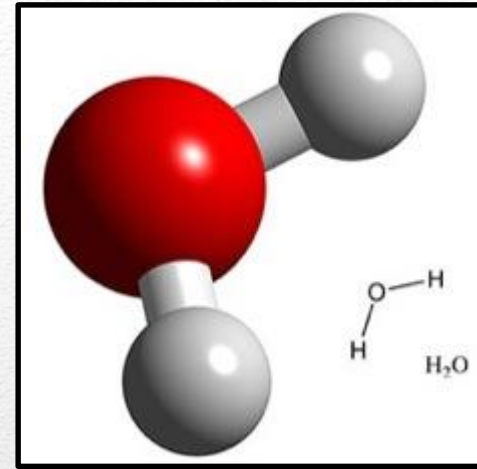
-Nuts and seeds

-Butter

-Fatty meats

and fish

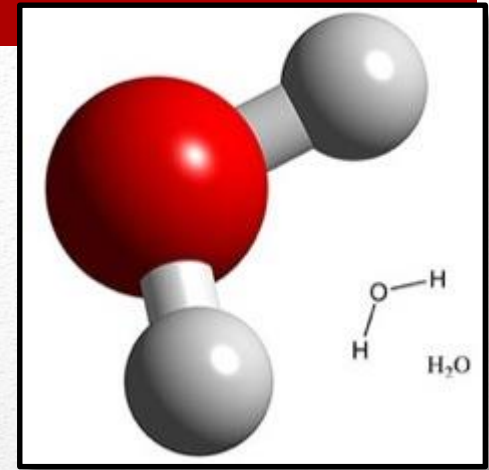
Water



- What is it?
- Simple molecule (H_2O)

Also a compound!

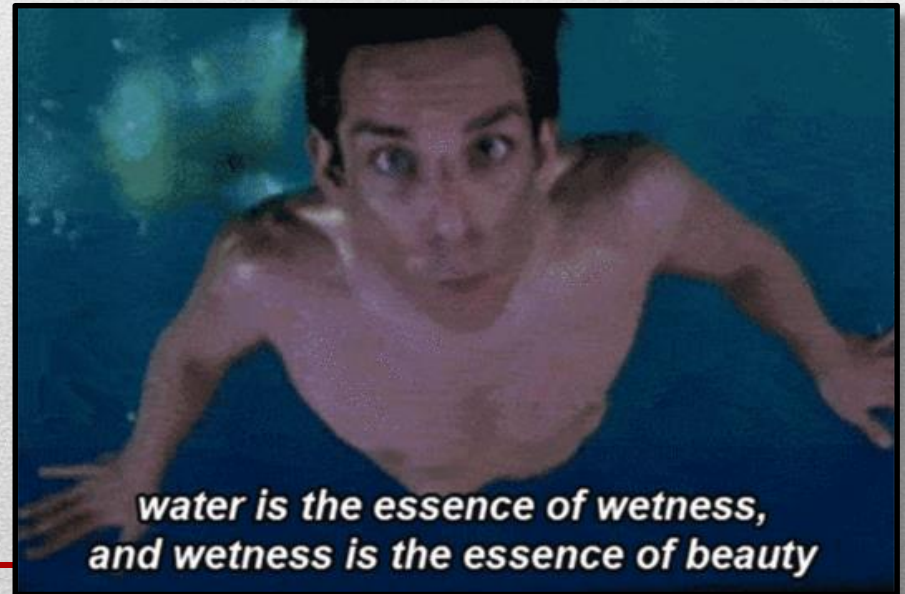
Water



- **What is its function?**
- Transports nutrients and waste products
- Regulates body temperature and metabolism (homeostasis)
- Essential for numerous chemical reactions in the body

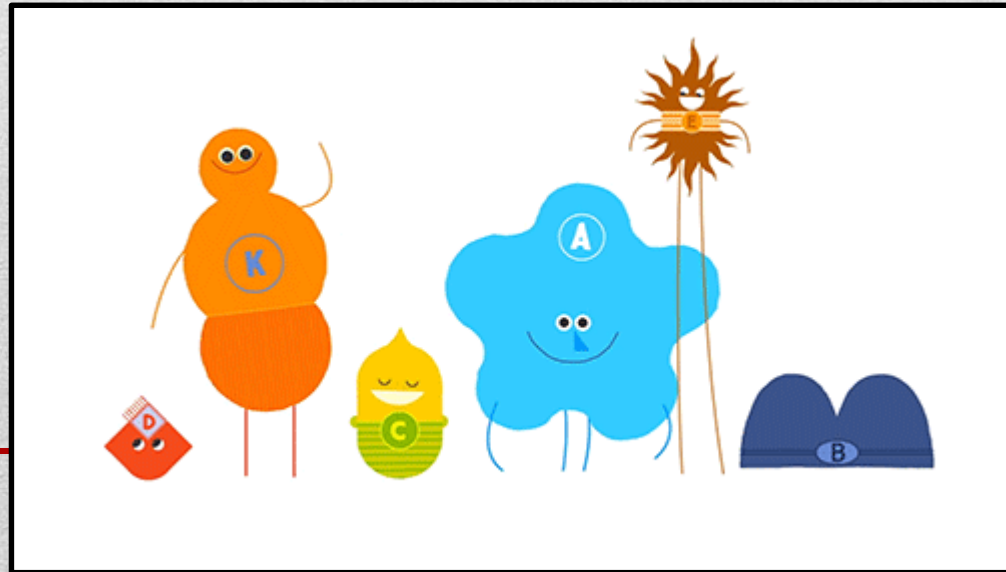
Water

- In what foods is it found?
 - Fruits and fruit juices
 - Vegetables and vegetable juices
 - Soups
 - Milk
 - Energy Drinks
 - Water



Vitamins

- What are they?
- Vitamins are vital organic substances that the human body only needs in small amounts



Vitamins

- Examples:
 - Vitamin A
 - Vitamin B1, B2
 - Vitamin C
 - Vitamin D
 - Vitamin E
-



Vitamins

- What are their functions?
 - Each vitamin plays a different role in the body, including:
 - Contributing to chemical reactions and regulating metabolism
-

Vitamins

- Helping in energy production
 - Strengthening the body to fight off infection
 - Repairing damaged tissue
-

Vitamins

- What foods are they found in?

Fruits

Vegetables

Dairy products

Whole grains

Eggs

Liver

Minerals

- **What are they?**
 - Minerals are **inorganic substances** that make up about 4% of the weight of the human body
-

Minerals

- Just like vitamins, they are vital to the proper functioning of the body but we only need small amounts daily
-

Minerals

- **What are their functions?**
 - Each group of minerals plays a **different role** in the body, including:
 - **Regulating metabolism**
 - **Building tissues** (ex: bones and teeth)
-

Minerals

- Maintaining proper fluid balance in the body
 - Transporting oxygen in the blood (iron)
-

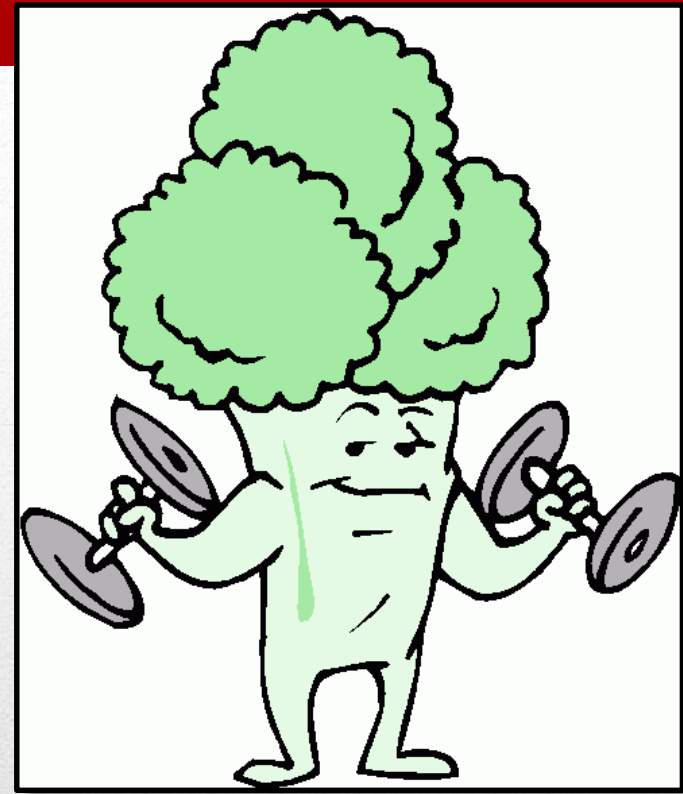
Minerals

- What foods are they found in?

Fruits

Vegetables

Dairy products



Fish and other

seafood

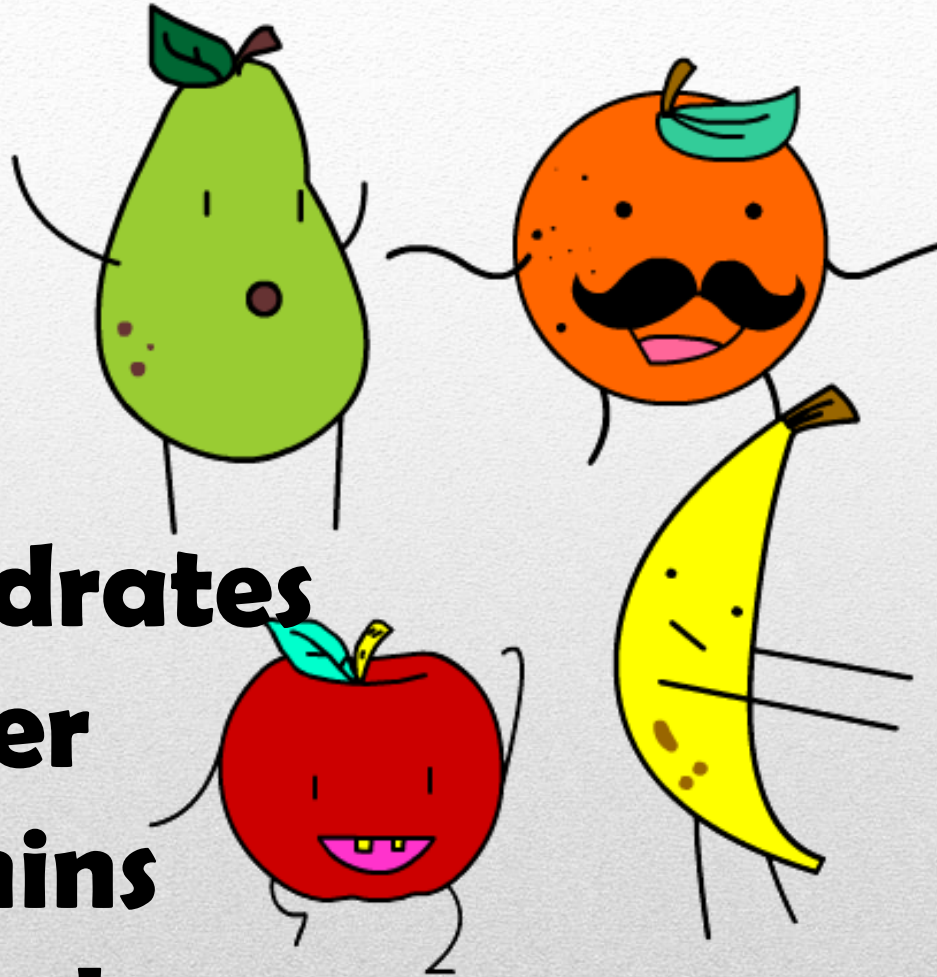
Meat



**Game: What are the “main”
nutrients involved?**



Carbohydrates
Fats



Carbohydrates
Water
Vitamins
Minerals



Protein

Fats

Minerals



Protein

Water

Carbohydrates

Vitamins

Fats

Minerals