

NÅME: \_\_\_\_\_

## DL4A: Health 8

### Nutrition- Måcronutrients

Our bodies need fuel to carry out all of the tasks it's responsible for. Each nutrient has a different function within the body. There are six main nutrients we are going to focus on:

1. Protein
2. Carbohydrates
3. Fats
4. Minerals
5. Vitamins
6. Water

#### INSTRUCTIONS:

-->Read all of the following info sheets.

-->Using the following info sheets, **pick 2 nutrients** to complete the tables

1. What does this nutrient do for your body? ("The Good News")
2. What happens to your body if you get too much or too little of the nutrient? ("The Bad News")
3. What foods do you enjoy that are good sources of this nutrient? ("Come and Get It")
4. Why is it important for you to eat the right amount of the nutrient? ("Bottom Line")

## Nutrient

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<b>The Good News</b>	<b>The Bad News</b>
<b>Come and Get It</b>	<b>Bottom Line</b>  Making sure I eat the right amount of _____ is important to me because...

# Nutrient

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<p><b>The Good News</b></p>	<p><b>The Bad News</b></p>
<p><b>Come and Get It</b></p>	<p><b>Bottom Line</b></p> <p>Making sure I eat the right amount of _____ is important to me because...</p>

# Nutrients

## Carbohydrates

Carbohydrates are the major part of most human diets.

There are 2 types of carbohydrates.

### ➤ **Complex carbohydrates**

- Include **starches** and some forms of **fiber**.
- About **50% of your diet** should come from *complex* carbohydrates.
- **Examples** of foods containing *complex* carbohydrates include pasta, wheat, corn, vegetables, fruit, beans and grains.

### ➤ **Simple carbohydrates**

- Include **sugars** such as glucose, fructose and sucrose.
- **Limit how many simple carbohydrates you eat** because they don't add many vitamins or minerals to your diet and they have lots of calories that contribute to weight gain.
- **Examples** of foods containing *simple* carbohydrates include candy, soft drinks, cake and cookies.

What do carbohydrates do for your body?

- Carbohydrates provide the **body's most important source of energy**.
- Carbohydrates are **high-quality fuels** because it takes little effort to release their energy.
- Foods with *complex* carbohydrates also **provide the body with fiber**. A diet low in fiber may contribute to colon cancer.

What if you have too little or too many carbohydrates?

- A diet **low in carbohydrates** can result in the body having **too little energy**. Low energy levels can make you tired and less alert mentally.
- Eating **too many simple carbohydrates** can result in **obesity**. Carbohydrates are turned to energy, as the body needs it. Excess carbohydrates are stored as fat.

# Nutrients

## Proteins

### What do proteins do for your body?

- Proteins are made up of *amino acids* that the body uses to **make skin, muscle and bone.**
- The body requires **20 amino acids** for good health.
  - Of these, **11 can be produced within the body** itself.
  - The remaining **9 are called essential amino acids**, because it's **essential to include them in your diet.**
  - The **body can't store amino acids**, so it's important to eat some protein almost daily.

### How can you get protein in your diet?

- Examples of foods with protein include **meat, chicken, fish, eggs, dried beans and nuts.**
- Food that supplies all 9 essential amino acids is called a *complete protein*.
- Almost all proteins from animal sources are *complete*, while plant protein sources are often incomplete.
- People who don't eat animal protein can **combine sources of plant proteins** to be sure they get the essential amino acids. For example, beans and rice, a common meal throughout the world, form a *complete* protein when eaten together.

### What if you have too little or too much protein?

- Most Americans eat more protein than the body needs.
- Only about **10-15% of your calories** should come from proteins.
- *If you don't get enough* proteins from the food you eat it may cause **insufficient development of bones and muscles, and problems related to skin tone.**
- There is no evidence that eating excessive amounts of protein will build more or stronger muscles. In fact, *eating large amounts* of protein **may contribute to weight gain** because many foods high in protein are also high in fats, which can increase risk of hypertension, high cholesterol, heart disease and diabetes.

# Nutrients

# FATS

Fats are compounds that include *solid fats* and *oils*.

## What do fats do for your body?

### ✦ Fats are essential:

- For healthy **skin** and **hair**.
- For normal **growth** and **nerve function**.
- For the production of certain **hormones**.
- To allow the body to **absorb certain vitamins** during digestion.

Fat can be **burned as energy** when the body doesn't have enough carbohydrates stored, but the level of the energy produced from fat is lower than that produced from carbohydrates.

### ✦ The body needs a certain amount of fat to:

- **Insulate** against cold.
- Provide **energy** for muscles.
- Provide a layer of **padding** between skin and muscles.
- **Protect** internal organs.

## What foods have fat?

- ✦ A trace of fat is found in **almost all** foods.
- ✦ Examples of foods with fats include meat, fish, dairy products, nuts and chocolate.
- ✦ Many foods, such as potatoes, have little or no fat naturally, but become high in fat when cooked in oil - e.g. french fries and hash browns.

## What if you have too little or too much fat in your diet?

- ✦ Too much fat can contribute to many health problems including obesity, heart disease, diabetes and hypertension.
- ✦ Only **20-30% of your calories** should come from fats.
- ✦ Some fats are healthier than others. Avoid "transfats," and eat fats like olive oil and canola oil.


**Nutrients**

# Minerals

## Minerals play a vital role in nutritional health

Common minerals include **calcium, sodium, potassium, iron, iodine and zinc.**

- ❖ Minerals are found in **almost all** foods.
- ❖ **Vegetables, fruits and grain products** are particularly good sources.
- ❖ A **balanced diet** with a variety of foods can help prevent mineral deficiency problems.

## What do minerals do for your body?

- ❖ Minerals are important for **growth and maintenance of body structures.**
- ❖ Minerals help **regulate metabolism.**

## What if you get too little or too many minerals?

Having ***too few*** minerals can affect all body systems including the **skeletal, cardiovascular, respiratory and reproductive systems.**

- ❖ The effects on the body are very specific and directly related to the type of mineral missing from the diet. For example:
  - **Iron** deficiency anemia, a condition fairly common in teenage girls, results in a decrease in the number of red blood cells.
  - Not getting enough **calcium** restricts the proper development of bones and results in brittle bones later in life.

***Too many*** minerals in your diet may be harmful.

- ❖ For example, if you drink a lot of carbonated sodas, the high level of **phosphates** actually interferes with calcium metabolism and may weaken your bones.

# Nutrients

## Vitamins

### What do vitamins do for your body?

- ◆ Vitamins help the body **produce energy**.
- ◆ Vitamins are compounds that help **regulate body processes** such as:
  - Digestion
  - Growth
  - Metabolism
  - Hormone development
  - Wound healing
  - Nerve function

### How can you get the vitamins you need?

- ◆ Vitamins are found in **all food groups**.
- ◆ Common sources of vitamins are **fruits** and **vegetables**.
  - Green leafy and yellow vegetables are especially good sources of **vitamins A** and **B**.
  - Oranges, grapefruit, lemons, limes and green chilies are excellent sources of **vitamin C**.
  - The body makes **vitamin D** through exposure to sunlight.

### What if you don't get enough vitamins?

- ◆ **Vitamin deficiencies** can cause a wide range of health problems including several diseases **rarely seen in the U.S.** These include:
  - scurvy (caused by not enough vitamin C)
  - beriberi (caused by lack of vitamin B)
  - rickets (caused by lack of vitamin D)
- ◆ **Vitamin deficiency in this country** primarily cause:
  - Poor regulation of internal body processes.
  - The body not being able to produce high levels of energy.

**Nutrients**

**Water**

Nearly  
**all foods**  
contain water -  
Some are up to  
90% water.  
**Beverages, fruit**  
And **vegetables**  
are major sources of water.

The body **loses about 1 quart** of water each day. To replace body fluids, experts recommend drinking **8 or more glasses** of water daily, instead of drinking soda, coffee, juice or other beverages.

### What does water do for your body?

**Water** is an essential nutrient that makes up **50-75% of your body weight**. Water is so important that your body can't live for more than a few days without it.

- ◆ Water assists in **digestion** and **respiration**.
- ◆ Water helps **carry nutrients** and **oxygen** throughout the body.

### What if you have too little or too much water?

**Not drinking enough water** can compromise all of the body's systems.

- Water allows the body to:
- ◆ Use water-soluble vitamins.
  - ◆ Carry oxygen in the blood.
  - ◆ Regulate body temperature.

When **water deficiency** is severe, the body systems shut down and death occurs.

Most people do not drink enough water and drinking **too much water** causes few problems.

- ◆ Some experts believe that large amounts of water may dilute and wash water-soluble vitamins from the body.