



# Nutrition

## Nutrition Facts

Serving Size 172 g

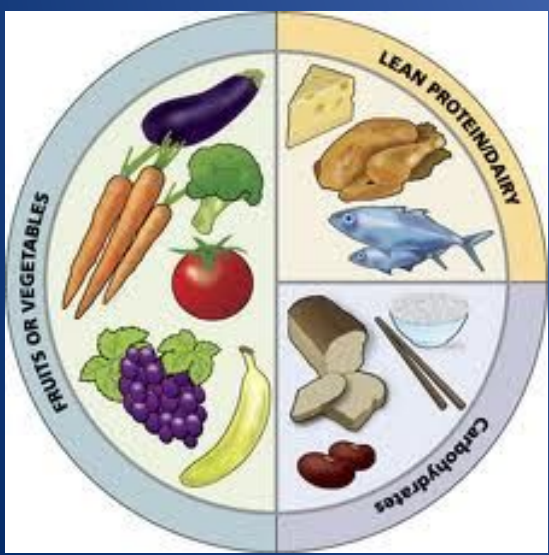
**Amount Per Serving**

Calories 200

	Calories from Fat 8	% Daily Value*
<b>Total Fat</b> 1g		1%
Saturated Fat 0g		1%
Trans Fat		
<b>Cholesterol</b> 0mg		0%
<b>Sodium</b> 7mg		0%
<b>Total Carbohydrate</b> 36g		12%
Dietary Fiber 11g		45%
Sugars 6g		
<b>Protein</b> 13g		
Vitamin A	1%	Vitamin C 1%
Calcium	4%	Iron 24%

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

NutritionData.com



# What is Nutrition?

- It's about **FOOD**, but also about...
  - 1) **Absorption** (how we get food in...)
  - 2) **Use** (what we do with it once it's there)
  - 3) **Elimination** (how we get rid of the waste)

## **Nutrients?**

- The **substances in food** that our bodies use to stay healthy

# What body systems are involved?

- 1) **Digestive**: breaking food down, **absorbing** it and **eliminating** waste.
- 2) **Respiratory**: Cells need **oxygen** to burn the **fuel** (food).
- 3) **Cardiovascular**: Blood brings **nutrients** and **oxygen** all over our body
- 4) **Urinary**: **Filter** the waste from the blood into urine.

# Food is...

- Anything that you **eat** and that provide **energy** and help you stay **alive**.
  - Meat, fish, grains, nuts, fruits and vegetables.

- Each food has up to **6** nutrients.

- 1) **Carbs / Carbohydrates**
- 2) **Fats / Lipids**
- 3) **Protein**
- 4) **Vitamins**
- 5) **Minerals**
- 6) **Water**

<https://www.youtube.com/watch?v=jqrVl4V5ttQ>

# Carbs

- Body's **main source of energy**.
- 2 kinds:
  - **Simple sugars** (mono / di - saccharides), (glucose, lactose).
    - Fruits, sugar, juice, candy
  - **Complex sugars** (polysaccharides/starches)
    - Bread, cereal, pasta, potatoes, rice

# Good carbs vs. bad carbs

- Good carbs:
  - **Complex:** They take longer to digest, therefore lengthening the time the body can obtain energy from it.
  - BUT, beware of processed carbs, (white flour, white rice, pancakes etc.), they have had most of their nutrient value removed.
- Bad carbs:
  - **Simple:** They are absorbed quickly by the body, providing little energy over a short period of time.
  - BUT, some simple carbs have other nutritional value, like fruits and milk.

# Lipids / Fats

- **Energy storage** = lots of energy
- **Protect** organs / **Insulate** from the cold
- Made of 2 things (**Fatty acids** and **glycerol**)
  
- **Saturated and trans** fats (**BAD**): butter/animal fat, whole milk, fried foods, frozen meals.
- **Unsaturated** (**GOOD**): olive oil, avocado, fish
  
- **Cholesterol** is a result of trans and saturated fats!!! → surrounds the heart and leads to heart disease.

# Protein

- **Build and repair** cells and tissue
- Source of **energy**.
- Milk / cheese, meat, fish, eggs, nuts, tofu, legumes.
- Made from **Amino Acids** (AA)



# Water

- **70 %** weight of the human body
- **Transports** nutrients (blood).
- Regulates **temperature** (blood).
- Necessary for a great number of **chemical reactions** in the body.
- Also found in soups, juices, fruits and vegetables.

# Vitamins and Minerals

- **Vitamins:** each does something different.
  - **A: vision** (sweet potato, carrots, fish)
  - **B: skin** (shellfish, dairy, cereals)
  - **C: immune system, prevents scurvy** (fruits - oranges)
  - **D: bone development** (fish, dairy, fruit juice)
- **Minerals:** from the earth...
  - **Calcium** (bones and teeth) - milk and greens
  - **Phosphorous** (water retention) - meats and seeds
  - **Potassium** (Muscle cramps) - bananas, avocados

[https://www.youtube.com/watch?v=u1sh\\_XGKJ-Q](https://www.youtube.com/watch?v=u1sh_XGKJ-Q)

- From dairy, fruits, vegetables

# Energy...

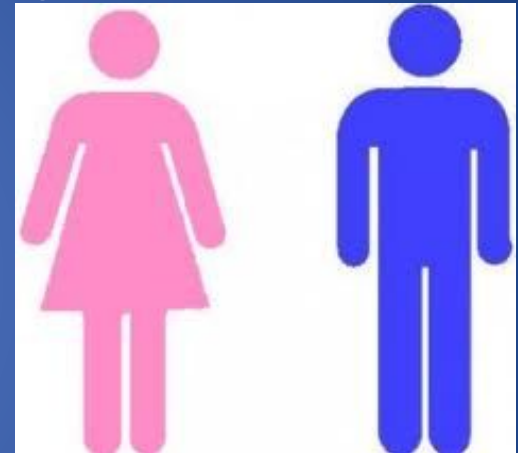
- Measured in...
- **Joules (J)** – international
- **Calories (Cal)** – used more **commonly**

- 1 Cal = 4000 J
- **1 Cal = 4 kJ**



# Boys and Girls are different

- Amount of energy you need depends on
  - **Age**
  - **Sex**
  - **Weight**
  - **Level of physical activity**
  - **Overall health**



- Girls: **2000** Cal (8000 kJ)
- Boys: **3000** Cal (12000 kJ)



# Where energy comes from

- Where do we get energy?
- Mostly from **CARBS**, (largest part of our diets).
- Some from **FAT** (when **no carbs are left**)
- Some from **PROTEIN** (last resort)
  
- **1 g FAT = 2x as much energy as CARBS/PROTEIN**
- 1 g Protein = 4 Cal
- 1 g Carbs = 4 Cal
- 1 g Fat = 9 Cal



# Where the energy goes

- Energy is used by the body, but it doesn't disappear. It is transferred.
- The human **brain = 25 % all energy** from food
- Don't eat → fatigue, **concentration problems.**
- Burn calories when you...
  - **Sleep (60 Cal)**
  - **Stand (90 Cal)**
  - **Walk (170 Cal)**
  - **Soccer (300 + Cal)**
- Weight train to lose weight



# Nutrition Labels

- **Serving size always smaller than the package.**
- Tells about
  - Energy (Cal)
  - Nutrients (carbs, lipids, proteins)
  - **% daily recommended intake**



## Nutrition Facts

Serving Size: 1 cup

### Amount Per Serving

Calories 120      Calories from Fat 22

% Daily Value\*

Total Fat 2.5 g      4%

Saturated Fat 1 g      5%

Trans Fat 0 g

Cholesterol 15 mg      5%

Sodium 780 mg      32%

### Potassium

Total Carbohydrate 18 g      6%

Dietary Fiber 3 g      12%

Sugars 5 g

Sugar Alcohols

Protein 7 g

Vitamin A 400 IU      8%

Vitamin C 0 mg      0%

Calcium 40 mg      4%

Iron 0.36 mg      2%

# Food Groups



- Canada Food Guide
- **Fruit and Veg** 8 servings: (**half a juice box**)
- **Grains** 7 servings: (**1 slice of bread**)
- **Dairy** 4 servings: (**box of milk**)
- **Meat** 3 servings: (**2 eggs**)



- P. 91-92