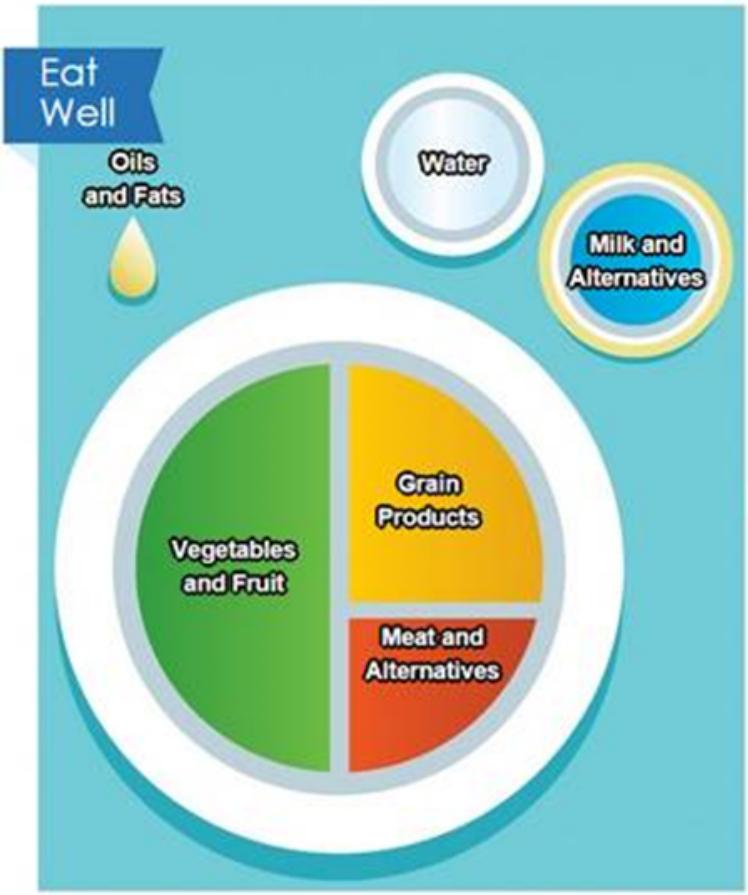
# Nutrition


Eat Well
Oils and Fats
Water
Milk and Alternatives
Vegetables and Fruit
Grain Products
Meat and Alternatives

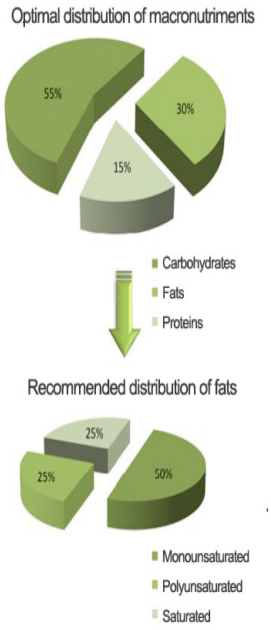

# NUTRITION

Food is any substance that is ingested ("eaten") and helps sustain life.

- Food categories:
  - Meats and Alternative
  - Dairy Products
  - Fruits and Vegetables
  - Breads, Cereals, Rice and Pasta
  - Fats, Oils and Sweets

Food contains essential dietary factors known as Nutrients that perform several different functions within the body.

| Nutrient | Function | Food |
|---|---|---|
| Carbohydrates | 1st source of energy | Sugars, pasta, bread, rice |
| Protein | Heal and grow 3rd source of energy | Meat, Poultry, Tofu, Fish, Nuts, Eggs |
| Fat | 2nd source of energy | Oil, Butter, Fried Foods |
| Vitamins, Minerals, Fiber and Water. | Regulate Metabolism: rate the body digests food | Fruits and Vegetables, Bran, Meats |



## Carbohydrates

- Main source of energy
- Simple Sugars
  - 1-2 sugar molecules connected together. (Digested quickly)
  - Pop, candy, honey, sweets, fruit
- Complex Carbohydrates
  - 3+ sugar molecules connected together. (Longer to digest)
  - Legumes, Grains, Vegetables

## Protein

- Composed of chains of Amino Acids.
- Used in growth and repair of tissues

## Fats

- Second source of energy (energy storage)
- 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

## Ways to reduce fat consumption

- Low fat cooking methods
- Minimize processed foods
- Avoid inner aisles of grocery stores
- Use better cuts of meats (lean)
- Use low fat alternatives
- Decrease use of condiments (mayonnaise)

## Vitamins

- Nutrients that are essential to all bodily functions
- **Regulate metabolism** (chemical reactions that take place in the body, needed to live
- Fat Soluble vitamins
  - Dissolved and stored in fat
- Water soluble vitamins
  - Dissolved in water, excess is excreted in urine.

## Minerals

- Inorganic elements found in food that are essential to life processes
  - e.g. Calcium, Potassium, Sodium, Phosphorus, Iron

## Water

- approximately 60% of body-weight
- **Regulates metabolism**
- Major part of blood plasma
- Lubricates joints
- Shock absorber in eyes, spinal cord, and amniotic sac (during pregnancy)
- Dissolves materials in the body
- Needed for certain chemical reactions in the body
- Helps maintain body temperature

## Energy Needs

- Every individual has his or her energy requirements

•Basal metabolism - energy needed by the body to when at rest (heart, respiration, cellular activity.
•Physical activity - walking, running, moving
•Digestion and absorption - breaking down food

- Determined by:

•Age
•Sex
•Weight
•Level of physical activity
•Overall state of health

## Energy Units

- SI unit = joule (J)
- More common = dietary calorie (Cal)
- 1 Cal = 4000 J OR 4 kilojoules (kJ)

## Average Teenager Energy Needs

- Avg teen girl requires between 1800 & 2400 Cal / 7200 & 9600 kJ per day
- Avg teen boy requires between 2200 & 3200 Cal / 8800 & 12800 kJ per day

## Energy Value of Foods:

Carbohydrates 4 cal/g 17 KJ/g

Protein 4 cal/g 17 KJ/g

Alcohol 7 cal/g 29 KJ/g

Fats 9 cal/g 37 KJ/g

Why should we eat healthy?

Prevent disease
- Osteoporosis – drink milk
- Heart disease – eat monosaturated fats (olive oil)
- Diabetes – consume less sugar

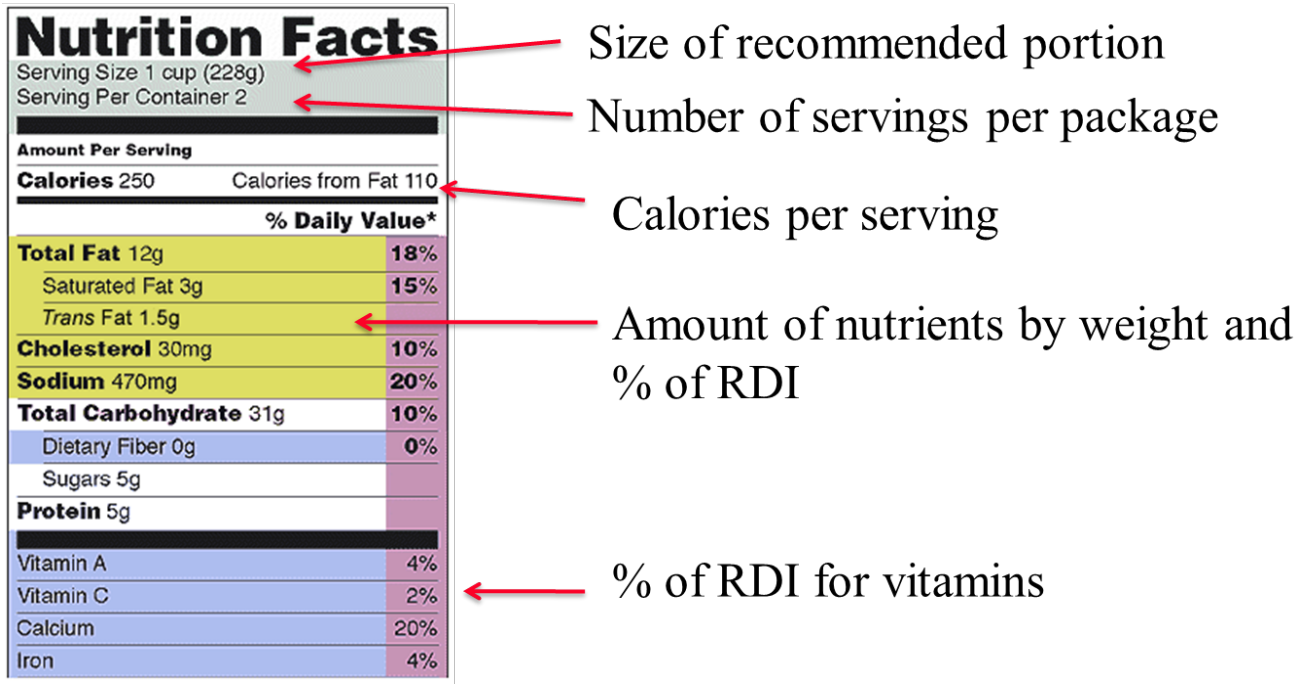
Increase energy
- Carbohydrates (grains, fruits, vegetables)
- Fats (dairy, meat, nuts)

**Build strong bones and muscles**
- For strong bones – consume calcium and vitamin D (in milk, orange juice)
- For strong muscles – eat protein (meat, eggs, nuts, legumes)


What else can you do to be healthy?
- Physical Activity
- Sleep
- Mental relaxation
  - Visualization
  - Meditation
  - What do you do to de-stress?

Reading Nutrition Labels

- By law, food labels must contain certain things. Some of the legal requirements are:
- List of Ingredients:
  - List starts with the ingredient of the largest amount and continues to the ingredient of the smallest amount.
  - Must list (may contain...) for potential allergens like peanuts
- Nutrition Label:
  - Only became law as of December 2005
  - Displays the nutritional information contained in the product in grams and % of the Recommended Daily Intake (RDI) that is in one serving of that product.




How much energy will I get from 1 serving of the food above?

How many servings of the food above would I have to eat to get all of the calcium I need for the day? All of the Fat I need for the day?