**Nutrition**

**6 Categories of Nutrients**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Protein
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Vitamins
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Water

**Carbohydrates**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Create \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* !
* Broken down into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (sugars) that are used as fuel.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Carbs that are made up of 1 or 2 molecules of glucose
  + Candies, soft drinks, fruit juices, fruit
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Found in starchy foods:
  + Rice, potatoes, tortillas, & bread
  + Carrots, corn, bananas
* Complex carbs such as grains (rice & wheat), bananas, carrots, & corn contain important vitamin A & Fiber
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (bulk/roughage): Part of the food which cannot be digested.
  + Important for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Removes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ substances & excess \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Simple sugars often provide energy with no nutritional benefit.

**Proteins**

* Major component of most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Muscles, Organs, & Cells
* Made from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ building blocks
* 9 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_cannot be made by the body and must be consumed.
  + Meat, Fish, Dairy products, & Eggs contain all 9 essential amino acids. (Complete Protein)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ protein sources (beans, nuts, grains) do NOT have all 9 essential amino acids.
* It is important to get the right mix of vegetable proteins to get complete protein.
* Animal protein usually contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amounts of fat & very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fiber.
* Plant proteins usually contain very \_\_\_\_\_\_\_\_\_\_\_\_\_\_ fat & \_\_\_\_\_\_\_\_\_\_\_\_\_\_ amounts of fiber.
* Healthiest to eat small amounts of animal protein in combination with plant proteins
* Avoid fat by choosing skim or low-fat milk, low-fat cheese or lean meat.

**Fats**

* Component of all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Important source of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in your body.
* Fat in digestive tract helps absorb fat soluble \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fats increase your cholesterol & risk of heart disease (bad fats!)
  + Meat, dairy products, palm & coconut oil
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fats have a much less effect on cholesterol & heart disease (good fats!)
  + Fish, olive, peanut, & corn oils.

**Vitamins**

* Chemical substances that help the body use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, build proteins, make cells, and repair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* 2 categories
  + \_\_\_\_\_\_\_\_\_\_\_\_ Soluble
    - Vitamin \_\_\_\_\_\_\_: Eyes, bones, skin
    - Vitamin \_\_\_\_\_\_\_: Bones, teeth, usage of calcium
    - Vitamin \_\_\_\_\_\_\_: Healing wounds, fight against toxins
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Soluble
    - Vitamin \_\_\_\_\_\_\_: Fighting infection, using stored energy
    - Vitamin \_\_\_\_\_\_\_: Building blood cells, nerve cells, chemical reactions

**Minerals**

* Essential building blocks but do not provide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & Sodium: electrically charged chemicals that govern the electrical connections between body tissues.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Manganese, & Selenium: Essential for development of cells, healing, & all immune reactions.

**Iron**

* Helps \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_transport oxygen
* Iron requirements increase during adolescence:
  + Greater \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Growth spurt
  + Onset of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Iron found in red meats (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) absorbs best while iron found in grain & veggies (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) is harder to absorb.

**Calcium**

* Primary component of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Adolescent growth spurt increases skeletal mass and calcium requirements.
* If too low, calcium is drawn from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Healthy adult absorbs about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_% of the calcium in an ordinary diet.
* Calcium absorption increases during growth, pregnancy, & breastfeeding.

**Calcium Absorption**

* Hiders Calcium Absorption
  + Excessive \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Presence of oxalic acid (cocoa, spinach, chard, rhubarb) or phyticacid (Soybeans, legumes, bran)
  + High intake of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Inactivity
* Excessive Calcium (Supplements)
  + Loss of appetite, nausea, vomiting, weakness, dizziness, lethargy, kidney damage, & calcium deposits in soft tissues (kidneys & eyes)
  + Calcium Sources
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Milk product
    - Dried beans & peas
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Dark green leafy vegetables (not spinach)

How important is Calcium?

* Very! Bones cannot become strong without calcium!
* If you cannot digest milk products, you must find a substitute.
  + Dark green leafy vegetables (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Can be added to foods & drinks (O.J.)

**Water**

* Essential for life.
* Single largest component of your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Use water:
  + To \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ food
  + Lose heat through \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Remove toxins in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Average adult uses 2-3 quarts a day in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Dehydration Effects
  + Cannot maintain
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Blood pressure
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Water is found in foods such as:
  + Milk, fruits, vegetables, juices, & soft drinks
* Choose water sources that will keep you hydrated & contribute other nutrients, but will not contribute too many calories or fat.

**Calories**

* Calories are a unit of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have a higher energy requirements than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Males have more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_body mass and less adipose when compared to females.

**Body Mass Index**

* BMI: Measure of ones \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in relation to their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To calculate:

BMI = (weight in pounds x 703 )/height in inches²

**Basal Metabolic Rate**

* BMR: Basic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Needed
* To calculate:
  + Women: 661 + (4.38 x weight in lbs) + (4.33 height in inches) – (4.7 x age) = BMR
  + Men: 67 + (6.24 x weight in lbs) + (12.7 x height in inches) – (6.9 x age) = BMR
* Multiply BMR by

1.2: inactive

1.3: moderately active (exercise 3x a week)

1.7: very active person

1.9: extremely active person (runner, swimmer)