6 Essential Nutrients
Learning Target

I will be able to identify the 6 essential nutrients the human body needs

• **Success Criteria:**
  - I can name each essential nutrient.
  - I can describe each nutrient’s function.
  - I can explain how to obtain healthy amounts of each nutrient in my diet.
What are they?

- Carbohydrates
- Proteins
- Fats
- Vitamins
- Minerals
- Water
Carbohydrates

• Supply our bodies with the main source of energy
• What do you think are the best sources of carbohydrates?
  • whole grains
  • vegetables
  • beans
• Used as energy
  • Yield: 4 calories/gram
What does your body do with carbs?

- Easiest to break down
  - Breaks it down into it’s simplest form (sugar)
  - Goes into the bloodstream (blood sugar level)
Proteins

- Build up, maintain and replace tissue
  - muscles, organs, immune system made of protein
- Body breaks down the proteins and makes specialized protein cells
  - Hemoglobin (carries oxygen, part of our red blood cells)
- Used as energy
  - Yield: 4 calories/gram
What does your body do with protein?

- Breaks it down into its simplest form: amino acid
  - Amino acids are used for different functions
- Humans need 20 amino acids, but the body can only make 11
  - **Complete proteins have all 9** (like meat and milk)
    - Incomplete is missing 1 or more (like vegetables)
Fats

- 3 types of fat
  - Saturated
  - Unsaturated
  - Trans

- Used as energy
  - Yield: 9 calories/gram

- Absorbs vitamins

- Helps the brain and nervous system develop

- Insulates/cushions body

- Helps create hormones
Types of Fat

- **Saturated Fat**
  - found in meat, milk, cheese, coconut oil
  - too much can raise your blood cholesterol
- **Unsaturated Fat**
  - found in plant foods (almonds, olive oil) and fish (salmon, tuna)
  - good for heart health (in moderation)
- **Trans Fat**
  - found in margarine, snack foods, baked goods
  - a.k.a hydrogenated or partially hydrogenated
  - too much can raise your blood cholesterol
Vitamins

- Substances found in the foods we eat
- Your body cannot make vitamins so we have to obtain them from our diet
- Name some of the vitamins you know and what they do...
  - Vitamin A (eye health)
  - Vitamin D (bone health)
  - Vitamin C (immune health)
  - B Vitamins (make energy!)
Types of Vitamins

- Fat soluble
  - Stored in fat! (and liver) until your body uses it, a few days-6 months
  - A, D, E, & K are all fat soluble
- Water soluble
  - Travel through your bloodstream, and excess is expelled through urination
  - Need to be replaced more often
Minerals

- Help your body grow, develop and stay healthy
- 2 main kinds of minerals
  - Macro-mineral
  - Trace (micro) Mineral
- Of which do you need more?
Types of Minerals

- **Macrominerals** (100mg needed daily)
  - Calcium
  - Phosphorous
  - Magnesium
  - Sodium
  - Potassium
  - Chloride
  - Sulfur

- **Trace Minerals** (.2-15mg needed daily)
  - Iron
  - Magnesium
  - Copper
  - Iodine
  - Zinc
  - Cobalt
  - Flouride
  - Selenium
Water

- Makes up 50-65% of your body
- Essential for survival – 3 days
  - Blood is made up of mostly water, it carries oxygen to your body
What does water do?

- Used in ALL cells, tissues, organs
- Lost through respiration, perspiration, digestion, urination
- Cools your body down