

## **Nutrition**

### **Take Home Messages**

1. We need water to survive and food to give us energy to survive, to function, and to grow.
2. The basic nutrients that provide energy are carbohydrates, proteins, and fats.
3. Vitamins, minerals, fiber are essential for good health.
4. The digestive system is where the foods are broken down and digested, nutrients and water absorbed into the body, and wastes excreted from the body.

# Nutrition

## Glossary

**Calories:** The unit of energy - kilocalories, also referred to as Calories or kcal.

**Carbohydrates:** Sugars and starches. They generate energy; 1 gram yields 4 kcal.

**Enzyme:** Protein, which carries out specific chemical reactions.

**Esophagus:** The muscular tube that pushes food to the stomach.

**Fats:** Greasy or oily substances that generate energy for our body. One gram of fat yields 9 kcal.

**GI tract:** Gastrointestinal tract for digestion.

**Large Intestine:** The tube into which undigested food passes from the small intestine and where water is absorbed from the food.

**Lipids:** Fats.

**Minerals:** Chemicals which are not made from living things; they are inorganic.

**Nutrients:** Substances that the cells need and use to grow, function, and repair.

**Peristalsis:** Refers to waves of contraction that pass along the walls of the esophagus to move the food forward.

**Proteins:** The "building blocks" of all living things, composed of amino acids. They also generate energy; 1 gram yields 4 kcal.

**RDA:** Recommended Dietary Allowances by health agencies of the government.

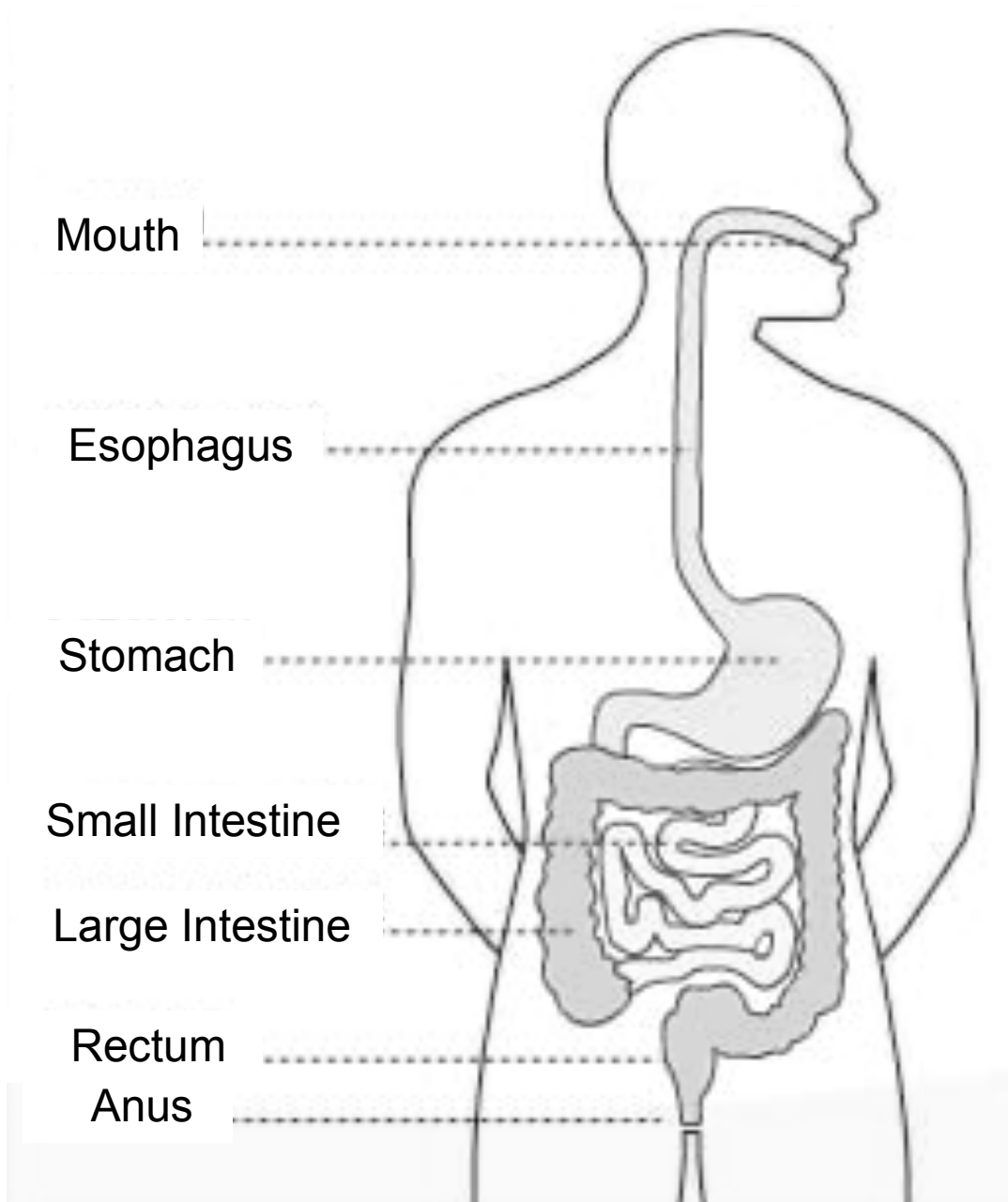
**Small intestine:** The longest part of the digestive system where most of the nutrients are absorbed.

**Starch:** Many glucose molecules linked together.

**Stomach:** The sac into which food passes from the esophagus. This is where the foods are broken down mechanically by the mashing of the muscular wall and chemically by acid and enzymes.

**Vitamins:** Substances essential for life.

# The Digestive System



## Vitamins and Minerals Handout

### Vitamins:

- Essential for normal functioning of body
- Cannot be manufactured by the body
- Must be obtained from food and/or dietary supplements
- Crucial for growth, vitality, well-being.

Name of Vitamin	Why We Need It	Where We Get It
A	Healthy eyes, skin and hair. Proper growth in children	Milk, eggs, green veggies
B1 (Thiamin)	Healthy heart and nervous system	Fish, meat, poultry, whole-grain cereals
B2 (Riboflavin)	Healthy skin, builds up body tissue	Some cereals, green veggies, lean meats, milk/eggs
B3 (Niacin)	Converts food into energy	Some cereals, eggs, lean meats
B5	Converts food into energy	Almost any foods
B6	Healthy teeth, gums, blood vessels; proper growth in children	Whole-grain cereals, veggies, bananas, some meats
B12	Healthy red-blood cells and nervous system	Lean meat, fish, oysters
C	Healthy teeth, gums, bones and blood vessels; strengthens immune system	Juices, citrus fruits, vegetables
D	Strong bones & teeth; helps utilize calcium and phosphorus	Milk, salmon, tuna, egg yolk
E	Proper functioning red-blood cells	Vegetable oils, whole-grain cereals, lettuce
Folic Acid	Prevents anemia, protects intestines	Green veggies, meats, nuts

### Minerals:

Name of Mineral	Why We Need It	Where we Get It
Calcium	Essential mineral- strong bones/teeth	Milk, dairy products
Iodine	Proper functioning of thyroid gland	Onions, seafood, salt
Iron	Production of red blood cells	Meats, nuts, egg-yolk, beans
Phosphorus	Supports calcium, also helps nervous system	Meats, dairy products, cereals, nuts
Potassium	Maintains body fluids	Meats, fish, poultry, cereal, fruits/veggies
Zinc	Skeletal growth & tissue repair	Liver, beans, nuts, oysters



# Nutrition

## Mini Quiz

1. Proteins are made in the following organelle:
  - a) Mitochondria
  - b) Endoplasmic reticulum
  - c) Nucleus
2. Three food groups that give us energy include:
  - a) Carbohydrates
  - b) Fats
  - c) \_\_\_\_\_
3. The tube that connects the mouth to the stomach is called:
  - a) Esophagus
  - b) Small intestine
  - c) Large Intestine
4. The major job of the stomach is to:
  - a) Digest foods.
  - b) Reabsorb nutrients.
  - c) Reabsorb water.
5. The major job of the small intestine is to:
  - a) Digest foods.
  - b) Reabsorb nutrients.
  - c) Reabsorb water.
6. The mineral that helps us make strong bones is
  - a) Iron
  - b) Calcium
  - c) Oxygen
7. Lean meats are rich in
  - a) Carbohydrates
  - b) Proteins
  - c) Fats