Two basic uses for NUTRIENTS:
- Energy
- Use in structure/body processes

**Essential Nutrients**

**MACROMOLECULES**
- Carbohydrates
- Proteins
- Lipids

**MICRONUTRIENTS**
- Vitamins
- Minerals
MACROMOLECULES

Carbohydrates
  - Simple
  - Complex
  - Fiber

Proteins
  - Complete
  - Incomplete

Lipids
  - Essential Fatty Acid
  - Cholesterol
  - Saturated
  - Unsaturated

CARBOHYDRATES

Simple carbohydrates are found in foods such as fruits, milk, and vegetables. Cereal, candy, and other refined sugar products are simple sugars which also contain many fat-laden vitamins, minerals, and fiber.

Complex carbohydrates provide vitamins, minerals, and fiber. Foods such as breads, legumes, rice, pasta, and some vegetables contain complex carbohydrates.

PROTEINS

Complete vs. Incomplete
ENERGY BALANCE

\[ \text{Energy Intake} = (\text{BMR} + \text{Activity}) + \text{Heat} + \text{Storage} \]

**Energy Intake:**
- Fats = 9 kcal/g
- Carbs & proteins = 4 kcal/g

**BMR:**
- Women = 0.9 kcal/kg/hr
- Men = 1.0 kcal/kg/hr

**Heat:**
- Thermogenesis

**Storage:**
- Weight

**Activity:**
- Various depending on intensity