Introduction To

utrition

By:
Dr.Yossra K.Al-Robaiaay
Assistant professor
FICMS (FM)

Learning Objectives:

- Define nutrition and describe its relationship to health and well-being.
- To know the importance of nutrition .
- To clarify some related terms.
- To understand the food pyramid and the purpose of its use.

NUTRITION :

- Defined as the science of food, the nutrients, and other substances, their action, interaction and balance in relation to health & disease, and the process by which they are used by the body.

Why Nutrition is Important?

1. Proper nutrition supports wellness:

- **Wellness** is more than the absence of disease
- Physical, emotional,mental,psychological and spiritual health.
- Active process.

- **Critical components of wellness**
  - Nutrition
  - Physical activity

Why Nutrition is Important?

- 2. Nutrition can prevent disease:
- Nutrient deficiency diseases:
- scurvy, goiter, rickets
- Diseases influenced by nutrition:
- chronic diseases such as heart disease, DM.

Why Nutrition is Important?

3. Obesity is a growing problem:

- Eating more calories than expended
- Risk factor for heart disease, stroke, type 2 diabetes, and some types of cancer

Why Nutrition is Important?

- **4. Nutrition is an international goal to promote optimal health and disease prevention.**

- **Goals of Healthy People 2025**
  - **Increase quality and years of healthy life.**
  - **Eliminate health disparities.**

DETERMINANTS OR THE FACTORS AFFECTING FOOD AND NUTRITION OF AN INDIVIDUAL

- Development
- Gender
- Genetics
- Beliefs about Food
- Experience
- Personal Preference
- Nutritional habits
- The quality of food
- The quantity of food
- The efficiency of our digestive system
- Biochemical availability

Consequences Of Poor Nutrition On Health:

1.Cardiovascular disease (CVD)

2. Hypertension

3. Diabetes

4. Cancer

5. Osteoporosis

6. Problems of being overweight or obese

7. Mental Disorders

Terms Used In Nutrition

Nutrients:

- The nourishing chemical substances in food that provide energy and promote the growth and maintenance of human body.

The essential nutrients :

- Are those the body cannot make for itself in sufficient quantity to meet physiological needs, and which must therefore be obtained from food.

Terms Used In Nutrition

Nutrients:

- **The nourishing chemical substances in food that provide energy and promote the growth and maintenance of human body.**
- Chemical substances obtained from foods used in the body to provide energy, structure materials, regulating agents to support growth, maintenance, repair of body's tissues and may also reduce the risks of some diseases

The essential nutrients :

- **Are those the body cannot make for itself in sufficient quantity to meet physiological needs, and which must therefore be obtained from food.**

The Six Criteria for Nutrient Essentiality

The nutrient….

- **is essential for one or more of the (8) functions of life**
- **is not synthesized or synthesized adequately in the body**
- **has a function that is either biochemical or structural**
- **if deficient, a recognizable loss of function or structure results**
- **if deficient the loss of function or structure is proportional to degree and duration of depletion**
- **if deficient the loss of function is, in the short term, reversible by the specific nutrient**

The Six Types of Nutrients

- Food nourishes the body with more than 45 different nutrients. These nutrients are grouped into six categories.
  - Carbohydrates
  - Proteins
  - Fats
  - Vitamins
  - Minerals
  - Water

- Eating a variety of foods to provide these nutrients is essential to good health.

Classifications of nutrients

By function:

- **Fuel Nutrients** needed for energy: carbohydrates, fats, and proteins.
- **Regulatory nutrients** necessary to function normally with no caloric value: vitamins, minerals, and water

By Amount:

- **Macronutrients** needed in proportionally large amounts daily: carbohydrates, fats, proteins, and water.
- **Micronutrients** required in small amounts daily: vitamins and minerals.

A. Macronutrients which include:

- Carbohydrates
- Protein
- Fat

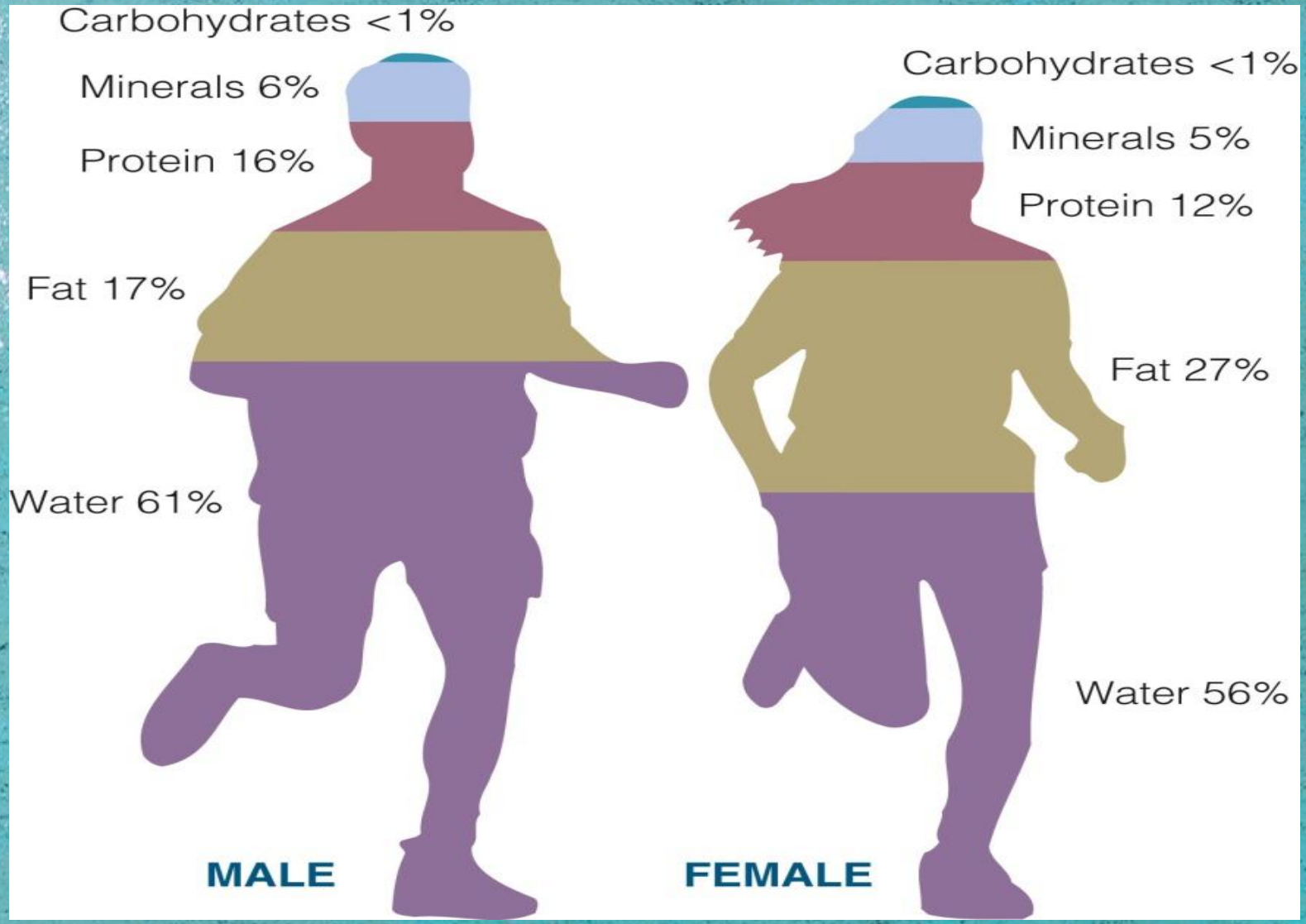
Macronutrients

B. Micronutrients which include:

1. Vitamins.
2. Minerals.

Micronutrients

Water


Carbohydrates <1%
Minerals 6%
Protein 16%
Fat 17%
Water 61%
MALE
Carbohydrates <1%
Minerals 5%
Protein 12%
Fat 27%
Water 56%
FEMALE


MACRONUTRIENTS
VS
MICRONUTRIENTS

Characteristics of a Nutritious Food

- Adequate
- Balanced
- Moderate
- Varied

Estimated Average Requirement (EAR)

The daily dietary intake level that is estimated to meet the nutrient requirement of 50% of healthy individuals in a particular life stage and gender group

Adequate Intake (AI)

An observational standard that is used when insufficient data is available to determine an RDA from an existing EAR

- Because it is set using presumable healthy groups of individuals, the AI is expected to meet or exceed the actual nutrient requirement in all healthy members of a specific life stage and gender group

Dietary Reference Intakes describe nutrition standards

Recommended Dietary Allowance (RDA)

- Daily amount of a nutrient considered adequate to meet known nutrient needs of almost 98% of all healthy people .

Nutrient allowances are categorized into (17) classifications based on age & sex.

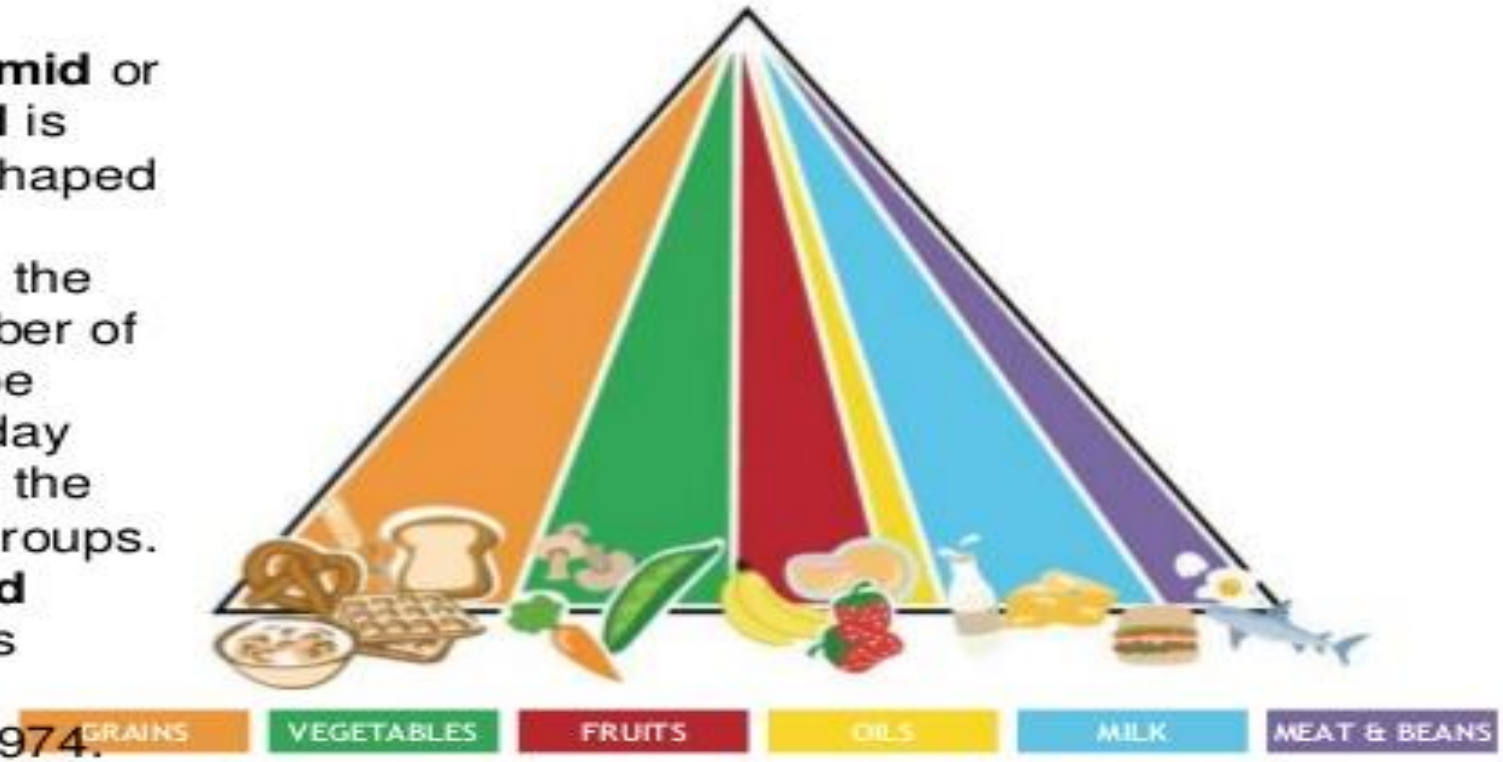
RDA does not provide the needs that have been altered as a result of disease states, chronic usage of certain drugs, or other factors that require specific individual attention.

Nutrient intake below 70% of RDA are frequently considered to be the least RDA levels of nutrients below which put an individual at risk of clinical deficiency.

FOOD PYRAMID

The Food Pyramid

A **food pyramid** or diet **pyramid** is a **pyramid**-shaped diagram representing the optimal number of servings to be eaten each day from each of the basic **food** groups. The first **food pyramid** was published in Sweden in 1974.



Food pyramid:

Recommendation of what to eat based on dietary Guidelines.

Food pyramid from top to bottom :

- Fats
- Dairy
- Meat
- Fruits & Vegetables
- Grains

SERVING SIZE

A serving size: is the suggested amount of food or beverage to consume at a meal or in a snack.

Serving sizes help to **regulate the amount of calories** consumed each day; they also **encourage eating a wide variety of foods** to completely meet nutritional needs.

Fats, Oils & Sweets
USE SPARINGLY

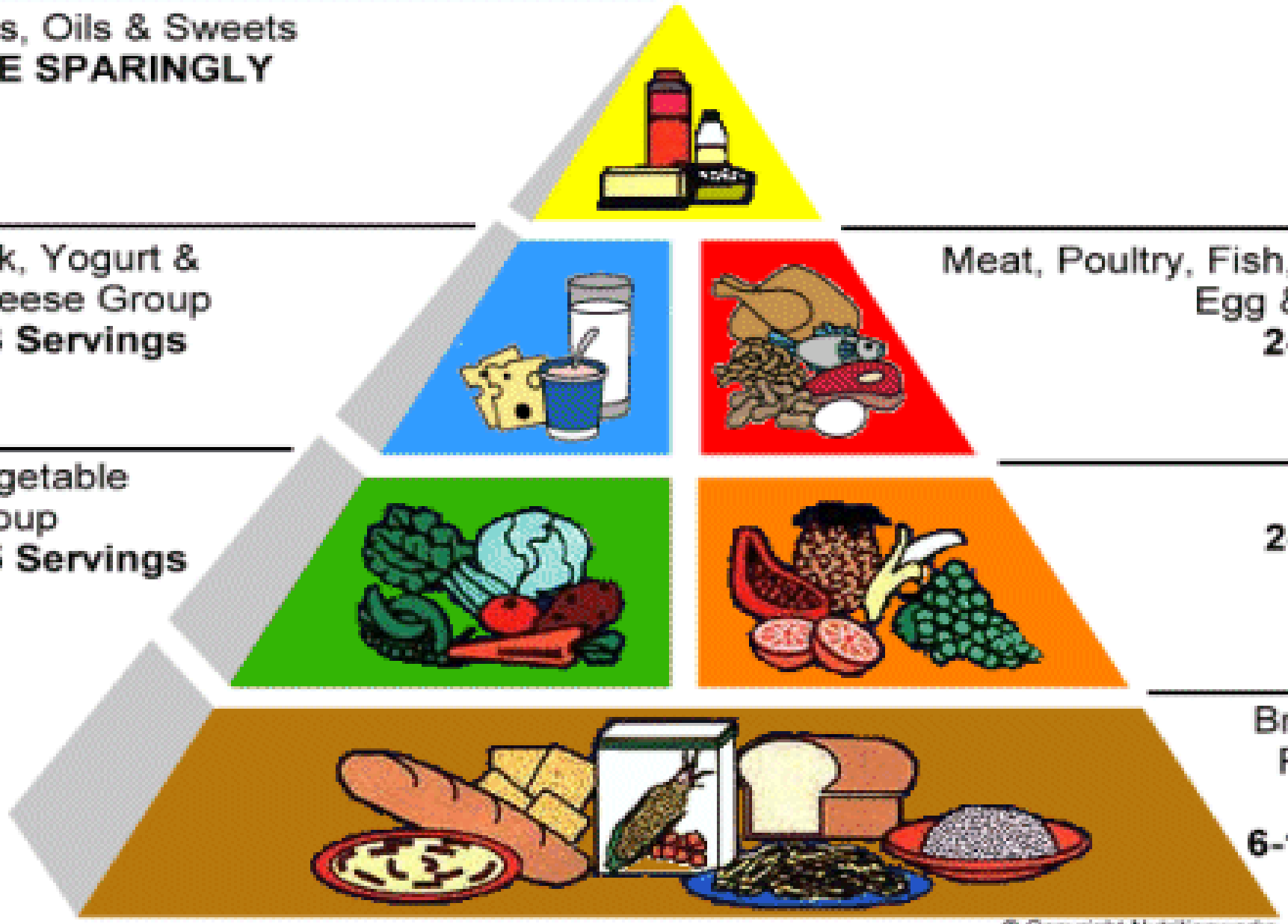
Milk, Yogurt &
Cheese Group
2-3 Servings

Meat, Poultry, Fish, Dry Beans,
Egg & Nut Group
2-3 Servings

Vegetable
Group
3-5 Servings

Fruit Group
2-4 Servings

Bread, Cereal,
Rice & Pasta
Group
6-11 Servings



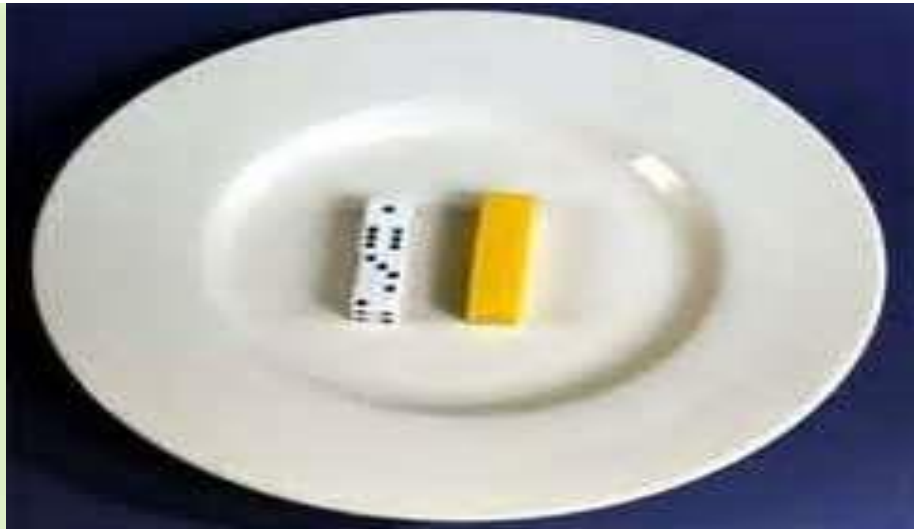
New Food Pyramid

The food from MILK GROUP, are a major source of calcium, Protein & riboflavin. [2-3 servings/ day] .

Milk Group

Aim for 2-3 cups of dairy products a day, Serving sizes include 1 cup milk, 1 cup yogurt.

Take some dice to get an idea of the serving size for cheese: 1 oz. of cheese is the size of four dices

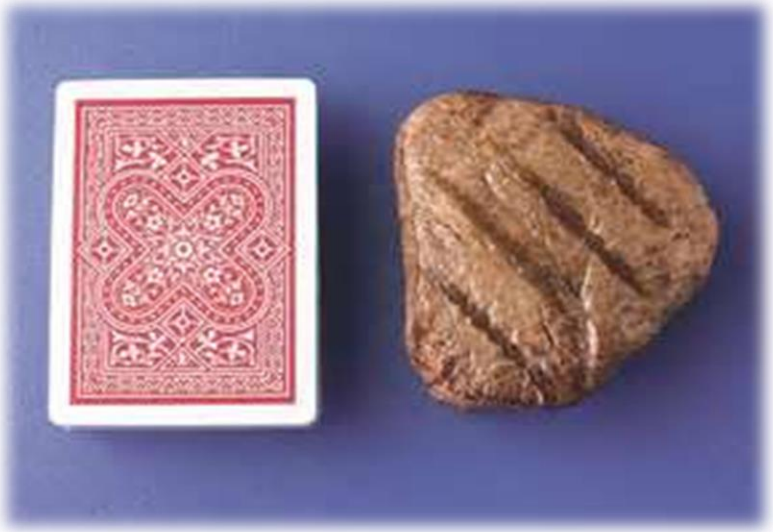


Items in the MEAT GROUP supply protein, fat, iron and other minerals as well as several vitamins, (dry beans, eggs& nuts group). [2-3 servings/ day]

Meat Group (2-3) Servings

The recommended daily intake of meat or other protein equivalents ranges from 6 to 9 oz. a day based on gender, age and calorie needs.

Three ounces(serving size) of meat is approximately the size of the palm of hand or a deck of cards.



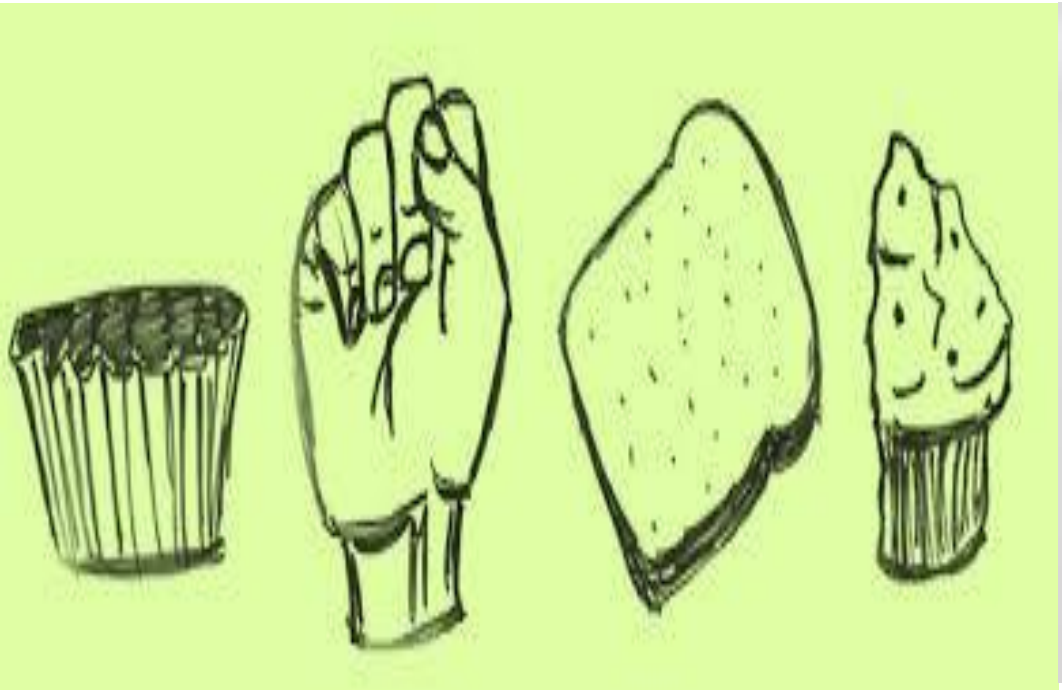
BREAD & CEREAL GROUP

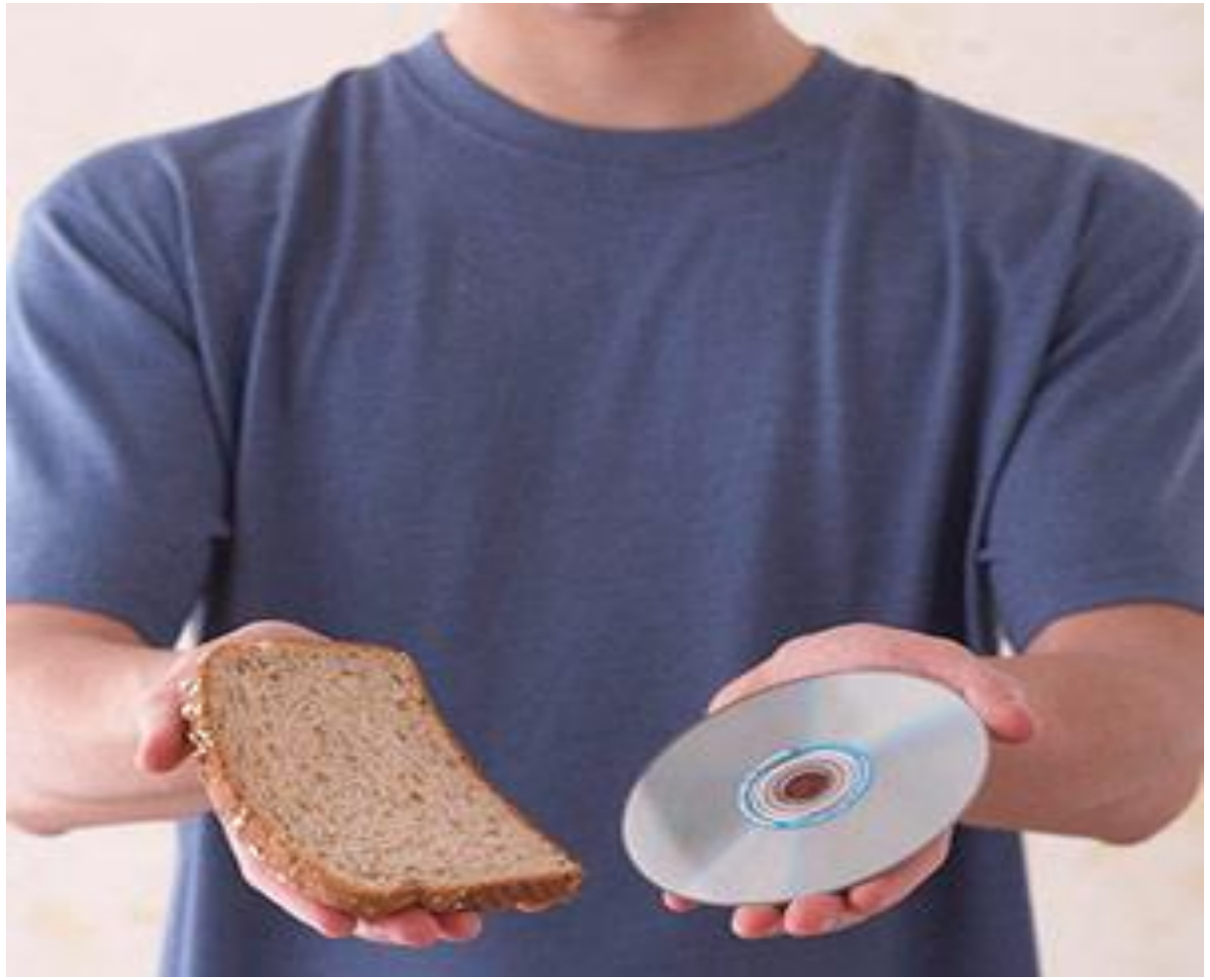
Provide carbohydrate, several B vitamins & iron.

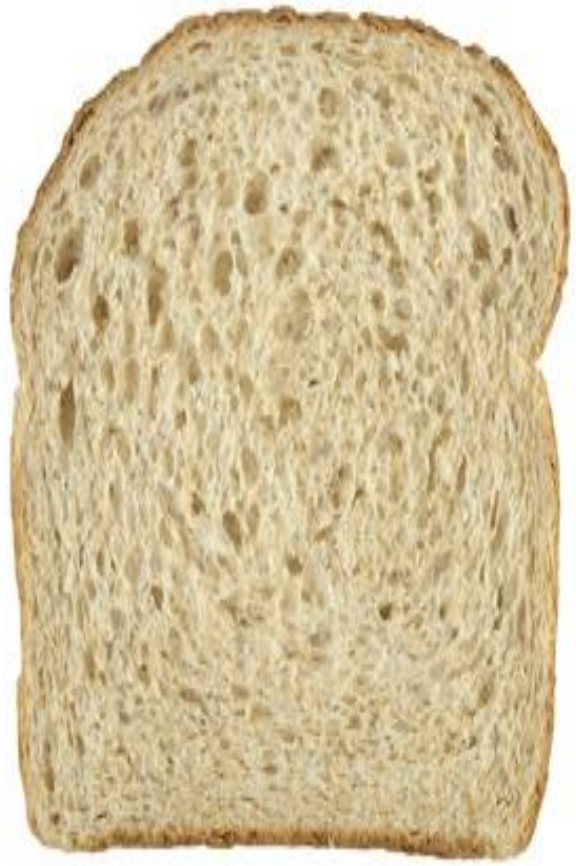
{6-11 servings/ day}

Bread and cereal group

Some examples of serving sizes include, 1/2 cup cooked rice which is about the size of a tennis ball, a slice of bread the size of an audio-cassette tape, and a cup of pasta/spaghetti or cereal, both about the size of a fist.







Fruits & Vegetables

Are rich in vitamin C & precursors of vitamin A.

Vegetables group[3-5 servings/ day]
Fruit group [2-4 servings/ day].

Fruits and Vegetables

Eating a diet rich in fruits, vegetables and whole grains is important to maintaining good health.

A **tennis ball** is a good visual for one medium piece of fruit.

A serving of **cooked** vegetables is **1/2** cup while a serving of **raw** leafy vegetables is **1 cup**.

HAND:

Breads

PALM:

Meats

FIST:

Veggies, Rice, Pasta, Fruits

FINGERTIP:

Fats (butter)

SIZE IT RIGHT

A guide (based on standards that most nutritionists follow) to what one serving should look like.


steak

=


iPod Classic


cheese

=


matchbox


pancake

=


DVD


pasta

=


ice cream scoop


potato

=


mouse


fish

=


checkbook


butter

=


postage stamp


salad dressing

=


1-oz shot glass


brown rice

=


baseball


peanut butter

=


golf ball


beans

=


lightbulb


dark chocolate

=


dental floss


THANK YOU