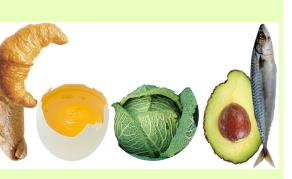# BASICS OF NUTRITION

What is nutrition?

THE STUDY OF *FOODS*, THEIR *NUTRIENTS* AND OTHER CHEMICAL COMPONENTS, THEIR *ACTIONS* AND *INTERACTIONS* IN THE BODY, AND THEIR INFLUENCE ON *HEALTH* AND *DISEASE*.

MACRONUTRIENTS

Macronutrients are responsible for providing the energy (or calories) that the body uses to fuel activity. Examples of macronutrients include:

- **Carbohydrates**
- **Proteins**
- **Fats**

CALORIC VALUE

Each macronutrient has a different caloric value. This is defined as the amount of calories (kcal) in one (1) gram of that nutrient. The caloric value of each macronutrient is:

- **Carbohydrate** = 4 kcal/gram
- **Protein** = 4 kcal/gram
- **Fat** = 9 kcal/gram

EXAMPLE OF HOW TO CALCULATE TOTAL CALORIES FROM MACRONUTRIENTS

NUTRITION FACTS:

Carbohydrates: *45 grams*
Protein: *25 grams*
Fat: *28 grams*

CALCULATION:

45 *grams* x 4 *kcal* = **180**
25 *grams* x 4 *kcal* = **100**
28 *grams* x 9 *kcal* = **252**

TOTAL CALORIES = 532

HOW TO CALCULATE PERCENTAGE OF TOTAL ENERGY INTAKE FROM MACRONUTRIENTS

The percentage (%) of your total energy intake from carbohydrate, fat, and protein can then be determined by **dividing the number of calories from each energy nutrient by the total calories**, and then **multiplying your answer by 100** to get the percentage.

NUTRITION FACTS:

Carbohydrates: *45 grams*
Protein: *25 grams*
Fat: *28 grams*

CALCULATION:

(45 *g* x 4 *kcal*) / **532** = 0.338 x 100= **34%**
(25 *g* x 4 *kcal*) / **532** = 0.187 x 100= **19%**
(28 *g* x 9 *kcal*) / **532** = 0.473 x 100 = **47%**