HS20-NU2

Analyze dietary choices based on personal and cultural beliefs and scientific understanding of nutrition.

HS20-NU1

Assess the importance of macronutrients (i.e., carbohydrates, proteins and fats) and micronutrients (e.g., vitamins, minerals and phytochemicals) in maintaining human health.

What is a Calorie?

A Calorie (cal) is the amount of heat energy required to raise the temp of 1 g of water 1°C (ex. 14° C to 15° C). A kilocalorie (kcal) is the amount of heat required to raise the temperature of 1000g of water 1°C.

Most of us think of calories in relation to food. "This soda has 200 calories." It turns out that the calories on a food package are actually kilocalories (1000 calories = 1kcal).

The number of calories in a food is a measure of how much potential energy a food possesses:

A gram of fat = 9 cal/g
A gram of carb- 4 cal/g
A gram of protein = 4 cal/g

Ex. Little Caesar's Pepperoni Pizza (one slice/serving):

8 g Fat	**8 g x 9cals/gram = 72 cal fat**
23 g Carbs	**23 g x 4cals/gram = 92 cal carbs**
11 g Protein	**11 g x 4cals/gram= 44 cal protein**
Total Calories =	**208 calories for one serving Little Caesar's Pepperoni Pizza**
% Fat=	**72 fat cal ÷ 208 cal x 100 = 34.6% Fat**
% Carbs =	**92 carb cal ÷ 208 cal x 100 = 44.2% Carbs**
% Protein =	**44 protein cal ÷ 208 cal x 100 = 21.2% Protein**

Do the Math

Calculate the Total Calories for each serving of food. Then, calculate the percentage of total calories of each of the fat, carbs and protein.

Show all your work. See example below.

Apple

0 g Fat	**_____ g x 9 cals/gram = _____ cal fat**
16 g Carbs	**_____ g x 4 cals/gram = _____ cal carbs**
0 g Protein	**_____ g x 4 cals/gram= _____ cal protein**
Total Calories =	**_____ calories for one serving of Apple**
% Fat=	**_____ fat cal ÷ _____ cal x 100 = _____% Fat**
% Carbs =	**_____ carb cal ÷ _____ cal x 100 = _____% Carbs**
% Protein =	**_____ protein cal ÷ _____cal x 100 = _____% Protein**

Orange

0 g Fat	
21.6 g Carbs	
0 g Protein	
Total Calories =	
% Fat =	
% Carbs=	
% Protein =	

Banana

0 g Fat	
17 g Carbs	
1 g Protein	
Total Calories =	
% Fat =	
% Carbs =	
%Protein =	

Lays BBQ Potato Chips (27 chips)

17 g Fat	
27 g Carbs	
3 g Protein	
Total Calories =	
% Fat =	
% Carbs =	
% Protein =	

McDonalds Cheeseburger

12 g Fat	
33 g Carbs	
15 g Protein	
Total Calories =	
% Fat =	
% Carbs =	
% Protein =	

Nutrition Calculations

Select two food items that you enjoy consuming and research the fat, carbs and protein content. A good source is www.myfitnesspal.com.

Calculate the Total Calories for each serving of food. Then, calculate the percentage of total calories of each of the fat, carbs and protein.

Food Item: _____

g Fat	
g Carbs	
g Protein	
Total Calories =	
% Fat =	
% Carbs =	
% Protein =	

Food Item: _____

g Fat	
g Carbs	
g Protein	
Total Calories =	
% Fat =	
% Carbs =	
% Protein =	