

Introducing the Nutrients

Six Classes of Nutrients

- Carbohydrate
- Protein
- Fat
- Vitamins
- Minerals
- Water

Organic Nutrients

- Carbohydrates
- Lipids
- Proteins
- Vitamins

Inorganic Nutrients

- Minerals
- Water

What is a kCalorie?

A unit by which energy is measured

Definition: the amount of heat necessary to raise the temperature of 1 Kg. of water 1° C.

Energy Nutrients

Energy (kCal.) is provided from three of the six classes of nutrients:

- carbohydrate
- fat
- protein


Energy Values

Carbohydrate	4 kcal/gram
Protein	4 kCal/gram
Fat	9 kCal/gram
Alcohol	7 kCal/gram


Summary of the Nutrients

TABLE 1-1 Elements in the Six Classes of Nutrients					
Notice that organic nutrients contain carbon.					
	Carbon	Hydrogen	Oxygen	Nitrogen	Minerals
Inorganic nutrients					
Minerals					✓
Water		✓	✓		
Organic nutrients					
Carbohydrates	✓	✓	✓		
Lipids (fats)	✓	✓	✓		
Proteins ^a	✓	✓	✓	✓	
Vitamins ^b	✓	✓	✓		

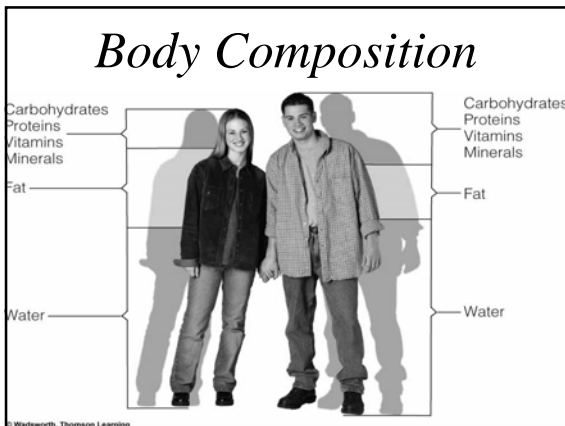
Energy Density

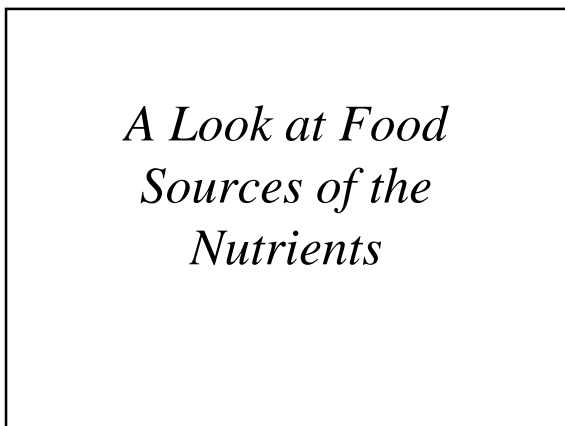


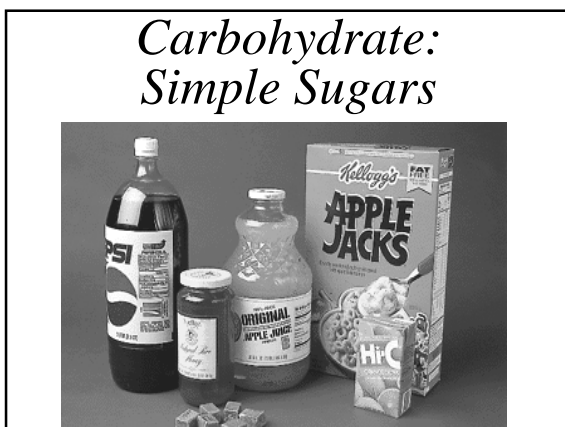
LOWER ENERGY DENSITY
This 450-gram breakfast delivers 500 kcalories, for an energy density of 1.1 (500 kcal ÷ 450 g = 1.1 kcal/g).



HIGHER ENERGY DENSITY
This 144-gram breakfast also delivers 500 kcalories, for an energy density of 3.5 (500 kcal ÷ 144 g = 3.5 kcal/g).



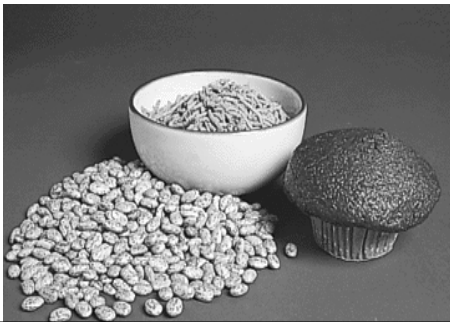




*Carbohydrate:
Starches*



*Carbohydrate:
Fiber*



*Protein:
Animal*



*Protein:
Vegetable*



*Fats:
Saturated*



*Fats:
Unsaturated*



Vitamins



Minerals



Water



*Please click out of WebCT, and
go to the following website for
more information about
requiring restaurant menu
labeling.*

[http://www.cspinet.org/nah/vlo
g/menulabeling.html](http://www.cspinet.org/nah/vlog/menulabeling.html)
