



**⚡ 2 Calorie Densities**

**🔍** Different sources of energy vary in calorie density. Fill in the numeric values for each energy source below. Which nutrient source is most calorie dense? Least?

Alcohol \_\_\_\_\_ calories per gram

Carbohydrates \_\_\_\_\_ calories per gram

Fats \_\_\_\_\_ calories per gram

Proteins \_\_\_\_\_ calories per gram

\_\_\_\_\_

\_\_\_\_\_



Now that you know the three major nutrients that supply energy, what is the recommended percentage of total daily calories supplied by these nutrients? Is this different from what you would have guessed?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Consider This**

Choose your calories carefully. Since different foods contain different amounts of energy, it is important to look at *quality* as well as *quantity*. Before you eat your next hot dog or candy bar, consider this:

You'd have to eat 200 pretzels to consume the 20 grams of fat found in 1 hot dog.



vs.



You'd have to eat 37 kiwi fruit to consume the 15 grams of fat found in 1 package of Reese's Peanut Butter Cups.



vs.



If you eat one restaurant-style egg roll, you're choosing 6 grams of fat, the equivalent of eating 60 fresh peaches.



vs.







### 5 Sugars and Starches

Match the following carbohydrates on the left with specific examples from each category on the right.

Carbohydrate	Answer	Example
Table sugar	_____	A) The body's primary source of energy
Polysaccharide	_____	B) The simplest of sugars
Glucose	_____	C) Glucose + fructose
Lactose	_____	D) Found in fruits and berries (also called levulose)
Fructose	_____	E) A starch
Monosaccharide	_____	F) Disaccharide found in milk



### 5 The Fat-soluble Vitamins



Vitamins can be classified as water-soluble or fat-soluble. Briefly describe this distinction, and then complete the table below describing the major fat-soluble vitamins.

Vitamin	Physiological Functions	Vitamin Food Sources	Deficiency Effects
	Bone growth; calcium absorption; kidney resorption of calcium and phosphorus; neuromuscular activity		Osteomalacia; osteoporosis; tooth malformation; rickets
	Vitamin A absorption; antioxidation of unsaturated fatty acids and tissue lipids; heme synthesis for red blood cells		Deficiency rarely seen in humans; destruction of red blood cell membrane
	Bone growth; night vision; sperm production; growth of epithelial cells; estrogen synthesis; mucus gland secretion		Night blindness, corneal deterioration; skin changes; enamel alteration; diarrhea; respiratory infections
	Synthesis of clotting factors in the liver		Prolonged coagulation time, bleeding, bruising

What is the major concern with consuming too many fat-soluble vitamins?

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