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Lipids: Fats & Oils

Lipids are natural plant & animal products more soluble in non-polar solvents like gasoline than in water.

Combustion (burning) of one gram: of carbohydrate produces 4 to 5 Calories, protein produces 4 to 5 Calories, **fat produces 9 to 10 Calories — more than twice that of either sugars or proteins.**



















Question

Which of the following statements regarding fatty acids is false?

A) Fatty acid can have one or more carbon-carbon double bonds.

B) Naturally occurring fatty acids have an odd number of carbons.

C) The configuration of the double bond(s) is (are) generally *cis* in naturally occurring fatty acids.D) Unsaturated fatty acids have a lower melting point than saturated ones.















The human body is 60-70 percent water, blood is \sim 90 percent, the brain and muscles are \sim 75 percent, and bones are \sim 20 percent by mass. * A human can survive for a month or more without eating food, but only 1-2 weeks without drinking water.

How much energy is required to raise the water in your body from 25°C (average room temperature) to 37°C (average body temperature [that is, chemical -biological temperature])? Assume that there is the equivalent of 5 liters of water, d = 1.0 g/mL in your body. The heat capacity of water is 4.184 J/g °C (1.00 cal/g °C); (0.001 Cal/g °C) (0.001 kcal/g °C)

How many grams of fat would need to be burned? (9 Cal/g)







Question

- A major component of a lipid bilayer is
- A) carbohydrate
- B) wax
- C) cholesterol
- D) fat

















