

Chapter 2 : Comparing Fatty Acids

Goal

Analyze data to understand properties of fatty acids.

Build Connections

To stay healthy, you need some fat in your diet, but not too much. Fat is a good source of energy, acts as a shock absorber for your organs, and helps your body retain heat. Many parts of your body, such as your brain, are rich in fat.

The type of fat you eat is as important as the amount of fat you eat. Fish, nuts, vegetable oils, and seeds tend to be high in unsaturated fats. A molecule of unsaturated fat has at least some double bonds between its carbon atoms. Animal products, such as butter, tend to be higher in saturated fats. A molecule of saturated fat has only single bonds between its carbon atoms.

Fats are formed from glycerol and fatty acids. The table compares some properties of fatty acids with 18 carbon atoms. Use the table to explore those properties.

Effect of Carbon Bonds on Melting Point			
Fatty Acid	Number of Carbons	Number of Double Bonds	Melting Point (°C)
Stearic acid	18	0	69.6
Oleic acid	18	1	14
Linoleic acid	18	2	-5
Linolenic acid	18	3	-11

Analyze and Conclude

1. **Read Tables** What properties of fatty acids does the table provide data on?

2. **Interpret Tables** Which property was used to organize the list of fatty acids? Explain.

3. **Classify** One of the fatty acids is saturated. Which one is it? How do you know?
