

# Unit 4

## Lipids



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## Lipids

1. Most \_\_\_\_\_ source of food energy.
2. Provide \_\_\_\_\_ calories per gram.

## Fats and Oils

1. Lipids that are \_\_\_\_\_ at room temperature are called \_\_\_\_\_.  
(Ex: vegetable oil, canola oil, olive oil, etc.)
2. Lipids that are \_\_\_\_\_ at room temperature are called \_\_\_\_\_.  
(Ex: lard, butter, shortening, etc.)

## Functions of Lipids

1. Carries Vitamins \_\_\_\_\_
2. Provides a \_\_\_\_\_ store of energy
3. Promotes healthy \_\_\_\_\_
4. Promotes \_\_\_\_\_ cell growth
5. Acts like a “\_\_\_\_\_” to protect organs
6. Acts like a heat regulator and \_\_\_\_\_
7. Adds \_\_\_\_\_ to food
8. Satisfies hunger and help you feel \_\_\_ longer

## Cholesterol

1. A \_\_\_\_\_ substance needed for essential body processes.
2. Helps with the \_\_\_\_\_ of fat and production of Vitamin D.
3. Adults \_\_\_\_\_ all the cholesterol they need, mostly in the liver.
4. All \_\_\_\_\_ also make cholesterol.
5. Eating \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ means you will consume “extra” or unneeded cholesterol.
6. Food high in cholesterol: Egg Yolks, Liver/Organ Meats, Some Shellfish

## LDL's & HDL's

1. Cholesterol \_\_\_\_\_ in the blood stream in chemical “packages” called \_\_\_\_\_.
2. Two Types of Lipoproteins:
  - a. \_\_\_\_\_ (Low-Density Lipoprotein)
  - b. \_\_\_\_\_ (High-Density Lipoprotein)

## LDL's – "Losers"

1. Takes cholesterol \_\_\_\_\_ the \_\_\_\_\_ to wherever it's needed in the body.
2. LDL cholesterol is considered bad because if too much is circulating, it \_\_\_\_\_ in the \_\_\_\_\_ walls.
3. \_\_\_\_\_ the risk of heart disease, stroke and obesity.
4. "Delivery Men": When LDL's have too much cholesterol to cart around, it builds up in the arteries and starts to clog them up.

## HDL's – "Heroes"

1. HDL cholesterol is considered good because it picks up excess cholesterol and take it \_\_\_\_\_ to the \_\_\_\_\_ keeping it from causing harm.
2. "Garbage Men": The HDL's go around and pick up all the excess cholesterol clogging up the arteries and take it back to the liver.

## Too Much Fat

1. High lipid/fat diets are linked to:
  - Increased \_\_\_\_\_
  - \_\_\_\_\_
  - Heart Disease
  - Cardiovascular Related Problems

## Lowering Fat & Cholesterol

• _____	• Try lemon juice or oil based salad dressings instead of cream based ones
• Replace solid fats with oils	• _____ to low-fat or fat-free milk
• Choose _____ cuts of meat	• Substitute low-fat yogurt in recipes that call for sour cream or mayonnaise
• _____, boil or bake foods instead of cooking them in oil or fat	• _____ skin from poultry before cooking
• Season vegetables with herbs and spices rather than with sauces, butter or margarine	• _____ egg yolks with egg whites

# Types of Fatty Acids

## Fatty Acids

1. Organic acid units that \_\_\_\_\_. There are 3 types:

	<u>Saturated</u>	<u>Polyunsaturated</u>	<u>Monounsaturated</u>
There are 3 Types			
What does it do to cholesterol levels? (HDL's and LDL's)			
Food Sources	<ul style="list-style-type: none"> <li>• Meat/Animal Sources</li> <li>• Poultry Skin</li> <li>• Whole Milk &amp; Dairy</li> <li>• Butter/Shortening</li> </ul>	<ul style="list-style-type: none"> <li>• Most Vegetable Oils</li> <li>• Corn Oil</li> <li>• Soybean Oil</li> <li>• Safflower Oil</li> </ul>	<ul style="list-style-type: none"> <li>• Olives/Olive Oil</li> <li>• Avocados</li> <li>• Peanuts/Peanut Oil</li> <li>• Canola Oil</li> </ul>

## Fatty Acids and Cholesterol Levels

1. Each type of fatty acid has a different effect on cholesterol levels.
2. Fats that are \_\_\_\_\_ at room temperature are made up mainly of \_\_\_\_\_ fatty acids.
3. Fats that are \_\_\_\_\_ at room temperature are made up mainly of \_\_\_\_\_ fatty acids.

## Hydrogenation

2. When \_\_\_\_\_ atoms are added to an unsaturated fat to make it \_\_\_\_\_ in texture. ***(It turns liquid oil into solid fat like shortening or margarine.)***
3. Hydrogenation creates a new type of fatty acid called \_\_\_\_\_ acid or "man-made" fat.
4. Trans-fatty acid may have many of the same properties as \_\_\_\_\_ fats.

## Visible and Invisible Fat

_____	_____
<b>Fat that is easily seen</b>	<b>Fat that cannot be seen</b>
Ex: butter on a baked potato, layer of fat around a pork chop, etc.	Ex: whole milk, some cheese, egg yolks, nuts, avocados, etc.