**Chapter Five**:

* **Fat & oil**

Types of fat

Lard

Butter

Margarine

Oil

Types oil

**Fat**

It belongs to lipids groups. We found as triglycerides in foods. It converts to Glycerid & fatty acid.  It is made up of Carbone hydrogen & oxygen. Main source is providing energy i,e 9 cal/gm. It is aster of fatty acid & glycerol.

The lipids are important to our health are fatty acid,fats,oils, phospholipids, sulpholipids& sterol.

**Classification** **sources** **given** **in** **class**

1. **Saturated fatty acids –**These are found in animal food like meat, fish,eggyolk etc.No double bond, solid in nature. example- steric, palmitic, butyric etc.Maximum of 10 present of our total calorie should come from our total calorie.
2. **Unsaturated fatty acid** – One, two or more double bonds, liquid in nature.

**It is classified in 2 –**

·         **MUFA- example** Oleic acid & has one double bond .found in ground nut, olive oil; corn oil etc. they may help to lower the blood cholesterol level.

·         **PUFA** – example- linoleic,lilonenic, arachidonic acid has two or more double bond. They help in lowering blood cholesterol levels & prevent atherosclerosis & coronary heart diseases.

1. **Essential** **Fatty** **Acid**:  Poly unsaturated fatty acid cannot synthesized in our body. We have to take it through our diet. Example- linoleic, lilonenic, arachidonic acid.
2. **Cholesterol** - It is a fat like substance present in food. It is different in structure from triglycerids.It is present in all cell of the body & in large amount in brain & nervous tissue. The diseases related are cardiovascular disorder. The normal blood sugar level will be 200mg/100ml of blood.

Human get cholesterol from-

·         Synthesis of liver

·         Food rich in cholesterol

Functions of cholesterol are –

·         It is precursor of all storied hormones

·         A precursor of vit D, 7- dehydrochlosterol, is present in the skin which is irradiated by UV ray of sunlight to form vit D

·          It is required for formation of bile

·         It is an essential component of cell membrane.

**Lard**

**Lard** is pig fat in both its rendered and unrendered forms. It is obtained from any part of the pig where there is a high proportion of adipose tissue. It can be rendered by steaming it or boiling it in water and then separating the insoluble fat from the water, or by the use of dry heat. It is a semi-soft white fat with a high saturated fatty acid content and no trans fats, and refined lard is usually sold as paper-wrapped blocks.

Lard is commonly used in many cuisines around the world as a cooking fat or shortening, or as a spread similar to butter. It is an ingredient in various savoury dishes such as sausages, pâtés and fillings, and it is particularly favored for the preparation of pastry because of the "flakiness" it brings to the product. Its use in western contemporary cuisine has diminished with the increased popularity of vegetable oils, but many contemporary cooks and bakers still favor it over other fats for certain select uses. The culinary qualities of lard vary somewhat depending on the part of the pig from which the fat was taken and how the lard was processed

**Butter**

(refer chapter no 4)

**Margarine** is an imitation butter spread used for spreading, baking, and cooking. created it in [France](https://en.wikipedia.org/wiki/France), in 1869. He was responding to a challenge by [Emperor Napoleon III](https://en.wikipedia.org/wiki/Napoleon_III)[[1]](https://en.wikipedia.org/wiki/Margarine#cite_note-Enjoy_Margarine_Everyday-1) to create a [butter](https://en.wikipedia.org/wiki/Butter) substitute for the armed forces and lower classes. It was later named *margarine*. Whereas butter is made from the butterfat of [milk](https://en.wikipedia.org/wiki/Milk), modern margarine is made mainly of refined [vegetable oil](https://en.wikipedia.org/wiki/Vegetable_oil) and water, and may also contain milk. Margarine, like butter, consists of a water-in-fat [emulsion](https://en.wikipedia.org/wiki/Emulsion), with tiny droplets of water dispersed uniformly throughout a fat [phase](https://en.wikipedia.org/wiki/Phase_%28chemistry%29) in a stable crystalline form.[[3]](https://en.wikipedia.org/wiki/Margarine#cite_note-Rajah-3) In some jurisdictions margarine must have a minimum fat content of 80% to be labeled as such, the same as butter. Margarine can be used for spreading, baking, and cooking. It is also commonly used as an ingredient in other food products, such as pastries, doughnuts and cookies, owing to its versatility

Oil

An **oil** is any neutral, [nonpolar](https://en.wikipedia.org/wiki/Polarity_%28chemistry%29) [chemical substance](https://en.wikipedia.org/wiki/Chemical_substance) that is a [viscous](https://en.wikipedia.org/wiki/Viscosity) [liquid](https://en.wikipedia.org/wiki/Liquid) at ambient temperatures and is both hydrophobic (immiscible with [water](https://en.wikipedia.org/wiki/Water), literally "water fearing") and lipophilic (miscible with other oils, literally "fat loving"). Oils have a high carbon and hydrogen content and are usually flammable and [surface active](https://en.wikipedia.org/wiki/Surfactant).

The general definition of oil includes classes of chemical compounds that may be otherwise unrelated in structure, properties, and uses. Oils may be [animal](https://en.wikipedia.org/wiki/Animal_fats), [vegetable](https://en.wikipedia.org/wiki/Vegetable_oil), or [petrochemical](https://en.wikipedia.org/wiki/Petrochemistry) in origin, and may be [volatile](https://en.wikipedia.org/wiki/Volatility_%28chemistry%29) or non-volatile.[[1]](https://en.wikipedia.org/wiki/Oil#cite_note-1) They are used for food (e.g., [olive oil](https://en.wikipedia.org/wiki/Olive_oil)), fuel (e.g., [heating oil](https://en.wikipedia.org/wiki/Heating_oil)), medical purposes (e.g., [mineral oil](https://en.wikipedia.org/wiki/Mineral_oil)), [lubrication](https://en.wikipedia.org/wiki/Lubrication) (e.g. [motor oil](https://en.wikipedia.org/wiki/Motor_oil)), and the manufacture of many types of paints, plastics, and other materials. Specially prepared oils are used in some religious ceremonies and rituals as purifying agents.

**Types of oil**

**Organic oils**

Organic oils are produced in remarkable diversity by plants, animals, and other organisms through natural [metabolic](https://en.wikipedia.org/wiki/Metabolic) processes. [*Lipid*](https://en.wikipedia.org/wiki/Lipid) is the scientific term for the [fatty acids](https://en.wikipedia.org/wiki/Fatty_acid), [steroids](https://en.wikipedia.org/wiki/Steroid) and similar chemicals often found in the oils produced by living things, while oil refers to an overall mixture of chemicals.

### Mineral oils

Crude oil, or [petroleum](https://en.wikipedia.org/wiki/Petroleum), and its refined components, collectively termed [*petrochemicals*](https://en.wikipedia.org/wiki/Petrochemicals), are crucial resources in the modern economy

**Cooking oils**

**Cooking oil** is plant, animal, or synthetic [fat](https://en.wikipedia.org/wiki/Fat) used in frying, baking, and other types of cooking. It is also used in food preparation and flavouring not involving heat, such as salad dressings and bread dips, and in this sense might be more accurately termed edible oil.

Cooking oil is typically a liquid at room temperature, although some oils that contain saturated fat, such as [coconut oil](https://en.wikipedia.org/wiki/Coconut_oil), [palm oil](https://en.wikipedia.org/wiki/Palm_oil) and [palm kernel oil](https://en.wikipedia.org/wiki/Palm_kernel_oil) are solid.[[1]](https://en.wikipedia.org/wiki/Cooking_oil#cite_note-1)

There are a wide variety of cooking oils from plant sources such as [olive oil](https://en.wikipedia.org/wiki/Olive_oil), [palm oil](https://en.wikipedia.org/wiki/Palm_oil), [soybean oil](https://en.wikipedia.org/wiki/Soybean_oil), [canola oil](https://en.wikipedia.org/wiki/Canola_oil) ([rapeseed](https://en.wikipedia.org/wiki/Rapeseed) oil), [corn oil](https://en.wikipedia.org/wiki/Corn_oil), [peanut oil](https://en.wikipedia.org/wiki/Peanut_oil) and other [vegetable oils](https://en.wikipedia.org/wiki/List_of_vegetable_oils#Edible_oils), as well as animal-based oils like [butter](https://en.wikipedia.org/wiki/Butter) and [lard](https://en.wikipedia.org/wiki/Lard).

Oil can be flavoured with aromatic foodstuffs such as [herbs](https://en.wikipedia.org/wiki/Herb), [chillies](https://en.wikipedia.org/wiki/Chili_pepper) or [garlic](https://en.wikipedia.org/wiki/Garlic).

Heating an oil changes its characteristics. Oils that are [healthy](https://en.wikipedia.org/wiki/Healthy_diet) at room temperature can become unhealthy when heated above certain temperatures, so when choosing a cooking oil, it is important to match the oil's [*heat tolerance*](https://en.wikipedia.org/wiki/Smoke_point) with the temperature which will be used.[[19]](https://en.wikipedia.org/wiki/Cooking_oil#cite_note-19) Deep-fat frying temperatures are commonly in the range of 170–190 °C (338–374 °F), less commonly, lower temperatures ≥ 130 °C (266 °F) are used

The following oils are suitable for high-temperature frying due to their high [smoke point](https://en.wikipedia.org/wiki/Smoke_point) above 230 °C (446 °F):

* [Avocado oil](https://en.wikipedia.org/wiki/Avocado_oil)
* Coconut oil
* [Mustard oil](https://en.wikipedia.org/wiki/Mustard_oil)
* [Palm oil](https://en.wikipedia.org/wiki/Palm_oil)
* [Peanut oil](https://en.wikipedia.org/wiki/Peanut_oil) (marketed as "groundnut oil" in the UK and India)
* [Rice bran oil](https://en.wikipedia.org/wiki/Rice_bran_oil)
* [Safflower oil](https://en.wikipedia.org/wiki/Safflower)
* Semi-refined [sesame oil](https://en.wikipedia.org/wiki/Sesame_oil)
* Semi-refined [sunflower oil](https://en.wikipedia.org/wiki/Sunflower_oil)

**--------------------------------------THE END--------------------------------------**