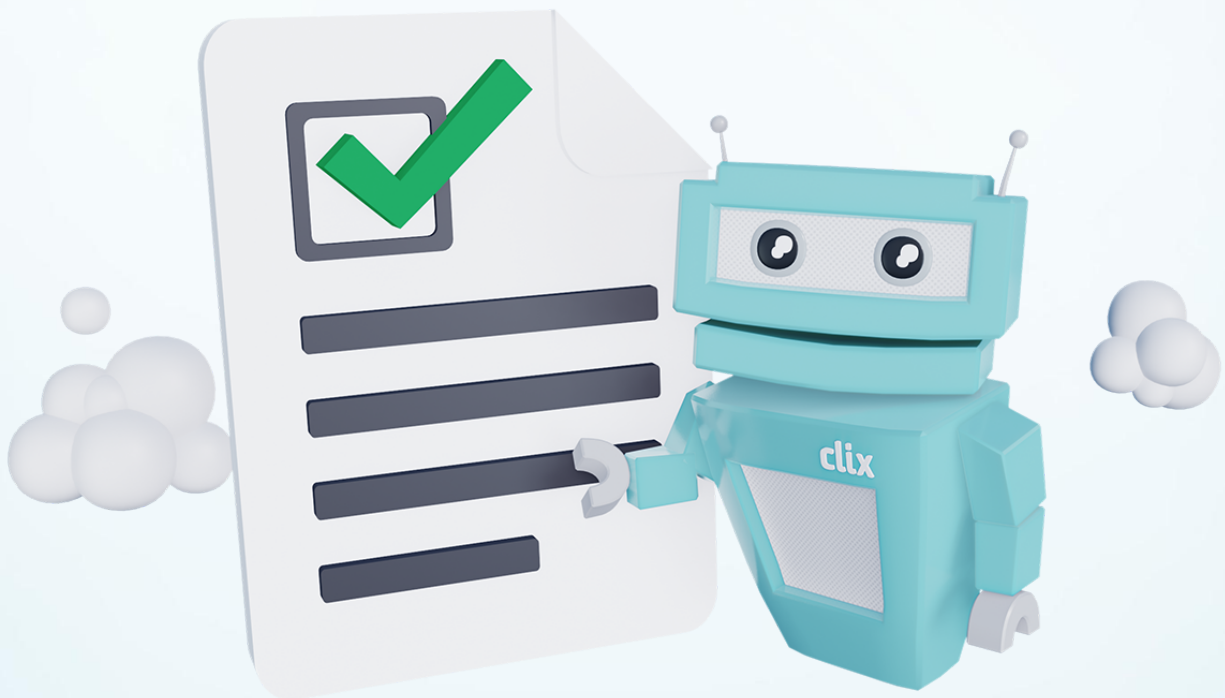


Home Ec

Research tips: Task 2: Fats and oils



Define fats and oils

Here is a helpful website that you can use:

<https://www.ifst.org/resources/information-statements/oils-and-fats#:~:text=Oils%20and%20fats%20are%20importa>

- Oils and fats are important nutrients in a healthy diet.
- Structurally, they are composed of glycerol with three fatty acids and are commonly referred to in the food industry as triglycerides.
- Although the terms 'oils' and 'fats' are often used interchangeably, they are usually used to distinguish triglycerides in the liquid state (oils) from those in the solid state (fats).

Textbook: '*@Home Junior Cycle Home Economics*' by Eilis Flood

- Oils are lipids that are liquid at room temperature e.g. olive oil
- Fats are lipids that are solid at room temperature e.g. butter

Types of fats and oils

Here are two helpful websites:

- <https://www.allrecipes.com/article/types-of-baking-fats/>
- <https://www.heartuk.org.uk/low-cholesterol-foods/fats-and-oils#:~:text=Butter%2C%20ghee%2C%20lard%2C%20suet,fat%20spreads%20made%20from%20these>

Fats:

- Butter
- Lard (pork fat)
- Goose/ duck fat
- Coconut oil
- Margarine
- Suet (beef fat)

Oils:

- Rapeseed oil
- Corn oil
- Sunflower oil
- Olive oil
- Soya bean oil
- Palm oil
- Walnut oil
- Cottonseed oil

How fats/oils affect the nutritional value of a food

Here is a helpful website:

<https://www.heartandstroke.ca/healthy-living/healthy-eating/fats-and-oils>

- You need a small amount of fat in your diet for healthy functioning.
- Oils and fats supply calories and essential fats and help your body absorb fat-soluble vitamins such as A,D, E and K.
- The type of fat is just as important for health as the total amount of fat consumed.
- It is important to choose healthier unsaturated fats.
- Eating too much and the wrong kinds of fats, such as saturated and trans fats, may raise unhealthy LDL cholesterol and lower healthy HDL cholesterol.

And another: <https://www.britannica.com/science/human-nutrition/Fats-and-oils>

- Fats and oils provide more calories per gram than any other food, but they contain no protein and few micronutrients.
- Only butter and fish-liver oils contain any vitamin A or D, though red palm oil does contain carotene, which is converted to vitamin A in the body.
- Vitamins A and D are added to margarines.
- All natural fats and oils contain variable amounts of vitamin E.

How fats /oil affect the sensory quality (taste, texture, flavour, appearance of dishes)

Here is a helpful website:

<https://www.leatherheadfood.com/wp-content/uploads/2016/08/White-Paper-Understanding-Sensory-Perception-of-Fat-is-Recipe-for-Success.pdf>

- **Appearance:** Fat creates a glossy or moist visual texture. It also contributes to the browning process, giving an appealing golden brown colour to many foods, such as bread and some baked products.
- **Texture:** Fats impact the texture of foods, giving the sensation of creaminess, softness, melting in the mouth, juiciness and thickness. They are important in obtaining a tender and flaky baked product, for example, in biscuits or pie crusts
- **Flavour:** Fat can absorb and preserve flavours. It is, for example, possible to infuse aromatic herbs in oil.
- There are also a lot of flavour compounds which are only soluble in fats.

And another:

<https://www.ifst.org/lovefoodlovescience/resources/fats-and-oils-shortening>

- Oils and fats are used in a baked product to reduce the development of gluten giving the foods a crumbly texture. The fats and oils break down the gluten into “shorter strands” hence the term shorteners.
- Shortening is used in most doughs and batters, to give the baked product a crisp and crumbly texture. Rubbing the fat in causes the baked product to have a flaky texture, as the dough is separated into layers. When fat is whisked with sugar, a process called creaming, the texture will be more like a cake, and be soft and springy.
- The type of fat used will also affect the colour of the product. For example, using margarine will give the baked product a golden colour, whereas lard produces a product with a pale yellow colour.