

Types

Fats e.g. butter, lard are usually from animal sources and are solid at room temperature. Oils e.g. olive oil are liquid. Vegetable oils come from seeds such as sunflower seeds or from the flesh of fruit such as olives.

Sugar is made from either sugar beet or sugar cane.

White sugars include: granulated, caster and icing.

Brown sugars include: soft brown, demerara and muscovado.

Syrups are liquid sugar and include: honey, golden syrup, maple syrup and black treacle.

Packaging

Food is packaged: to protect it from damage; to avoid contamination from bacteria; for ease of transportation and storage and to provide information.

There is a wide range of food packaging available: paperboard, plastic, glass and metal.

Modified Atmosphere Packaging (MAP) - air is removed from plastic containers and replaced with carbon dioxide and/or nitrogen, which slows down the decaying process of food. Information required by law on packaging includes: name; quantity; country of origin; 'best before' or 'use-by' date; storage conditions; list of ingredients; allergy warnings; name and address of manufacturer; cooking instructions.

The three R's used to help minimise packaging waste are:

- **Reduce**
- **Reuse**
- **Recycle**



Functions of fat

Shortening—fat coats the flour which gives a waterproof coating to prevent gluten forming.

Aeration—adding air into a mixture.

Preservation—keeping food in its present state.

Frying—cooking using fat.

Spreading—to form a waterproof coating.

Laminating—separates layers of flaky pastry.

Functions of sugar

Sweetness—to flavour foods and make them more acceptable

Caramelisation— a change in the structure of sugar when heat is applied to give a brown colour.

Preservation—keeping food in its present state.

Fermentation—helps to speed up the action of the yeast

Aeration—adding air into a mixture

Main nutrients

Fat and oils provide energy, keep us warm, provide a protective layer around internal organs and are essential for absorbing vitamins A, D, E and K.

All fats and oils are high in energy.

Sugar is often described as having 'empty calories', meaning that it adds **no nutrients** to the diet. All sugar is classed as a carbohydrate which provides energy for the body. The energy from sugar is digested and absorbed relatively quickly in the body.

'Hidden sugar' can be found in readymade foods including savoury foods such as bread, soup and sauces. sauces.

The effect of heat on fats and oils

Fats and oils have different melting points which explains why some are solid at room temperature. When a fat is heated it melts and turns in to a liquid oil. On further heating, it will give off smoke. It will eventually ignite, this is called flash point .

Key vocabulary

Saturated fat	This type of fat is mainly from animal sources and can be bad for our health.
Unsaturated fat	This fat is considered to be healthier than saturated fats e.g. rapeseed oil, olive oil.
Aeration	Adding air in to a mixture.
Shortening	Fat coats the flour in cake and pastry which gives a waterproof coating to prevent gluten from forming.
Monosaccharides	A simple carbohydrate.
Disaccharides	A carbohydrate made from two sugar molecules
Artificial sweeteners	Synthetically produced food additives which offer sweetness without calories.
Caramelisation	A change in the structure of sugar when heat is applied to give a brown colour.

Artificial sweeteners

These are synthetically produced food additives which offer sweetness without calories, so provide no energy. They are so intensely sweet that they must be diluted with fillers to give a similar sweetness and bulk as sugar. Examples include: aspartame, saccharin, sucralose.

Tips for reducing saturated fat in the diet

- Choose foods that are lower in fat e.g. baked potato wedges instead of chips.
- Reduce intake of processed meat e.g. sausages, pork pies, salami Grill, bake, poach or steam rather than frying and roasting so no extra fat is added.
- Choose leaner cuts of meat.
- Trim off visible fat from meat.
- Choose lower fat versions of dairy foods e.g. skimmed milk.

Tips for reducing sugar intake

- Choose wholegrain cereals instead of those coated in sugar or honey.
- Choose tinned fruit in natural juice and not syrup.
- Instead of sugary drinks choose water or milk or dilute fruit juice with sparkling water.
- Swap cakes and biscuits for fruit or vegetable sticks.
- Gradually reduce the amount of sugar added to cereal, tea or coffee.