

Food Preparation & Nutrition

Yr9 Food – Term 1/ Autumn

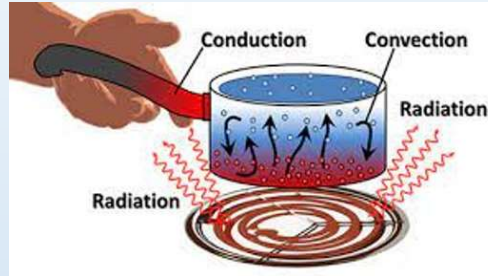


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KNOWLEDGE ORGANISER

Methods of Heat Transfer

- Conduction -> Transfer of heat due to physical direct contact.
- Convection -> Transfer of heat within a fluid caused by molecular motion.
- Radiation -> Transfer of heat radiated in the form of waves or particles



Cooking Methods:

- moist
- dry
- fat-based



Nutritional value. Vitamins, calories...

Sensory attributes – Texture, flavour, odour, appearance

Properties of ingredients

All ingredients have a **function** -
The role they play in the recipe or dish could be:

- adding nutritional value
- improving colour or texture
- performing a particular purpose



Scan to find out about the properties and functions of ingredients

FOOD COOKS IN:



DRY HEAT

Produces rich flavour due to browning and caramelization

BROILING

- High dry heat from above
- Caramelizes and browns surface



GRILLING

- Usually uses high dry heat from below
- Caramelizes and browns surface



ROASTING/BAKING

- Cooks evenly over longer periods
- Oven allows for consistent temperature control
- There is no difference between "Roasting" and "Baking"



SAUTEING

- High heat and little oil
- High heat prevents moisture loss



PAN FRYING

- Medium high heat
- Requires more oil than Sauteing to prevent moisture loss



DEEP FRYING

- Considered "Dry Heat" due to using extremely high temperatures
- Cooks very quickly and browns

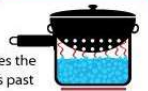


MOIST HEAT

Keeps food moist and prevent drying out

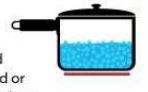
STEAMING

- High heat
- Fast cooking time because it uses the steam released after water goes past 212°F (100 °C)



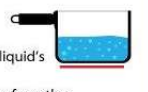
BOILING

- High heat
- Food cooks submerged in liquid
- Liquid is either absorbed by food or discarded when cooking is complete



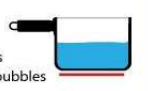
SIMMERING

- Medium heat
- Small bubbles gently break the liquid's surface
- Used to infuse liquid with flavour from the food being cooked



POACHING

- Low temperature
- Used for delicate foods like eggs
- Liquid will slowly move but no bubbles form



COMBINATION HEAT

Uses both dry heat and moist heat

BRAISING

- Dry Heat = Pan fry or Saute to brown the meat
- Moist Heat = Add liquid to 1/3 the height of the meat

STEWING

- Dry Heat = Pan fry or Saute to brown the meat
- Moist Heat = Add liquid to completely cover

	MOIST	DRY
SLOW	BRAISING STEWING	ROASTING SMOKING
FAST	BOILING STEAMING SIMMERING POACHING	GRILLING PAN FRY/SAUTE BROILING DEEP FRY

References: theculinarycook.com, wikieducator.org

COOKERY NATION
Accessible Cooking for Everyone
cookerynation.com

PROTEINS

Most foods contain proteins, such as collagen in meat, gluten in wheat flour and albumin in egg white

Denaturation is the change in structure of protein molecules. The process results in the unfolding of the protein's structure and makes the food more palatable.

Factors which contribute to denaturation are mechanical action, heat, salt and pH.

Denaturation can be reversible or irreversible.

Coagulation follows denaturation. For example, when egg white is cooked it changes colour and becomes firmer (sets). The heat causes egg proteins to unfold from their coiled state and form a solid, stable network.

Coagulation is irreversible.



ENZYMIC BROWNING

The rapid browning of fruit (particularly when cut) is due to enzymes that are contained within.

Enzymes are exposed to oxygen and other molecules and trigger a rapid browning reaction.

Oxidation can also affect the nutrient content of a food. The longer a food is exposed cut opened to air, the less vitamins it will have.

However, some foods (like raisins) use a favourable enzymic browning to change their colour and enhance flavour.

There are several methods that can be used to prevent or reduce unwanted enzymic browning, including:

- Blanching (hot water for few time)
- Refrigeration or freezing
- Acidulation (lemon juice)



NON-ENZYMIC BROWNING

Non-enzymic browning refers to a number of different processes and reactions that can make foods 'brown' where oxygen is not involved. These processes are:

- Dextrinization: STARCH → DRY HEAT → DEXTRINS → COLOUR/TASTE
- Caramelization: SUGAR → DRY/MOIST HEAT → CAMELZATION
- Maillard reaction (see right)

