

Effects of heat on foods

Light, air, water or heat may affect nutrients in foods. To retain nutrients in foods, we must pay attention when we store, prepare, cook and serve them.

Basic knowledge on heat



1. Heat is necessary in cooking.
2. Heat can be passed on to food through conduction, convection and radiation.
3. Heat is passed to food through water, oil or air.
4. Cooking of food includes the use of hot water, hot oil and dry heat.



Group these cooking methods into the corresponding category:

Boiling(煲), deep frying(炸), pressure cooking(高壓烹調), steaming(蒸), stewing(炆), stir frying(炒), baking(焗), barbecuing(燒烤), grilling(烘), shallow frying(煎), roasting(烤), simmering(文火煲),

Cooking with	Methods of cooking
Hot water (Moist heat)	
Hot oil	
Dry heat	

Effects of heat on nutrients

Nutrient	Effects of heat	Examples and Uses in cooking
Proteins e.g.	-coagulate at about 75 °C , -extract juice form meat, -turn brown in dry heat.	1 Egg changes from liquid to _____. 2. Meat and fish changes from soft to hard. 3. Egg white changes from transparent to opaque . 4. Raw meat is red and cooked meat is _____.
	-become tough , dry and indigestible if over cooked. -will be burnt if overheated.	1. Egg custard will curdle . 2. Grill cheese becomes stringy and hard. 3. Roast beef becomes tough and hard.
Starch e.g.	-starch grain will swell when heated. -absorbs water, swells and soften in moist heat, making it easy to digest. -dissolves in liquid and thicken the mixture. -turns brown and dry out in dry heat.	1. Making of pop corn shows effect of dry heat. 2. Boiled rice is soft, sticky and easy to digest. 3. Cornflour used as thickening in sauce making. 4. Toasted bread is brown and hard.
	-will be burnt and indigestible if overheated.	
Sugar	-dissolves in hot water. -melts and turns to golden or caramel in dry heat	1. Used as seasoning and add taste to food. 2. Used in making of syrup . 3. Used to add colour in cooking e.g. use of _____ in barbecuing
	-turns to dark brown and burnt if overheated.	

