

Lesson Number	Title of the Lesson	Skills	Activity
8	Preparation of Food	Creative thinking Decision Making	Write your original recipes of four food items in which you have used nutrient enrichment processes
		Problem solving Critical Thinking	

## Summary:

We all are aware of the different kind of foodstuffs that are available for us in nature in the raw form. Some of them can be eaten raw like fruits, some vegetables, others must be cooked to be made edible. There are various methods of cooking which make the raw food very tasty and relishing. Cooking also enhances the digestibility of food. But before the food is cooked it has to be made ready for cooking. This process is called **Pre-preparation** of food. Once the food has gone pre-preparation it is subjected to heat in various ways. This treatment of food in the presence of heat is called **Cooking**. Cooking not only makes the food tasty and palatable but also changes it in a form that can be easily digested by our body and the nutrients present in it can be made available for utilization. Unfortunately, a lot of nutrients are wasted during the pre-preparation and cooking process. These losses can be prevented or minimized by certain measures to be taken during these processes. There are certain processes which also enhance the nutrient content of the food item and its judicious use is highly recommended. The quantity of food should be cooked according to the requirement. Sometimes food is leftover and if not reused goes waste. Conscious attempts should be made to reuse the leftovers in an attractive way so that it is appealing to the eyes, is tasty and nutritious". Cooking is both an art and science", can be justified by judicious selection of various processes to make the food appealing, palatable and nourishing.

## Principal Points

### **Need for cooking**

- Food becomes tender, easy to chew and digest
- Heat makes the food safe and sterile by destroying the harmful microorganisms present in it
- Cooking improves the appearance and enhances the flavor
- Cooking increases the digestibility of nutrients
- It brings variety in colour, texture, taste

## Build your understanding

### **1. Pre-preparation Activities**

- Blanching: Removing the peels of fruits and vegetables by putting in boiling water
- Washing: Cleaning with water
- Cutting/Chopping: To reduce to small pieces with knife or chopper
- Peeling: Removing the skin by knife / peeler

- Mashing:Pounding to a paste
- Grating:Reducing to very fine pieces with the help of a grater
- Shredding:Reducing food to fine shreds
- Grinding:Making a powder or paste
- Steeping:Soaking in water /liquid
- Sieving:Separating big pieces from the small
- Mixing: Putting different foods together.

## 2. Methods of Cooking

Moist Heat	Dry Heat	Cooking with Fat	Microwave Cooking	Solar Cooking
• Boiling	• Grilling	• Sauteing		
• Simmering	• Roasting	• Shallow frying		
• Poaching	• Baking	• Deep frying		
• Steaming -Direct -In direct -Pressure Cooking	• Puffing	• Dry frying		

## What is Important to Know

### Salient Features of different cooking methods

#### 1. Moist Heat Method

Boiling	Simmering	Poaching	Stewing	Steaming
• Food dipped in water; temperature maintained at 100-212 F	• Food cooked in water/ liquid temperature =95 to 98 F	• Cooking in minimum amount of water	Cooking in less water/liquid	Food not in direct contact of water Steam generated by boiling water cooks the food
• Makes the food hard/ tough/ soft		• Temperature just below boiling point	Temperature 98F	-Direct: Food Placed on a sieve over a container of boiling water. Eg. Peas
• E.g Rice, boiled egg	• E.g Kheer	• E.g Eggs	Steam helps to cook	-Indirect: Food placed in a smaller container in the pan containing boiling water e.gldli, Dhokla
• It makes the hard/ tough food soft			E.g. Apple	-Pressure Cooking: Steam is generated under pressure thus

				reducing cooking time. E.g Dal
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## 2. Dry Heat

Roasting	Grilling	Baking	Toasting
<ul style="list-style-type: none"> <li>Food in direct contact with heat</li> </ul>	<ul style="list-style-type: none"> <li>Food placed on a metal grill above heat</li> </ul>	<ul style="list-style-type: none"> <li>Food placed in an oven/ tandoor</li> </ul>	<ul style="list-style-type: none"> <li>Food placed on grill between 2 heating elements</li> </ul>
<ul style="list-style-type: none"> <li>Periodically turned and coated with fats to avoid burning</li> </ul>	<ul style="list-style-type: none"> <li>E.g. Pizza</li> </ul>	<ul style="list-style-type: none"> <li>E.g. Cake</li> </ul>	<ul style="list-style-type: none"> <li>e.g. Hot Sandwich</li> </ul>
<ul style="list-style-type: none"> <li>E.g. Meat</li> </ul>			

## 3. Cooking with Fat

Deep Frying	Shallow Frying	Sauteing	Dry Frying
<ul style="list-style-type: none"> <li>Food immersed in hot fat in a wok/kadhai</li> </ul>	<ul style="list-style-type: none"> <li>Food cooked in a shallow vessel with less oil</li> </ul>	<ul style="list-style-type: none"> <li>Food cooked in minimum fat and tossed occasionally</li> </ul>	<ul style="list-style-type: none"> <li>Food which has its own fat cooked on heat</li> </ul>
<ul style="list-style-type: none"> <li>e.g. Samosa</li> </ul>	<ul style="list-style-type: none"> <li>e.g. Tikki</li> </ul>	<ul style="list-style-type: none"> <li>e.g. Noodles</li> </ul>	<ul style="list-style-type: none"> <li>e.g. sausages</li> </ul>

## 4. Other Methods

Microwave Cooking	Solar Cooking
<ul style="list-style-type: none"> <li>High frequency electromagnetic waves are used</li> </ul>	<ul style="list-style-type: none"> <li>Solar energy is used as heat</li> </ul>
<ul style="list-style-type: none"> <li>Produce heat by friction</li> </ul>	<ul style="list-style-type: none"> <li>Special cookers with a black painted surface used</li> </ul>
<ul style="list-style-type: none"> <li>Cooking done in special ovens</li> </ul>	<ul style="list-style-type: none"> <li>Black absorbs heat</li> </ul>
<ul style="list-style-type: none"> <li>Cooking is quicker e.g. Heating food</li> </ul>	<ul style="list-style-type: none"> <li>e.g. Dals</li> </ul>

## Did you know

### Methods to prevent loss of Nutrients

#### 1. Vegetables

- Wash before peeling and cutting
- Cut just before cooking
- Cut large pieces
- Cook in minimum water and utilize the excess water
- Cook green leafy vegetables without water
- Cover the pan while cooking

#### 2. Fruits

- Cut just before eating
- Consume in natural form
- Do not remove the skin of apples

### 3. Cereals and Pulses

- Do not sieve atta / flour, bran is rich in B complex Vitamins and Dietary fiber
- Avoid prolonged washing and soaking
- Utilize the water in which soaking is done for cooking
- Avoid use of baking soda
- Do not overcook

## Effects of Heat on Cooking

### 1. External Changes

Color	Flavour/Odour	Texture
Dark	Becomes palatable	Becomes soft/ tender/ crispy

### 2. Internal Changes

Carbohydrates	Proteins	Fats	Minerals	Vitamins
• Swell up & Burst	• Coagulates/ becomes tender	• No change but disintegrates on prolonged heat	• Do not change but leech in excessive water	• Vit C easily oxidize and gets destroyed
• Makes the food pasty or sticky				• B Complex leech in excessive water

## Extend your Horizon

### 1. Enhancement of Nutritive Value

#### At Home:

- Germination/ sprouting e.g. Moong Dal, chana
- Fermentation e.g. dosa, idli batter
- Supplementation and Combination e.g. milk and broken wheat combined as dalia, rice and dal combined as khichri

#### At Manufacturing level

- Fortification e.g. vegetable oils with vitamins A&D
- Enrichment e.g. as in milk supplements, baby foods

### 2. Effective use of Leftovers

- Leftover pulao can be made into cutlets
- Sour curd can be used to make kadhi, or mixed with maida to make bhaturas
- Tomato onion salad can be ground to form a paste for curries
- Left over green leafy vegetables kneaded in flour to make stuffed paranthas

### 3. Precautions While Cooking

- Boiling to be done in covered containers to minimize loss of nutrients
- Pressure cooker never to be overfilled

- Gasket and Safety valve to be regularly checked
- Flame to be lowered after the first whistle
- The lid of the pressure cooker to be opened once the cooker has cooled down
- Kadai/wok not to be overfilled with oil while frying
- Flame to be reduced once the oil starts smoking
- Excess oil to be drained after frying
- Repeated use of oil after frying not advisable

### **Evaluate yourself**

- **List four snacks which can be made from leftover food**
- **Mention two ways by which you can enhance the nutritive value of your food**

### **Maximize your marks:**

- **Attempt all the exercises given in the lesson**
- **List any four precautions to be taken while cooking**