

## 2.1 Understanding the importance of nutrition

### Macronutrients

**Carbohydrates** - Carbohydrates are mainly used in the body for energy. There are two types of carbohydrates which are:

- **Starch** - Examples include bread, pasta, rice, potatoes and cereals.
- **Sugar** - Examples include sweets, cakes, biscuits & fizzy drinks.

**Fat** - This is needed to insulate the body, for energy, to protect bones and arteries from physical damage and provides fat soluble vitamins. There are two main types of fat which are:

- **Saturated fat** - Examples include butter, lard, meat and cheese.
- **Unsaturated fat** - Examples include avocados, plant oils such as sunflower oil, seeds and oily fish.

**Protein** - Protein is mainly used for growth and repair in the body and cell maintenance. There are two types of protein which are:

- **High biological value (HBV) protein** - Includes meat, fish, poultry, eggs, milk, cheese, yogurt, soya and quinoa.
- **Low biological value (LBV) protein** - Includes cereals, nuts, seeds and pulses.

### Micronutrients

#### Vitamins

- **Fat soluble vitamin A** - Main functions include keeping the skin healthy, helps vision in weak light and helps children grow.
- **Fat soluble vitamin D** - The main function of this micro-nutrient is to help the body absorb calcium during digestion.
- **Water soluble vitamin B group** - Helps absorb minerals in the body, release energy from nutrients and helps to create red blood cells.
- **Water soluble vitamin C** - Helps absorb iron in the body during digestion, supports the immune system and helps support connective tissue in the body which bind cells in the body together.

#### Minerals

- **Calcium** - Needed for strengthening teeth and bones.
- **Iron** - To make haemoglobin in red blood cells to carry oxygen around the body.
- **Sodium** - Controls how much water is in the body and helps with the function of nerves and muscles.
- **Potassium** - Helps the heart muscle to work correctly and regulates the balance of fluid in the body.
- **Magnesium** - Helps convert food into energy.
- **Dietary fibre (NSP)** - Helps digestion and prevents constipation.
- **Water** - Helps control temperature of the body, helps get

## 2.1.2 How cooking methods can impact on nutritional value

Cooking Method	Impact on nutritional value in food
<b>Boiling</b> 100C	<ul style="list-style-type: none"> <li>Up to 50% of vitamin C is lost when boiling green vegetables in water.</li> <li>The vitamin B group is damaged and lost in heat.</li> </ul>
<b>Poaching</b> Less than 82C	<ul style="list-style-type: none"> <li>The vitamin B group are damaged in heat and dissolve in water.</li> </ul>
<b>Steaming</b>	<ul style="list-style-type: none"> <li>Steaming is the best cooking method for keeping vitamin C in foods.</li> <li>Only up to 15% of vitamin C is lost as the foods do not come into contact with water.</li> </ul>
<b>Roasting</b>	<ul style="list-style-type: none"> <li>Roasting is a method of cooking in high temperatures and so this will destroy most of the group C vitamins and some of the group B vitamins</li> </ul>
<b>Frying</b>	<ul style="list-style-type: none"> <li>Using fat whilst frying increases the amount of vitamin A the body can absorb from some vegetables</li> <li>Cooking in fat will increase the calorie count of food e.g deep fat frying foods.</li> </ul>
<b>Stir-frying</b>	<ul style="list-style-type: none"> <li>The small amount of fat used whilst stir-frying increases the amount of vitamin A the body can absorb from some vegetables.</li> <li>Some vitamin C and B are lost due to cooking in heat for a short amount of time.</li> </ul>
<b>Grilling</b>	<ul style="list-style-type: none"> <li>Using this cooking method can result in losing up to 40% of group B vitamins.</li> <li>It is easy to overcook protein due to the high temperature used in grilling foods.</li> </ul>
<b>Baking</b>	<ul style="list-style-type: none"> <li>Due to high temperatures in the oven, it is easy to overcook protein and damage the vitamin C and B</li> </ul>



Nutrient	How easily it is destroyed
Protein	Not destroyed by heat Chemical changes causes denaturation
Fat	Not destroyed by heat Fat content can be reduced by grilling
Carbohydrate	Not destroyed by heat, dextrinization of starch, caramelisation of sugars Chemical changes, degradation
Fat soluble vitamins A D E K	Vitamins lost if foods are cooked in fat
Water soluble vitamins B C	Damaged by heat. Dissolve into cooking liquids especially water
Minerals	Not destroyed by heat

### What are the consequences?

- The main nutrients affected are vitamins B and C which are damaged by heat and leech into cooking liquid
- Cooking at lower temperatures can reduce damage to nutrients
- Cooking in minimum water and using the water for sauces or gravy reduces overall vitamin loss.

## 2.2 Factors Affecting Menu Planning

### Factors affecting menu planning

You need to be aware of the following factors when planning menus:

- cost (ingredients as well as business costs)
- portion control (value for money without waste)
- balanced diets/current national advice
- time of day (breakfast, lunch, and dinner menus as well as small plates and snacks)
- clients/customers (a menu with prices that will suit the people who visit your establishment).

### Organoleptic qualities

Organoleptic properties are the sensory features of a dish (appearance, aroma, flavour, and texture).

The chef will need to think about how the dish will look and taste. Is there a range of colours? Do the flavours go well together? Are there a variety of textures?

### Skills of the chef

The skills of the chef must be suited to the type of provision and the menu offered.

- A Michelin starred restaurant will require a chef who has complex skills in preparation, cooking and presentation of dishes.
- A café will require a chef who has a range of medium and complex skills to produce a suitable menu.
- A large restaurant will normally have a full kitchen brigade while a smaller establishment may only have a single chef with one or two assistants.

### Equipment available

needed to produce a menu. The choice of dishes will be influenced by the equipment available to the chef.

This includes kitchen equipment such as:

- hobs, ovens, and microwaves
- fridge, freezer and/or blast chiller
- specialist equipment, for example a sous vide or pizza oven
- hand-held equipment, for example electric whisks or hand-blenders
- other electric equipment, for example food processors.

### Time available

The type of provision will influence the amount of time a customer may be willing to wait for their dish to be prepared. Can the chef prepare, cook, and present more than one dish at the same time? Can some items be made in advance?

### Environmental issues

The chef will need to think about environmental issues when planning a menu. Can the chef reduce the amount of ingredients bought as well as reducing food waste? Can the chef reuse ingredients to create new dishes for example stale bread made into bread-and-butter pudding? Can the kitchen recycle waste wherever possible? Running the kitchen sustainably will save money.

### Time of year

The time of year can affect menu choices. Light and cold dishes such as salads are better suited to the summer months. Hearty dishes such as stews are more suited to the winter. Special dishes linked to holidays such as Christmas and Valentine's Day may also be included. The availability of seasonal produce can also affect menu choices as certain commodities, for example strawberries, are less expensive when in season.