Hospitality \& Catering
2.1.1. - Understanding the Importance of Nutrition

Vocational Award
Level 1 \& 2

## The Eatwell Guide

-When choosing food and drinks, current healthy eating guidelines should be followed.


## Fruit and vegetables

-This group should make up just over a third of the food eaten each day.

- Aim to eat at least five portions of a variety each day.
-Choose from fresh, frozen, canned, dried or juiced.
- A portion is around 80 g ( 3 heaped tbs).
$\cdot 30 \mathrm{~g}$ of dried fruit or 150 ml glass of fruit juice or smoothie count as a max of 1 portion each day.


## Potatoes, bread, rice, pasta or

 other starchy carbohydrates-Base meals around starchy carbohydrate food.
-This group should make up just over a third of the diet.
-Choose higher-fibre wholegrain varieties.

## Dairy and alternatives

- Good sources of protein and vitamins. -An important source of calcium, which helps to keep bones strong. -Should go for lower fat and lower sugar products where possible.


## The Eatwell Guide

-Comprises 5 main food groups. -Is suitable for most people over 2 years of age.
-Shows the proportions in which different groups of foods are needed in order to have a well-balanced and healthy diet.
-Shows proportions representative of food eaten over a day or more.

## Oil and spreads

- Unsaturated fats are healthier fats that are usually from plant sources and in liquid form as oil, e.g., olive oil.
-Generally, people are eating too much saturated fat and need to reduce consumption.

Beans, pulses, fish, eggs, meat and other protein
-Sources of protein, vitamins and minerals.
-Recommendations include to aim for at least two portions of fish a week, one oily, and;
people who eat more than $90 \mathrm{~g} /$ day of red or processed meat, should cut down to no more than $70 \mathrm{~g} /$ day.

Foods high fat, salt and sugar -Includes products such as chocolate, cakes, biscuits, full-sugar soft drinks, butter and ice cream.

- Are high in fat, sugar and energy and are not needed in the diet.
-If included, should be had infrequently and in small amounts.


## 8 tips for healthier eating

 These eight practical tips cover the basics of healthy eating and can help you make healthier choices.-Base your meals on starchy carbohydrates.
-Eat lots of fruit and veg.
-Eat more fish - including a portion of oily fish.
-Cut down on saturated fat and sugar.
-Eat less salt (max. 6 g a day for adults).
-Get active and be a healthy weight. -Don't get thirsty.
-Don't skip breakfast.

## Hydration

- Aim to drink 6-8 glasses of fluid every day.
- Water, lower fat milk and sugar-free drinks including tea and coffee all count.
-Fruit juice and smoothies also count but should be limited to no more than a combined total of 150 ml per day.


## Fibre

-Dietary fibre is a type of carbohydrate found in plant foods.
-Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and seeds. -Dietary fibre helps to: reduce the risk of heart disease, diabetes and some cancers; help weight control; bulk up stools; prevent constipation; improve gut health.
-The recommended average intake for dietary fibre is 30 g per day for adults.

## Composite/combination food

 Much of the food people eat is in the form of dishes or meals with more than one kind of food component in them. For example, pizzas, casseroles, spaghetti bolognese and sandwiches are all made with ingredients from more than one food group. These are often called 'combination' or 'composite' foods.

## Key terms

The Eatwell Guide: A healthy eating model showing the types and proportions of foods needed in the diet.
Hydration: The process of replacing water in the body.

Dietary fibre: A type of carbohydrate found in plant foods.

Composite/combination food: Food made with ingredients from more than one food group.

Meals and snacks can be sorted into The Eatwell Guide food groups.
Composite/combination food - Lasagne


Pasta (lasagne sheets): Potatoes, bread, rice, pasta or other starchy carbohydrates
Onions, garlic and chopped tomatoes: Fruit and vegetables Lean minced meat (or meat substitute): Beans, pulses, fish, eggs, meat and other protein
Cheese sauce made with milk and cheese: Dairy and alternatives Olive/vegetable oil used to cook onions and mince: Oil and spreads

## Hospitality \& Catering

## Energy, nutrients and digestion

-Food and drinks provide energy and nutrients in different amounts, they have important functions in the body and people require differen amounts during their life.
-Digestion involves different parts of the body, each having an important role.

Energy
Energy is essential for life, and is required to fuel many different body processes, growth and activities. These include:
-keeping the heart beating $\cdot$-keeping the organs functioning; -maintenance of body temperature; -muscle contraction.

Different people need different amounts of dietary energy depending on their:

- age;
- gender;
- body size;
- level of
- activity;
- genes.


## Energy balance

To maintain body weight, it is necessary to balance energy intake (from food and drink) with energy expenditure (from activity).

Energy out

Energy in


Energy in > Energy out = Weigh gain

## Energy from food

- Energy intake is measured in joules (J) or kilojoules (kJ), but many people are more familiar with the term calories (kcal).
-Different macronutrients provide different amounts of energy.

|  | Energy per 100g |
| :--- | :--- |
| Carbohydra <br> te | $16 \mathrm{~kJ} \mathrm{(3.75}$ <br> kcals) |
| Protein | 17 kJ (4 kcals) |
| Alcohol | $29 \mathrm{~kJ} \mathrm{(7kcals)}$ |
| Fat | $37 \mathrm{~kJ} \mathrm{(9} \mathrm{kcals)}$ |

Energy requirements vary from person to person, depending on the Basal Metabolic Rate (BMR) and Physical Activity Level (PAL)

## Total energy expenditure =

 BMR x PALBody Mass Index (BMI) can be used to identify if an adult is a correct weight for height.

BMI = $\frac{$|  weight $(\mathrm{kg})$ |
| :--- |
| $(\text { height in } \mathrm{m})^{2}$ |}{(R)}

| Recommended BMI range <br> (adults) |  |
| :--- | :--- |
| Less than 18.5 | Underweight |
| $\mathbf{1 8 . 5}$ to 25 | Desirable |
| $25-30$ |  |
| Overweight |  |
| $30-35$ |  |
| Obese (Class I) |  |
| $35-40$ |  |
| Obese (Class II) |  |
| Over 40 | Morbidly |
| obese |  |

## Nutrients

There are two different types of nutrients: -macronutrients;
-micronutrients.
There are three macronutrients that are essential for health
carbohydrate;
-protein;
-fat.
There are two types of micronutrients: -vitamins;
-minerals.

## Carbohydrate

Free sugars include all sugars added to foods, plus sugars naturally present in honey, syrups and unsweetened fruit juice.
Fibre is a term used for plant-based carbohydrates that are not digested in the small intestine.
Sugars include a variety of different sugar molecules such as sucrose Starchy foods are the main source of carbohydrate for most people and are an important source of energy. We should be choosing wholegrain versions of starchy foods where possible.

## Protein

Protein is made up of building blocks called amino acids. There are 20 amino acids found in protein. For adults, eight of these have to be provided by the diet (this is higher in children). These are called essential amino acids, which cannot be made by the human body

## Fat

Sources of fat include:
-saturated fat;
-monounsaturated fat;
-polyunsaturated fat.
A high saturated fat intake is linked with high blood cholesterol levels.

## Micronutrients <br> Vitamins

There are two groups of vitamins: -fat-soluble vitamins, e.g., vitamins A and $D$.
-water-soluble vitamins, e.g., B vitamins (thiamin, riboflavin, niacin, folate, vitamin
B12) and vitamin C.

## Minerals

Minerals are inorganic substances required by the body in small amounts for a variety of different functions. Examples include: calcium, sodium and iron. Most micronutrients are mostly provided by the diet. An exception is vitamin $D$ which can be synthesised by the action of sunlight on the skin.

Calcium is essential for a number of important functions such as the maintenance of bones and teeth, blood clotting and normal muscle function.
Sodium is needed for regulating the amount of water and other substances in the body.
Iron is essential for the formation of haemoglobin in red blood cells. Red blood cells carry oxygen and transport it around the body. Iron is also required for normal metabolism and removing waste substances from the body.

## Stages of digestion

Ingestion - the intake of food into the gastrointestinal (GI) tract.
Digestion - a series of physical and chemical processes which begin in the mouth but take place mainly in the stomach and small intestine.
Absorption - the passage of digested food substances across the gastrointestinal lining into the bloodstream and lymphatic system. Elimination - the excretion of undigested food substances (such as cellulose) or waste in faeces.

## Key terms

Energy: The power the body requires to stay alive and function.
Digestion: The process by which food is broken down in the digestive tract to release nutrients for absorption.
Macronutrients: Nutrients needed to provide energy and as the building blocks for growth and maintenance of the body.
Micronutrients.
Nutrients which are needed in the diet in very small amounts

## Digestion

The body requires energy from food and drink. Our bodies release the energy and nutrients from food.
The food passes
down the
Gastrointestinal trac (GI) tract as shown below.


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## FATS

- Vitamins A, D, E, and K, are fat soluble \& are stored in the body.
- Fats maintain body temperature.
- Fats ensure a healthy immune system.
- Fats maintain healthy skin and hair.
- Fats help protect vital organs.
- Fats are high energy.
- Fats are most calorie dense
- Fats are made up of fatty acids and glycerol.
- Fats are stored in the skin, insulating the and protecting.



## SIMPLE CARBOHYDRATES

- MONOSACCHARIDES (single sugar molecule): glucose fructose, and galactose.
- DISACCHARIDES (double sugar molecule: lactose, maltose, and sucrose.


## COMPLEX CABOHYDRATES

- POLYSACCHARIDES (three or more sugar molecules): starch, glycogen, dextrin, cellulose, pectin.
- NON-STARCH POLYSACCHARIDES: dietary fibre NSP.

| Source of simple carbohydrates |  |  |
| :---: | :---: | :---: |
| Sucrose | - Sugar beet/cane <br> - Golden syrup | - Treacle |
| Lactose | - Milk (this does contain in | nt micronutrients) |
| Maltose | - Malt sugar <br> - Fermented grain | - Germinated grain |
| Glucose | - Fresh/dried/juiced fruits <br> - Sweetcorn | - Honey <br> - Agave |
| Fructose | - Some fresh/juiced fruits <br> - Honey | - Some vegetables |
| Galactose | - Avocado <br> - Sugar beets <br> - Celery | - Kiwi <br> - Plums <br> - Dairy products |
| Source of complex carbohydrates |  |  |


| - Wholemeal, granary or wholegrain |
| :--- | :--- |
| wraps | - Porridge


| - White flour | - Biscuits |
| :--- | :--- |
| - White pasta | - White bread |
| - White rice | - Bagels |
| - Cakes | - Pizza base |
| - Pastries | - Sweet breakfast cereals |

## Hospitality \&

 Catering2.1.1. - Understanding the Importance of Nutrition - Micronutrients - Vitamins

## Vocational Award Level 1 \& 2

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| VITAMIN A |  |
| :---: | :---: |
| Benefit for the body | Found in these foods |
| - Helps with vision in dim light | - Found as a retinol in animal products |
| - Helps the body develop and grow | - Found as beta carotene in plant foods such as orange and red fruits and leafy green vegetables |
| - Strengthens the immune system | - Added to margarine |
| - Keeps the throat, lungs, and digestive system moist |  |
| - Acts as an antioxidant |  |
| - Skin health |  |
| - Cell growth |  |
| Amount of vitamin A required each day |  |
| $\begin{aligned} & 4-6 \text { years: } 400 \mathrm{mg} \text { (milligrams) } \\ & 7-10 \text { years: } 500 \mathrm{mg} \\ & \text { Females } 11-75+\text { years: } 700 \mathrm{mg} \\ & \text { Males } 11-75+\text { years: } 700 \mathrm{mg} \end{aligned}$ |  |
| VITAMIN D |  |
| Benefit for the body | Found in these foods |
| - Helps absorb and retain calcium and phosphorus | - Vitamin D is known as the sunshine vitamin |
| - Helps with development of strong teeth and bones | - Fortified foods: added to margarine and breakfast cereals |
| - Important in brain function | - Oily fish |
| - Supports immune and nervous systems | - Dairy products |
| - Supports lung function | - Eggs |

Amount of vitamin D required each day
All age groups $10 \mu \mathrm{~g}$ (micrograms)

| एat S | U0 |
| :---: | :---: |
| VITAMIN E |  |
| Benefit for the body | Found in these foods |
| - Antioxidant: aids with protecting membranes | - Sunflower seeds |
|  | - Almonds |
| - Healthy skin and eyes | - Peanuts |
| - Helps clots from forming in the heart arteries | - Avocados |
|  | - Oily fish |
| - Some research suggest that it can help with vision loss and some cancers | - Butternut squash |
|  | - Vegetable oils |
|  | - Soybean oil |
|  | - Beet greens/spinach |
|  | - Dark green vegetables |
|  | - Pumpkin |
|  | - Wheatgerm oil |
|  | - Mango |
|  | - Asparagus |
| VITAMIN K |  |
| Benefit for the body | Found in these foods |
| - To produce prothrombin and osteocalcin | - Leafy green vegetables such as kale/spinach /sprouts/broccoli |
| - Blood clotting, helping wounds to heal | - Cheese |
| - Keep bones healthy | - liver |
|  | - asparagus |
|  | - coffee |
|  | - bacon |
|  | - green tea |

## Water Soluble

VITAMIN (Thiamine) B1

Benefit for the body

- Helps the body release energy from carbohydrates
- Keeps the nervous system healthy
- Promotes normal growth in children
- Needed in the diet everyday
- Dairy products
- Seeds
- Nuts
- Beans
- Lentils
- Fortified cereals
- Fresh fruit such as bananas and oranges
- Peas

Amount of vitamin B1 required each day
$4-6$ years: 0.6 mg (milligrams)
$7-10$ years: 0.7 mg
$11-75+$ years: $0.8-1.0 \mathrm{mg}^{*}$
$65-74$ years: $0.8-0.9 \mathrm{mg}^{*}$
$75+$ years: $0.7-0.9 \mathrm{mg}^{*}$
*Highest $m g$ amounts in age groups are for males


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## Vocational Award Level 1 \& 2



VITAMIN (Riboflavin) B2
Benefit for the body

- Helps breakdown protein from food
- Helps maintain healthy growth and skin

Found in these foods

- Found in some foods as vitamin B1
- Mushrooms
- Help promote a healthy nervous system
- Involved in the growth of cells

Amount of vitamin B2 required each day
$4-6$ years: 0.8 mg (milligrams)
$7-10$ years: 1.0 mg
$11-14$ years: $1.1-1.2 \mathrm{mg}^{*}$
15-75+y
*Highest mg amounts in age groups are for males

## VITAMIN (Niacin) BE

Benefit for the body

- Helps release energy from foods
- Helps with lowering fat levels in the blood
- Helps the body use proteins and fats
- Keeps skin and hair healthy
- Keeps the nervous system healthy

Amount of vitamin B3 required each day
$4-6$ years: 0.9 mg (milligrams)
$7-10$ years: 1.0 mg
$11-14$ years: $1.0-1.2 \mathrm{mg}^{*}$
$15-18$ years: $1.2-1.5 \mathrm{mg}^{*}$
$19-75+$ years: $1.2-1.4 \mathrm{mg}^{*}$
*Highest mg amounts in age groups are for males
as vitamin B1

VITAMIN (Pyridoxine) B6

| Benefit for the body | Found in these foods |
| :--- | :--- |
| - Helps the body form <br> haemoglobin | - Pork |
| - Helps the body get |  |
| energy from protein and |  |
| carbohydrates in food |  |$\quad$ - | - |
| :--- |

Amount of vitamin B6 required each day

> 4-6 years: 0.9 mg (milligrams)
> $7-10$ years: 1.0 mg
> $11-14$ years: $1.0-1.2 \mathrm{mg}^{*}$
> $15-18$ years: $1.2-1.5 \mathrm{mg}^{*}$
> $19-75+$ years: $1.2-1.4 \mathrm{mg}^{*}$
> *Highest mg amounts in age groups are for males

## VITAMIN (Folate Acid) B9

Benefit for the body

- Forming red blood cells
- Liver
- Help to use protein
- Kidney
- Help to make/repair DNA
- Wholegrain products
- For prenatal care without sufficient anaemia develops
- Leafy green vegetables
- For prenatal to protect against spina bifida and anencephaly (born with
- Asparagus
- Potatoes
parts of the skull missing
- Seeds

Amount of vitamin B9 required each day
$4-6$ years: $100 \mu \mathrm{~g}$ (micrograms)
7-10 years: $150 \mu \mathrm{~g}$
11-75+ years: $200 \mu \mathrm{~g}$

## VITAMIN (Cobalamin) B12

| VITAMIN (Cobalamin) B12 |  |
| :---: | :---: |
| Benefit for the body | Found in these foods |
| - Helps form a protective coating on nerve cells to help them work properly | - Shellfish |
|  | - Liver |
|  | - Red meat |
| - Helps produce energy | - Eggs |
| - Brain function | - Chicken/ turkey |
| - Producing red blood cells | - Dairy products |
| - Not enough vitamin B12 can cause anaemia | - Fortified breakfast cereal |
|  | - Lamb, beef, and pork |

Amount of vitamin B12 required each day
$4-6$ years: $0.8 \mu \mathrm{~g}$ (micrograms)
$7-10$ years: $0.1 \mu \mathrm{~g}$
$11-14$ years: $1.2 \mu \mathrm{~g}$
$15-75+$ years: $1.5 \mu \mathrm{~g}$

| VITAMIN (Ascorbic Acid) C |  |
| :---: | :---: |
| Benefit for the body | Found in these foods |
| - Helps absorb iron from foods | - Citrus fruits |
| - Produces collagen | - Blackcurrants |
| - Helps protect cells | - Kiwi |
| - Helps skin health | - Leafy green vegetables |
| - Helps heal wounds | - Potatoes |
| - Acts as an antioxidant | - Broccoli |
|  | - Kale |
| - Helps the immune system fight and prevent infection | - Sweet red/green peppers |
|  | - Chilies |
| - Needed in the diet everyday | - Strawberries |
|  | - Papaya |
|  | - Pineapple |
|  | - Mango |
|  | - Cauliflower |

Amount of vitamin B1 required each day
$4-10$ years: 30 mg
$15-75+$ years: 40 mg
$4-6$ years: $0.8 \mu \mathrm{~g}$ (micrograms)
$7-10$ years: $0.1 \mu \mathrm{~g}$
$11-14$ years: $1.2 \mu \mathrm{~g}$
$15-75+$ years: $1.5 \mu \mathrm{~g}$

## Hospitality \& Catering <br> 2.1.1. - Understanding the Importance of Nutrition - Micronutrients - Minerals

## Vocational Award Level 1 \& 2

|  | CALCIUM |
| :--- | :--- |
| Benefit for the body | Found in these foods |
| - <br>  <br> teeth | - |
| - Helps bones meet peak |  |
| mass |  |$\quad$ - Fortified white bread

Amount of calcium required each day
$4-6$ years: 460 mg (milligrams)
7-10 years: 500 mg
$11-14$ years: $800-1000 \mathrm{mg}$
$15-18$ years: $800-1000 \mathrm{mg}$
$19-75+$ years: 700 mg
*Highest mg amounts in age groups are for males

| IRON |  |
| :---: | :---: |
| Benefit for the body | Found in these foods |
| - Makes haemoglobin - a type of protein in the red blood cells - which transports oxygen around the body | - Red meats (kidney/liver) |
|  | - Egg yolks |
|  | - Leafy green vegetables |
|  | - Lentils |
| - Low iron can cause anaemia | - Cocoa \& chocolate |
|  | - Dried apricot |
| - Vitamin C is needed to help with the absorption of iron | - Fortified cereals |
|  | - Curried spices |
|  | - Corned beef |
| Amount of iron required each day |  |
| $4-6$ years: 6.1 mg (milligrams) <br> $7-10$ years: 8.7 mg <br> 11-18 years: $-11.3-14.8 \mathrm{mg}^{*}$ <br> Males $19-64$ years: 8.5 mg <br> Females $19-50$ years: 14.8 mg <br> Females 51-64 years: 8.7 mg $65-75+$ years: 8.7 mg <br> *Highest mg amounts in age groups are for males |  |
| POTASSIUM |  |
| Benefit for the body | Found in these foods |
| - Needed for all body tissues | - Red meat |
| - Helps with growth | - Fish |
| - It functions as an electrolyte once it is inside the body | - Broccoli, tomatoes, peas |
|  | - Lentils, kidney beans, soybeans |
| - Helps with maintaining a healthy heart | - Dried apricots, prunes |
|  | - Bananas and kiwis |
| - Helps with balance of fluid in the body | - Dairy products |
|  | - Nuts |
| - Can help with blood pressure | - Potatoes |

Amount of potassium required each day

[^0]
## SODIUM

## Benefit for the body

Found in these foods

- Table salt

Required to regulate the balance of water in the body

- Helps with energy usage - Processed foods
- Aids in contracting and - Smoked meats relaxing muscles
- Too much salt/sodium - Bacon can increase blood pressure and heart disease

Amount of sodium required each day
$4-6$ years: 1.2 g
$7-10$ years: 2.0 g
$11-75+$ years: 2.48

| MAGNESIUM |  |
| :---: | :---: |
| Benefit for the body | Found in these foods |
| - Helps with a healthy immune system | - Almonds, peanuts, cashew nuts |
| - Helps with inflammation | - Spinach |
| - Turns food into energy | - Pumpkin seeds |
| - Assists in the function of the parathyroid gland | - Black beans \& soya beans |
|  | - Potatoes with skins on |
| - Plays a role in over 300 enzyme reactions in the human body | - Brown rice |
|  | - Beef |
|  | - Salmon |
| - Nerves \& muscle function | - Wholewheat |
| - Supports the immune system | - Avocado |
| - Builds up protein \& strong bones | - Fortified cereals |
| - Helps with blood sugar levels |  |
| Amount of magnesium required each day |  |
| $4-6$ years: 120 mg (milligrams) |  |
| 7-10 years: 200 mg |  |
| $11-14$ years: 280 mg |  |
| 15-18 years: 300 mg |  |
| 19-75+ years: $270-300 *$ |  |
| *Highest mg amounts in age groups are for males |  |

## Hospitality \& Catering <br> 2.1.1. - Understanding the Importance of Nutrition - Life stages \& dietary choice/needs

## Vocational Award

Level 1 \& 2

## DIETARY CHOICES

Vegetarians - do not eat meat and fish but eat eggs, milk and dairy products like cream and yoghurt

Vegans - do not eat or any animal products, such as dairy products and eggs.

Pescatarians - do not eat meat but will eat
Low-calorie/low-fat diets - are for people watching their calorie intake and weight management and for cardiovascular management - heart and blood circulation health
CULTURAL REASONS

Hindus: many are vegetarians; however, some may eat fish
Muslims: they must eat Halal foods; this is slaughtering an animal according to religious rites. They cannot eat any Haram foods (forbidden); pork, pork products, alcohol, caffeine, dried yeasts, or any product that is a meat derivative that is not Halal. They fast during Ramadan; no food can be eaten between dawn and dusk in the ninth month of the Islamic calendar

Jews: they will only eat Kosher foods (foods allowed under religious law); land animals that have a cloven hoof \& eat grass, and only fish that have fins and scales, no birds of prey. Shellfish, rabbit \& pork are forbidden, and dairy foods and meat must not be prepared, cooked, or eaten together

Buddhists: they will often follow a vegetarian or a lacto vegetarian diet

Rastafarians: their diet includes avoiding animal products except milk and foods that are "ital" (natural

| Age range | Male | Female |
| :---: | :---: | :---: |
| $4-6$ years | 1482 kcal | 1378 kcal |
| $7-10$ years | 1871 kcal | 1703 kcal |
| $11-14$ years | 2500 kcal | 2000 kcal |
| $15-18$ years | 2500 kcal | 2000 kcal |
| $19-64$ years | 2500 kcal | 2000 kcal |
| $65-74$ years | 2342 kcal | 1912 kcal |
| $75+$ years | 2294 kcal | 1840 kcal |

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## cbac

## MEDICAL REASONS

Allergens: If someone is allergic to a food their immune system attacks their body, symptoms can be mild to severe

Intolerance: food intolerance is when the body has a chemical reaction to certain foods causing digestive problems

Coeliac: is a disease where the body reacts to gluten; the digestive system attacks, causing the gut to be damaged and restricting the absorption of nutrients.

Diabetes type 2: people with diabetes have to follow a balanced diets and manage their carbohydrate intake as that can raise their blood sugar levels excessively. The carbohydrates that increase blood sugar levels quickly are called high glycaemic index (GI), like wholemeal products.
Cardiovascular disorder: caused by a low-density lipoprotein (LDL) the bad cholesterol which narrows your arteries, reducing the supply of oxygen. It is important to limit the consumption of saturated fats as this strain the heart.

Iron deficiency: Very common in females during menstruation also in women who are pregnant. Without enough iron the body cannot make enough red blood cells lowering the rate of transportation of oxygen around the body. It can lead to fatigue, weakness, shortness of breath, paleness, brittle nails, fast/irregular heartbeat, headaches and food cravings. To increase iron through diet you should eat; red meat, shellfish, beans, fortified breakfast cereals, dark chocolate, nuts, \& seeds.

## Basal Metabolic Rate (BMR)

Physical Activity Level (PAL)

- The basic functions of the body (breathing, digesting sleeping) require energy that is your BMR
- Energy requirements vary depending on age, lifestyle, and physical activity.
- Active people can calculate their energy needs by calculating their PAL and adding their BMR.



## INFANTS (Birth to 2 years)

- Rapid growth in this life stage
- The brain is growing and developing at the highest rate
- Organs/organ systems development at a rapid rate
- Two soft spots on baby's head - fontanelle - for brain growth

EARLY CHILDHOOD (3-8 years)

- Growth and weight are steady in preschool age children
- All children grow at the same rate until adolescence
- The brain is growing and developing
- Muscle increases and fat decreases due to activity
- Smaller stomachs require nutrient-high meals to promote growth
- Eating healthily should be encouraged into a habit-forming process
- Greater activity in young children require more calories for growth
- Bone density is increasing and cartilage more calcium is required
- Processed foods should be avoided because of saturated fat \& sugar

ADOLESCENCE (9-18 years(

- Puberty causes an extreme growth: more energy is needed
- Protein for bone and organ developmen
- Reproductive system will reach sexual maturity
- Females in puberty require increased level of iron for menstruation
- Females have to increase foods containing vitamin $C$ and iron
- Teenagers grow rapidly at this age
- Males are developing muscle mass and need increased protein EARLY ADULTHOOD (19-45 years)
- Bone mass reaches its peak and stops growing
- Balanced diet to keep the immune system in top condition
- Protein is required for growth and repair
- Using the Eatwell Guide to maintain a balanced diet
- Pregnancy/breastfeeding increase folate acid, calcium, calories
- Breastfeeding requires increased nutriments for the baby

MIDDLE ADULTHOOD (46-64 years)

- Some females transition through the perimenopause
- Lower levels of oestrogen
- Menopause is when the ovaries stop producing eggs
- 10 years+ of perimenopause and menopause
- Increase calcium, magnesium, vitamin K and D for bones
- Phosphorus should be limited as it can cause a loss of minerals
- Increase dietary fibre to aid the digestive system
- Saturated/unsaturated fats should be decreased

LATER ADULTHOOD (65+ years)

- The digestive system become less efficient affect absorption
- Less activity at 75+ causes lower calorie intake
- More fat is needed
- More protein is needed to repair wounds and cells
- More vitamin $D$ is required increased sunlight needed
- Increased fruit and vegetables
- Limit of fatty foods that increase weight
- Softer foods for later stages are recommended



## BOILING

- Vitamin C is water soluble; up to $50 \%$ can be lost in water
- Vitamin B is sensitive to heat; $60 \%$ thiamine $\&$ niacin can be lost
- Use liquid from cooking for sauce/gravy; recovers 70/90\% of vitamins
- Minerals tend to survive better than vitamins when boiled
- Boiling in less water can reduce vitamins lost
- Leafy greens retain $60 \%$ of vitamin C and $65 \%$ folate in less water
- Root vegetables retain 90-95\% mineral and $70 \%$ vitamin $C$ in less water
- Using less water can retain 85\% thiamine, $90 \%$ vitamin A, 95\% riboflavin, niacin, B6
- Boiling fish preserves omega-3 fatty acids


## FRYING

- Can be deep or shallow frying; shallow uses less oil
- Deep fat frying oily fish damages omega-3 by 70-85\%
- Frying can preserve vitamin B and C
- Frying potatoes can convert fibre into resistant starch
- Frying has minimum impact on protein and minerals
- Thiamine is retained in fried potatoes as are vitamins $C$ and B1
- Unsaturated fatty acids and antioxidants are lost from fried potatoes
- Water-soluble vitamins are retained better in frying
- Deep frying retains more vitamin C than shallow frying
- Deep fat frying causes a loss of vitamin A



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Hospitality \& Catering
2.1.2. - The Impact of Cooking Methods

## Vocational Award Level 1 \& 2



Hospitality \& Catering

Vocational Award Level 1 \& 2

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| MENU CONSIDERATIONS |
| :--- |
| COST |
| - Cost of ingredients |
| - Profit returned on each dish |
| - Time it takes to make a dish |
| - Customers' available budget |
| - Discounts for special groups |
| - Overheads |
| - Type of provision |
| - Competitors' price structure |

- Customer value for money
- Limiting portion controlling waste


The larger the restaurant the more covers the larger the equipment required:

- Industrial blender
- Industrial mixer
- Pizza oven
- Hobs
- Oven
- Microwaves
- Toasters
- An expansive range of handheld equipment
Speed pack table
- Landing table
- Bun toaster
- Breading table
- Walk-in fridge/freezer

Fine Dining Restaurant
Fine dining require equipment that is more specialized to create unique dishes, besides equipment to store, prepare and cook:-

- Chef tweezers
- Blow torch
- Immersion blenders
- Stick blenders
- Thermomixer
- Meat grinder
- Bench mixer
- Sous vide
- Kitchen aid
- Japanese Konro Grill
- Dehydrator
- Smoking gun
- Vacuum pack machine
- Pressure cooker
- Charcoal oven
- Controlled induction hob
- Blast chiller
- Ice cream maker




## Hospitality \&

 Catering
### 2.2.1. - Factors Affecting Menu Planning - 2

## Vocational Award

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## CHEF SKILLS

- Fine Dining - requires the chef to COMPLEX have a high level of skill to be able to produce more complex dishes.
- Café - For a moderately size café the chef would need to posses medium level skills
- Fast Food - this type of provision only requires the basic level of skill in a chef



## Your

Learning
Journey


COMPLEX SKILLS OF A CHEF

- Knows how to prepare/cook all commodities (foods)
- Skilled in one or more specialism
- French cuisine both fundamental and classic
- Has knowledge of all preparation of commodities
- Specialised in one or more station in a kitchen
- Has an excellent organoleptic palette
- Well practiced over years in complex skills
- Can create new dishes/menus to fit the ethos
- Can prepare ingredients for a dish
- Understand the methods needed to create dishes
- Is responsive to customer needs/requirements
- Is a good teacher/coach
- Can supervise dish production/presentation
- Develops new styles and menus from scratch


## TIME

Good timings ensure that customers are not waiting excessively for their meal. It is important to do the following:-

- Mise en place: prepare weigh, measure, organise equipment and commodities
- Prepare sauces and dressings beforehand
- Prepare vegetables and fruits beforehand
- Most desserts can be prepared in advance and assembled at service


## ENVIRONMENTAL ISSUES

We should consider the following:-

- Food miles of each of the ingredients
- Using organic ingredients as they better for the environment
- Use farm assured meat for better animal welfare
- Using seasonal ingredients - less energy is used
- The carbon-footprint of each dish - CO2 from farm to fork
- Reduce, reuse and recycle
- Conserving the energy and water used


## TIME OF YEAR

Menu planning should be appropriate the the season:-

- Options for children during school holidays
- Summer - salads, light lunches, light desserts, ice cream, seasonal fruits and vegetables
- Winter - vegetable soups, hearty dishes, seasonal vegetables, warm desserts, rich custards
- Special menus - Valentines Day, Christmas period, Easter, Halloween, summer holidays.


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Hospitality \& Catering
2.2.1. - Factors Affecting Menu Planning Organoleptic

Vocational Award Level 1 \& 2


Hospitality \& Catering
2.2.1. - Factors Affecting Menu Planning Organoleptic

Vocational Award Level 1 \& 2 Ormiston

## TASTE

- Dishes should be seasoned correctly with salt and pepper
- Adding herbs and spices will create more flavour
- Ingredients can be cooked in flavoursome oils/butter
- Using flavours from cooking juices is a great way of creating sauces and gravy
- A puree/foam can be created from concentrated fruit and vegetables
- Using fresh ingredients will create a fuller taste
- The 'use by' dates of ingredients should always be checked



## TEXTURE



- The menu should include a variety of textures; smooth, soft, firm, chewy and hard




## PLANNING PRODUCTION

- Start with designing a template based on how many columns that reflect what you consider to be important
- In a basic template three columns are required; time, production plan (that can also be called process stage), and contingencies (or special points).
- In a more complex plan you might have a column for equipment, and you may decide that you need an extra column for health \& safety.
- It is important to make lists of equipment and ingredients - so you are clear what you will need and how these commodities and equipment may fit in the sequence.
- In order to sequence a recipe, try writing each stage on one colour of paper, and the other recipe on another colour of paper (do the same for the two accompaniments). Then sequence with timings each recipe and dovetail each recipe into one sequence.

| How To Plan Production |  |  |
| :---: | :---: | :---: |
| Commodity list with quantities | A production plan must include a list of ingredients and the quantities required |  |
| Equipment list | The equipment list can be an additional column in your plan. The equipment list is as important as the ingredients list | $V$ |
| Health, safety, hygiene, and storage | This can be an additional column to the special points column. List all health and safety; personal hygiene and workwear , food storage, temperature controls, using separate equipment etc. |  |
| Mise en place preparation before cooking | Is the preparation of everything before you can cook. All equipment in place, all ingredients measured and ready, fish, meat filleted, vegetables and fruit prepared. |  |
| Quality points | Quality points should be applied throughout all the stages. Before starting use by dates and condition and quality of ingredients. Quality checks are continual in every process. |  |
| Hot holding and serving | Food should only be held at $63^{\circ} \mathrm{C}$ for a maximum of 2 hours. Temperatures should be checked with a probe. All food needs to be the same temperature at serving. |  |
| Cooling | Cooked foods should be cooled rapidly and placed in a fridge with 2 hours, alternatively a blast chiller can be used. |  |
| Cooking | Check hygiene when cooking, use a temperature probe, cook for the correct times. Clear as you go. Check flavour and quality. |  |
| Timing | All parts of the dish must be served at the same temperature to the customer, planning must ensure that every finishes at the same time. |  |
| Contingencies | Special points, making sure that you take special care to watch for any possible problems and are aware what can go wrong and how to avoid that by having a contingency planned. |  |
| Sequencing/dove-tailing | This ensures that everything in each dish is ready at the same time and right on time. Nothing is left going cold or melting. Getting operations in the right order and place is essential. |  |

## TIME

## PRODUCTION PLAN

Mise en place - place ice-cream cannister in the freezer 24 hours in advance, pre-heat oven to $180^{\circ} \mathrm{C}$, wash fruit \& vegetables for dish, weigh \& measure all ingredients, get equipment ready, ensure personal and kitchen hygiene, place the ingredients in the fridge.
Wash down surfaces \& use antibacterial spray
For the ice cream, cut the vanilla pod and scrape out the seeds.
9.10am Add to the cream \& sugar in the saucepan and heat on low. Using an electric whisk, beat the eggs in a bowl with sugar and whisk until light and fluffy.

Add a quarter of the warm cream to the egg mixture and whisk quickly then add the rest of the cream. You should then place the mixture back in the pan.
9.23 am
9.25 am
9.28 am

Add custard to the ice cream maker.

Crush biscuits and melt butter in a saucepan, then add Chocolate runouts: melt chocolate in a small bowl in the microwave. Then place the chocolate in a piping bag, snip off the end and drizzle onto greaseproof paper. Place the chocolate in the freezer
Add cream cheese, icing sugar, cream, and orange zest to a bowl and whisk.

Remove the ice cream from the canister.
Pour the mixture into a container and place in the freezer.

## SPECIAL POINTS

Wash hands; tie hair up; put on apron; check oven, fridge, and freezer temperature. Inspect ingredients, their dates \& freshness

## Watch the

temperature of the cream - it should be on a low heat.

Whisk for two minutes until ribbons form.

Be careful not to scramble the eggs with warm cream
Thicke the custard until it covers the back of the spoon.

Use a lid to conserve energy.
Set timer on ice cream maker.

Use food processor to final crush biscuits.

Set timer for 10 minutes.

Mix well.
Clean down surface.
Check freezer temperature.

When melting
chocolate stir every 10 seconds.
Snip a small hole in the piping bag

## tIME

Bake fishcakes for 30 minutes until crispy

Plate up salad and drizzle dressing on it.

Wash up, clean, and put away the equipment used Clean down the station - hob, oven, station top.

## SPECIAL POINTS

Check fridge temperature.

Mash potatoes until smooth.

Check fish for freshness and 'use by' date.

Mix and taste the fishcake.

Check freezer temperature.

Make sure the cakes are uniform.

Make sure the cakes are uniform.

Use a food probe to check the core temperature.

Wipe plates and make sure the presentation is neat and clean.

Use an antibacterial cleaner to wipe down the surfaces.


Hospitality \& Catering

### 2.3.1. - How to Prepare \& Make Dishes

## BASIC Ability Dishes - Examples

- Pizza with a ready-made base, crumbles, sandwiches, salad, fishcakes, Bolognese, and curries with readymade, pre-prepared ingredients



## KEY POINTS - COMPLEX DISHES

- Should include three or four accompaniments that demonstrate good knife skills.
- Adding spun sugar, chocolate runouts, flavoured cream custards,, emulsified sauces, laminated pastries.
- Two or more complex skills should be used to make one product.
- Use the skills checker to find the 18 skills that you cand choose from for the dishes.
- Dishes must show a high level of neatness, balance, colour and excellent presentation.

MEDIUM Ability Dishes - Examples

- Mille feuille with ready-made pastry and home crème patisserie.
- Simple cakes, scones, and cookies.
- Fruit \& vegetable dishes that require even sizes.
- Pre-cut meat products, or simple meat dishes such as curries, Bolognese and stir-fries with a homemade sauce.
- Cheesecake made with gelatine served with homemade ice cream
- Decorated cakes showing one or two medium skills.
- Decorated genoise sponge, homemade shortcrust pastry products with one or two medium accompaniments or additional techniques.
- Piped potato dishes, e.g., duchess, croquette, shepard's pie.

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## COMPLEX Ability Dishes - Examples

- One or two complex accompaniments.
- One complex or two or or more medium skills demonstrated to make one dish.
- Cheesecake (gelatine or baked panna cotta)
- Rich yeast doughs.
- Choux buns, homemade puff pastry.
- Tiramisu with homemade lady fingers
- Roux based sauce.
- Lyonnaise and dauphinoise
- Meat and fish dishes that require changing the shape of meat, e.g., chicken kiev


SCAN THIS QR CODE

- Videos for preparation skills


Hospitality \& Catering

### 2.3.1. - How to Prepare \& Make Dishes

Vocational Award Level 1 \& 2

KNIFE SKILLS
PEELING - is removing the outer skin layer from fruit and vegetables.
CHOPPING - is cutting foods into approximately $12 \mathrm{mmm}(1 / 2)$, bitesized chunks.

TRIMMING - can be cutting the fat from the meat.
BATON- is a knife skill that cuts food into stick cuts about $6-8 \mathrm{~mm}$ in thickness and width.
DICING - is cutting foods into medium to small cubes. They should be uniformed, measuring 20 mm ( $3 / 4$ inches). This cut is used for soups and fruits like watermelon.

SLICING - Using the claw or bridge method to slice in equal sizes.
SPATCHCOCK - is that a technique that removes the chicken's backbone and flattens it out.
CHIFFONADE - is a slicing technique with thinly cuts strips of leafy vegetables or herbs. This is accomplished by rolling the leaves tightly and finely chopping them into ribbons.

DESEEDING - is removing seeds from fruits or vegetables.
JULIENNE - is used to slice vegetables lengthways 3 mm in thickness and in width.

BRUNOISE - is a cut that starts with julienning the vegetables, lining up the sticks together and cutting them into tiny cubes.

MINCING - is smaller, finally cut brunoise; most herbs and garlic are minced.

SEGMENTING - is separating the peel and pith from the fruit.
FILLETING - is the process of preparing a whole fish for cooking and eating; this may include gutting it first.

DEBONING - is separating meat from the bone and removing cuts of meat from the whole bird.
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# Vocational Award Level 1 \& 2 



## PRESENTATION TIPS AND TRICKS

You can use a squeezy bottle or saucier spoon to add decorative patterns to the plate that you are plating up on. Try and practice different patterns and use dots and swirls.

Use a new paint brush to paint with sauces, coulis, or chocolate.

Use a normal spoon - teaspoon or tablespoon - to decorate a plate. Try contrasting colours using different sauces and purees. Make purees by mixing soft vegetables like peas and spinach in a food processor.

Using coral/lace tuille is a way to add height and a professional appearance. To make you need to mix 320 ml with 120 ml oil. Then add 40 g plain flour and whisk until smooth. Then add flavourings and colour. Heat up a frying pan until hot, add the mixture to the frying pan. The tuille forms with the evaporation of the water.

Use savoury foams by whisking air into the liquid ingredients with soy lecithin. Try using savoury crumbles. Piping pureed vegetables, using seeds, edible flowers, chocolate runouts.

Use garnishes of herbs, or tomato roses

Shards can be made out chocolate, caramel, meringue, and cheese.

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### 2.3.2. - Presentation Techniques

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## Hospitality \&

 Catering
### 2.3.3. - Food Safety Practices

## Vocational Award

Level 1 \& 2

## KEEPING THE WORKSTATION CLEAN

- Follow waste management steps.
- Clean down station surfaces after high-risk foods have been prepared.
- Wipe down and dry surfaces throughout the practical assessment.
- If you are waiting for foods to cook and can safely leave them, use the time to wash and dry up.
- Sweep up the floor and use a dustpan and brush to remove debris.
- Place clean and dry equipment away after using.


CORRECT WASTE MANAGEMENT

- Keep a small bin near your station.
- Compost food waste.
- As you work, clear waste into the correct waste bins (if available) and recycle where possible.



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## PLANNING YOUR PRODUCTION

When writing your plan of production you should note these points:

- Food quality checks can be listed in the Contingencies column
- You can insert an additional Health \& Safety column to list all the H \& S points
- Temperature checks can be listed in the Contingencies or the Health \& Safety column
- Do be consistent in your planning and checking


## TEMPERATURE CHECKS

- Storage: fridge temperature should be between $2^{\circ} \mathrm{C}$ and $5^{\circ} \mathrm{C}$ and freezer temperature should be at $-18^{\circ} \mathrm{C}$ or below.
- Preparation: high-risk foods should not be kept out of the fridge for an extended period, otherwise the food will reach the danger zone temperature of between $8^{\circ} \mathrm{C}$ and $60^{\circ} \mathrm{C}$.
- The cooking core temperature should be at $70^{\circ} \mathrm{C}$ for two minutes or $75^{\circ} \mathrm{C}$ for 30 seconds.
- Hot holding should be $63^{\circ} \mathrm{C}$ for no more than two hours.
- Serving: foods should be served straight away.


HANDLING EQUIPMENT SAFELY

- Make sure you have been trained in how to use equipment safely.
- Follow all safety points.
- If you are unsure, use the internet or ask your teacher how to operate the equipment safely.

Hospitality \& Catering

### 2.4.1. - Reviewing of Dishes

AREAS TO CONSIDER WHEN WRITING YOUR REVIEW

- Dish first selected
- Improvements
- Dish Produced
- Organoleptic Qualities
- Health and Safety
- Presentation
- Hygiene
- Waste


## 1 - REVIEW THE DESIGN BRIEF

- This helps to introduce your review
- Introduce the brief and the key points
- State what the nutritional requirements of the customers
- State the type of provision given in the brief
- State any other key points you need to consider



## HEALTH \& SAFETY, AND HYGIENE

You should review your performance in the key areas of Health \& Safety, and Hygiene:-

- You should consider storage of the all the commodities including temperature controls
- Your safety in preparation and the cooking of food: use of knives, sanitising surfaces, protection against cross-contamination
- Your personal hygiene: correct procedures of wearing an apron to act as a barrier to bacteria, putting hair up, hand washing frequently, particularly after handling high-risk foods and raw meat/fish


## 3 - MORE POINTS TO CONSIDER

- How could you improve the skills and techniques that you have used?
- How and why did you make changes to the dishes?
- When reviewing your preparation - what could you have improved?
- Time management - could you have saved time?
- How did you solve your problems and how could you have made improvements?


## 2 - SELECTION \& REJECTION OF DISHES

- You need to explain why you suggested the range of dishes that you did in the beginning
- Why you select the final dishes that you chose and why you rejected the others
- Discuss the suitability of your dishes in terms of the customer needs/requirements
- Discuss the equipment \& skill in the provision to be able to deliver your selected dishes


## ORGANOLEPTIC QUALITIES

You have to make suggestions for each the organoleptic properties:-

- Taste
- Texture
- Aroma
- Appearance

You could use a star chart to illustrate your review of these properties.

- Remember you are reviewing both dishes and giving an honest assessment of those properties - what went well and what can be improved


## WASTE MANAGEMENT

You need to consider this theme from the standpoint of environmental sustainability:What would you do with the waste - food, tins and packaging?

What suggestions/solution can you make on how to manage the waste from the products of the brief?

- Reduce
- Reuse
- Recycle

Think about the provision itself - how can they manage their waste that is generated?


## POINTS FOR CONSIDERATION REVIEWING DISH PRODUCTION

| - Your Performance | - Health \& Safety |
| :--- | :--- |
| - Preparation | • Organoleptic Qualities |
| - Storage | • Presentation |
| - Hygiene | • Waste |

Hospitality \& Catering

### 2.4.2. - Reviewing Own Performance

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REVIEWING YOUR OWN PERFORMANCE

- You need to review your strengths and weakness of how you addressed the three main strands.
- You need to consider the advantages and disadvantages in the three strands.
- Make sure that once you have finished your review completely that you draw your main conclusions together in the final paragraph - remember: there should be no new facts in the conclusion.


## PLANNING

- For the planning, explain the selection and rejection process of each dish.
- Was your production plan arranged correctly - in the right sequence and with all recipes dovetailed?
- Did you correctly identify all the special points/contingencies?
- Was the timing according to your planning correct?
- What are the strength and weaknesses of your planning?
- Suggest improvements that you could make to your planning?



## Vocational Award

 Level 1 \& 2

- Did your dishes meet the requirements of the provision?
- Do the chosen dishes meet the customer needs/requirements?


## ORGANISATION

- Explain the strengths and weaknesses of the cooking and presentation of each dish.
- How did you organise your workstation? How had you organised for mise en place?
- Did you have all of the ingredients and equipment that you required for your two dishes?
- Did you change the plan at the last minute? Was this a strength or weakness?
- Personally, do you consider that you were well organised? What are your strengths and weaknesses of organisation?


[^0]:    $4-6$ years: 1100 mg
    $7-10$ years: 2000 mg
    $11-14$ years: 3100 mg
    $15-75+$ years: 3500 mg

