

# Year 7 Food Tech Knowledge Organiser (Week 1)

## Hazards in the kitchen

**Trip/slip hazards** - kitchen Cupboards/drawers/oven left open, Pan handles facing outwards on hobs and worktops, stools not tucked in, bags on the floor, spilt liquids not mopped immediately.

**Food not stored correctly.**





**Unsanitary work area** - hands not washed, hair not tied back, work surfaces not cleaned before use, **cross contamination** using incorrect chopping boards/utensils for raw/cooked ingredients (red boards)

**Burns/ Cuts** - not concentrating whilst using knives, not using oven gloves to take hot items out the oven, metal spoons in hot pans;

**Fires** - items left close to an open flame, hot oil in pan and left unattended.

**Equipment not used properly** - electric whisk/hand blenders blades/beaters turned on/off before touching bottom of bowl and not held upright, fingers/hair/ties in reach of beaters.

## Understand the 4 C's Concept

-  **C** - Good Hygiene practice prevents Cross Contamination
-  **C** - Effective Cleaning removes harmful bacteria and stops them spreading
-  **C** - Effective Chilling prevents harmful bacteria multiplying
-  **C** - Thorough Cooking kills bacteria

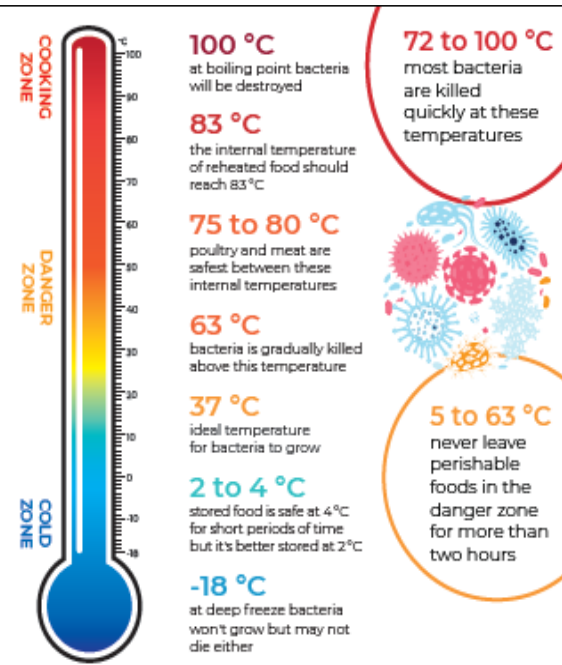
**Food poisoning** is an illness caused by eating food or drinks contaminated with harmful bacteria. Millions of bacteria can grow on common, everyday foods. Bacteria need 4 things to multiply:

**Time** - a single bacterium can multiply to over two million in just seven hours

**Warmth** - the 'danger zone' temperatures at which bacteria grow best are **between 5°C and 63°C**

**Food** - bacteria need food to grow. High-risk foods that bacteria love best include dairy products, meat, poultry, fish.

**Water** - bacteria need moisture to grow. This includes moisture in 'wet' foods such as juicy meats.



# Week 2 - KO - Micronutrients (Vitamins & Minerals)

Micronutrients - need in smaller quantities	Functions in the body	Food sources
Vitamins (chemical substances naturally found in foods) required to maintain health and prevent disease. vitamins – B vitamins and vitamin C (water soluble - body cannot store so must be eaten every day)	<b>B vitamins (B1, B2, B3, B9, B12)</b> Help promote good health and prevent disease, healthy nervous system, growth in children and release energy from carbohydrates, fats and proteins, <b>vitamin C</b> helps wounds top heal and helps absorb iron.  Deficiency B- muscle wastage, dry, sore skin C – bleeding gums, wounds not healing and anaemia if not enough iron absorbed.	B - Meat , milk, cheese, eggs, green leafy vegetables, dried fruit, rice, marmite, chick peas, fruit.  C – citrus fruits (oranges/lemons/limes/grapefruit, , Brussel sprouts, cabbage, broccoli, new potatoes
Vitamins – A,D,E,K (fat soluble - found in fats and foods naturally containing fat/oils – can be stored in the body for later use.)	Healthy skin, good vision, produce mucus to help line membranes in the mouth, digestive and respiratory systems, healthy immune system ( <b>vitamin A</b> ), helps body to absorb calcium for healthy teeth and bones ( <b>vitamin D</b> , helps blood to clot ( <b>vitamin K</b> ) and antioxidants to help prevent inflammation, heart disease and some cancers ( <b>vitamin E</b> ) Deficiency A- night blindness and stunted growth in children D- rickets and Osteomalacia (bone disorder) and heart failure	A – whole/semi-skimmed milk, cheddar cheese, butter, egg yolks, liver, kidney, oily fish (sardines/mackerel). Vegetable spreads. D – sunlight! As above (not milk) E – soya, corn oil, olive oil, nuts, seeds, vegetable spreads. K - green leafy vegetables, liver.
Minerals ( chemical substances naturally found in foods) required to maintain health and prevent disease. <b>Calcium, Iron, Sodium, Fluoride, Iodine and phosphorus</b>	<b>Calcium</b> – healthy teeth and bones, helps absorb vitamin B, muscle and nerve functions, blood clotting. <b>Iron</b> – healthy red blood cells to transport oxygen  <b>Sodium</b> – controls water in levels in the body, controls nerves and muscles, use energy. <b>Fluoride</b> – strengthens bones and enamel on teeth to prevent tooth decay. <b>Iodine</b> – produces hormone thyroxin which controls metabolic rate. <b>Phosphorus</b> – stronger teeth and bones, release of energy.	- milk, cheese, milk products, canned fish, soya drinks, fortified flour. - red meat, liver, kidney, green leafy vegetables, egg yolk, curry powder, cocoa, plain chocolate. - salt added to food for flavour, in sauces, stock cubes, baking powder. - fish, seafood, drinking water.  - seafood, vegetables, milk, dairy products. - found in most foods.

## Week 3 - KO – Proteins

Protein is a **Macronutrient** ( needed in large quantities in our diet to maintain a healthy body)

1g of protein provides 4kcal of energy. Adults need 45-55g per day to maintain a healthy body.

Proteins either have a high biological value (**HBV**) mainly found in animal products or a low biological value (**LBV**) found in plant based products.

Function in the body	Food sources
<b>Growth</b> – to make our bodies grow from baby to adult and once we stop growing to maintain hair and nails.	<b>HBV</b> Meat, dairy products such as milk, cheese, eggs; fish, poultry (chicken) plus soya beans and quinoa <b>LBV</b> peas, nuts, seeds, quinoa, lentils, beans, broccoli and spinach ,cereals, tofu, TVP ( textured vegetable protein).
<b>Repair/maintenance</b> – to help recover from illness and injury and to replace red blood cells, repair damaged hair, skin and nails.	
<b>Energy</b> – provides a secondary source of energy	

**Excess** - too much protein puts pressure on the liver and kidneys which process it.

**Deficiency** – too little slows growth in children, poor hair, skin and nail condition, weakened muscles and immune system which means wounds won't heal and a higher risk of infections, digestive problems and swelling often around the feet.

## Week 4 - KO - Carbohydrates & Water

**Carbohydrates** are **macronutrients**. Should fill 1/3 plate each meal.

The **three** main types of carbohydrate are **starch, sugar and fibre**.

**Function** - main source of energy, aiding digestion, bulking your diet and helping to lower blood cholesterol levels.

### Sugars:

Sugars are simple carbohydrates which means they are digested quickly, releasing glucose very fast giving short bursts of energy.

Naturally occurring sugars can be found in fruit and vegetables or can be added to food to make cakes, biscuits, sweets and drinks.

**Excess** can lead to type 2 diabetes, tooth decay, is converted to fat and cause weight gain.

**Deficiency** - low blood sugar level, hunger, dizziness, tiredness, muscle weakness.

### Starch:

Starch is a complex carbohydrate found in potatoes, cereal, rice, pasta, bread (wholegrain is healthier), it is filling and provides you with slow release energy - feel fuller for longer.

### Fibre:

is found in the outer skins of the flesh of fruits and vegetables,

Wholemeal bread and wholegrains (pasta, rice, flour), lentils, beans, seeds and nuts.

Adults need 30g per day.

**Function** is to keep the digestive system working.

**Deficiency** - causes constipation, bowel ad colon cancer, heart disease and high blood pressure.

### Water

You can't live without it! 60% of our body is water in cells, blood, sweat and saliva.

**Function** - to eliminate waste/ control body temperature/ aid digestion.

**Drink 2 litres per day and more if a hot day or exercising.**

**Excess** - dilutes nutrients, overload kidneys.

**Deficiency** - slower reactions, poor concentration, thickens blood, increase body temperature.

## Week 5 - KO - Fats

**Fats** are a **Macronutrient** ( needed in large quantities to maintain a healthy body). Essential fatty acids cannot be made in the body so need to be eaten.

Every 1 g of fat provides 9 kcal . Adults need 70g per day with a maximum amount of 20g of saturated fats to maintain a healthy body.

Fats can be **saturated (bad)** (usually found in in animal fats - white fat on meat, butter, cream, cheese) **or unsaturated (good)** ( found in sunflower oil, avocados, olive oil, soya beans and oily fish

Function in the body	Food sources
<b>Energy</b> – provides a store of energy under the skin	<b>Visible fats</b> - Animal fat on meats, butter, lard, ghee, suet, margarine, cream.
<b>Warmth</b> - insulates the body from cold and helps us to stay warm.	<b>Invisible fats</b> – cheese, butter in cakes, biscuits and pastries, meat products such as sausages, corned beef, salami.
<b>Protection</b> – protects bones and organs from damage by cushioning them	
<b>Absorption</b> of fat soluble vitamins A,D,E,K	

**Excess** - Too many saturated fats in our diet can lead to coronary heart disease e.g. heart attack, stroke and high cholesterol levels ( a fatty substance that causes arteries to become blocked) as well as weight gain (obesity) type 2 diabetes (body can't control blood sugar levels) and some cancers.

Unsaturated fats can help lower cholesterol.

**Deficiency** – the body unable to absorb fat-soluble vitamins A,D,E & K leading to various health conditions, feel the cold as no insulation, less protection for major organs as no fat layer under the skin, weight loss.

## Week 6 – Eatwell Guide (If Needed)

Drink 6-8 glasses a day. Water, lower fat milk, sugar-free drinks, tea & coffee all count. Maximum of 150ml of fresh fruit/veg smoothies a day

Traffic light labelling system

Fruit & Vegetables

High fat/sugar foods - Eat less often and in small amounts



Starchy Carbohydrates

Oils & spreads - Choose unsaturated oils and only use in small amounts

Proteins – beans, pulses, fish, meat and alternative proteins

Dairy and alternatives

There are 5 key nutrients needed to maintain good health; **Carbohydrate** ( energy), **Protein** (growth & repair), **Fat** ( warmth, protection of organs & energy), **Vitamins** and **Minerals**.

The Eatwell guide shows the different types of foods and drinks we should consume – and in what proportions – to have a healthy, balanced diet and recommends:

- Eat at least 5 portions of fruit and vegetables every day.
- Base meals on starchy carbohydrates such as rice, pasta, potatoes, cereals, choosing wholegrain varieties where possible.
- Have some dairy or dairy alternatives (such as soya); choosing lower fat and lower sugar options.
- Eat beans, pulses, fish, eggs, meat and other proteins ( including 2 portions of fish every week, one of which should be oily) choose leaner cuts of meat and poultry, removing all visible fat/skin.
- Choose unsaturated oils and spreads and eat in small amounts.
- Drink 6-8 glasses of fluid per day, ideally water-based drinks .

**Nutrition** is the study of nutrients ( chemicals found in food vital for correct bodily functions) **Diet** is the food we eat.