Year 10 FPN – Knowledge Organiser General 1

Clean hands. Hair tied back. Wear an apron. Wear blue plasters. Don't cough/sneeze over food. Use the bridge and claw grip methods for cutting/chopping.

What are Nutrients?

Nutrients are the building blocks that make up food and have specific and important roles to play in the body. Some nutrients provide energy while others are essential for growth and maintenance of the body.

Macro Nutrient	Role in the body	Food Example
Carbohydrate	The main source of energy for the body.	Bread, rice, pasta, potatoes
Protein	Provides the body with growth and repair.	Meat, poultry, beans, eggs, lentils, tofu, fish
Fat	Provides the body with insulation and a small amount protects vital organs. Provides essential fatty acids for the body.	Butter, oil, cheese, cream, nuts, oily fish, crisps

The Eatwell Guide

Weighing and Measuring

For good results in most recipes, accurate weighing and measuring is essential. When you are baking with flour, sugar and liquids, you must measure accurately or your cooking will be spoiled. If you weigh out too much sugar or too little raising agent, your cakes would not rise or you could spoil the taste and/or texture.

Food can be weighed in **Grams (g)** and there are **1000g** in a **Kilogram (kg)**.

Liquid is measured in **Millilitres (ml)** or **litres.**

8 tips for healthy eating

1) Base your meals on starchy foods
2) Eat lots of fruit and vegetables
3) Eat more fish
4) Cut down on saturated fat and sugar
5) Eat less salt
6) Get active and be a healthy weight
7) Drink plenty of water
8) Don't skip breakfast

How do I use weighing scales?

1. Put bowl on scales.
2. Set to zero.
3. Carefully and slowly, add ingredients.

Sources of Food

Ingredients can be grown, gathered, caught, reared or made / manufactured.

This aspect of food is known as **FOOD PROVENANCE**

Why do we need to know this?

How food is produced has an impact on it's quality, its nutritional properties, the environment, as well as its cost.

The general rule is **'the closer to its original form, the better the food is for us'.**

Cake Making methods:

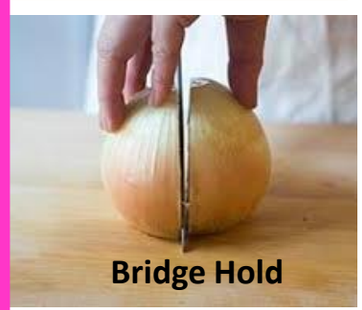
Rubbing in = Scones.
Creaming – Traditional and All-in-one = Cupcakes.
Melting = Flapjacks
Whisking = Swiss Roll
The main ingredients in cake making are fat, sugar, flour and eggs. All methods use a raising agent and often a liquid such as milk.

Good Practice for washing and drying up:

1. Use hot soapy water.
2. Use a dish cloth or washing up brush.
3. Rinse off bubbles.
4. Leave to drain.
5. Dry with a clean dry tea towel.
6. Check – make sure all food has been removed; ensure it is completely dry on top, bottom & inside.
7. Ask the teacher to check equipment before putting away.
8. Empty the bowl – rinse to remove the bubbles.
9. Use fingers to unblock any food from the plughole.
10. Use a dishcloth to clean the sink, bowl, area around the sink and work area.
11. Leave your work area dry.

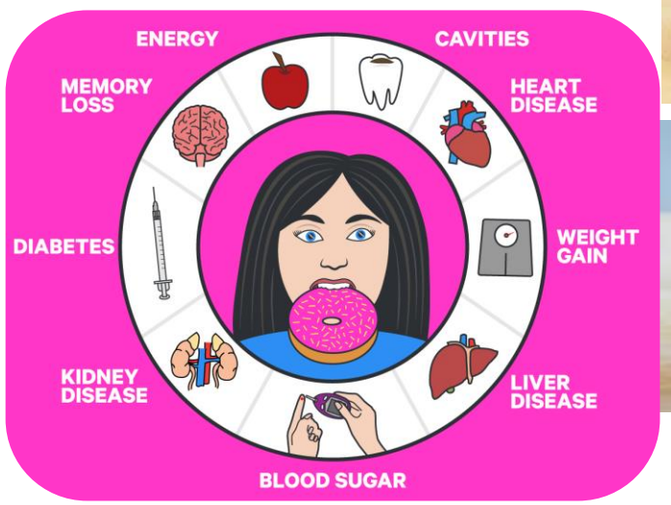
4C's in relation to Personal Hygiene

Clothing
Clean Hands
Cover Hair (or put in a bobble)
Cover Cuts

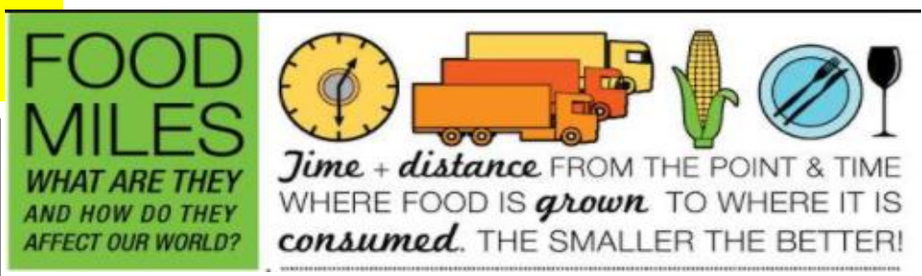


Knife safety rules

- Store in the knife block (RED Tray).
- Carry by the handle, at your side pointing downwards.
- Never run with a knife.
- A sharp knife is a safe knife.
- Never leave in the washing up bowl.
- When cutting; eyes on your blade.
- Always cut away from yourself.
- Never grab a falling knife.
- Clean knives safely.
- Only cut on a chopping board.



Equipment: Weighing scales, knife, chopping board, saucepan, wooden spoon, tablespoon, teaspoon, mixing bowl, grater, muffin tray, cooling rack, peeler.



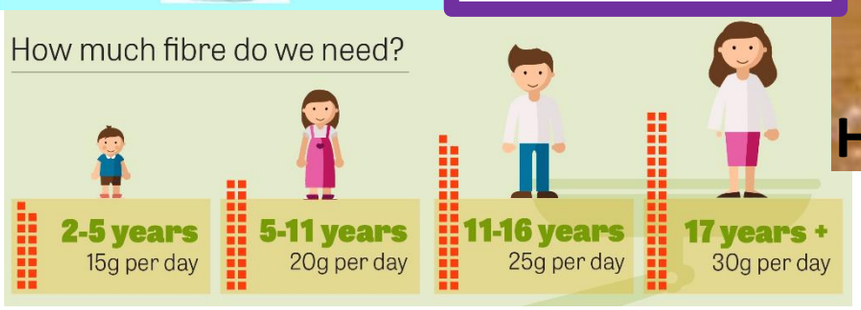
Wider thinking / further reading: www.foodafactoflife.org.uk

Year 10 FPN – Knowledge Organiser General 2

Clean hands. Hair tied back. Wear an apron. Wear blue plasters. Don't cough/sneeze over food. Use the bridge and claw grip methods for cutting/chopping.

Water is not a nutrient but it is essential for life because it:
Regulates body temperature.
Transports nutrients in the blood.
Removes waste from cells.
Aids digestion.
We obtain water from all drinks and foods we eat. A lack of water causes dehydration, resulting in headaches, thirst, dizziness and poor concentration.

Shortening: Shortcrust pastry rely on fat to give it their crumbly texture. The fat coats the flour particles and prevents them from absorbing water giving them a waterproof layer. This reduces the formation of gluten development, which would cause the dough to become elastic. When water is added, the gluten strands can only form short lengths because of the waterproofing of the fat. The texture of pastry is therefore 'short' and tender. When rolled, the pastry does not spring back like a bread dough does due to the short gluten molecules.



There are 5 main groups of nutrients. These 5 groups can be divided into 2 groups
Macronutrients which are needed by the body in large amounts.
Micronutrients which are needed by the body in small amounts.

Rubbing-In method
This is a method whereby you rub your finger tips together in the butter and flour to create a breadcrumb looking mixture. You do not get the palm of your hands 'dirty' with flour.

Rules when making Shortcrust Pastry

Used for tarts, quiches & pies.

Cold –when making pastry the fat content has to be cold. If possible wrap pastry in cling film and chill to "rest "

Breadcrumbs – Use your fingertips to make the even breadcrumbs with no large lumps of butter remaining. Try to work quickly so that it does not become greasy. Shake the bowl and the butter lumps come to the top.

Handling – pastry does not like to be handled or kneaded – it's the opposite of bread- you do not want the gluten to form.

Rolling pastry– using the rolling pin gently roll forwards, backwards and then turn the pastry 90 degrees. Do not over work the pastry – it will become hard

Puff Pastry	A very light pastry made in layers that expand when cooked, leaving large air pockets inside.
Choux Pastry	Very light, twice-cooked pastry – eclairs, profiteroles
Filo Pastry	Paper-thin translucent sheets of pastry.
Shortcrust Pastry	Makes a crisp, short, golden pastry.

Fibre Protein
Fat Carbohydrate
Vitamins Minerals
PLUS Water and Fibre (neither are nutrients but are required for a healthy diet).

Vitamin	Role in the body	Food examples
A	Helps to keep the eyes healthy and strengthen the immune system.	Dark green leafy vegetables, carrots, liver
B	Helps to release the energy from the food we eat.	Bread, milk, cereals, fish, meat
C	Help with skin healing and healthy skin. Help with the absorption of Iron.	Fresh fruit, broccoli, tomatoes
D	Important for absorbing calcium and help with healthy bone structure	Oily fish, eggs, butter, Sunshine
Mineral	**Role in the body**	**Food Examples**
Calcium	Important for strong teeth and bones. It also helps with blood clotting.	Milk, yoghurt, soya, dark green leafy vegetables
Iron	Needed for red blood cells which help to transport oxygen around the body.	Nuts, whole grains, dark green leafy vegetables, meat, liver

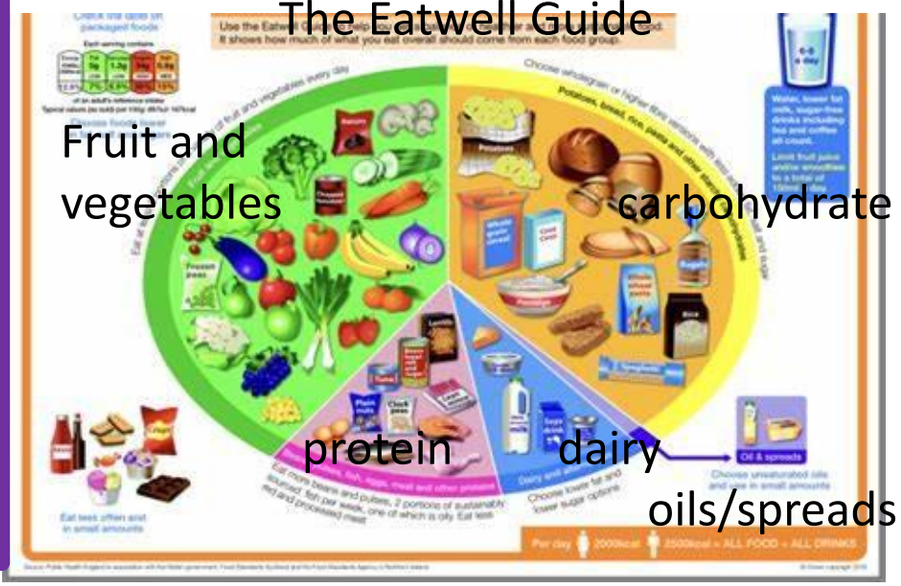
Nutrients

Proteins assist with growth and repair of cells in the body. Proteins are found in animal products like, meat, fish, cheese, milk and eggs. Vegetable sources include soya beans, pulses and nuts.

Carbohydrates are needed to give the body energy. There are two types of carbohydrate starch and sugar. Starch is found in cereals, potatoes, pasta and flour. Sugar is found in fruit, vegetables, honey and milk.

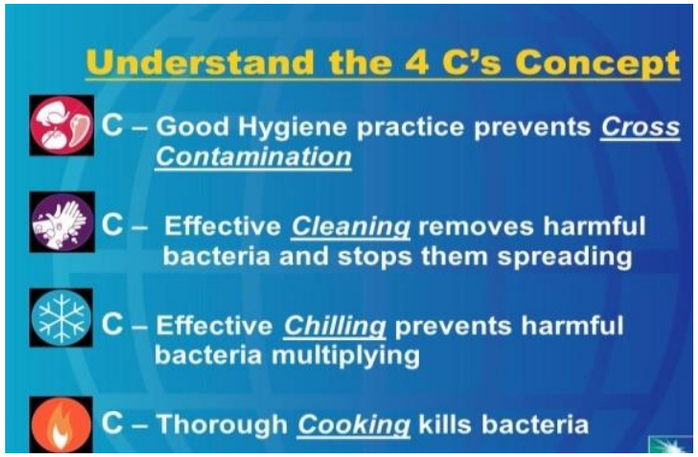
Fats help to provide concentrated source of energy and help to insulate the body in cold weather. There are two main types, saturated fats from animals sources, butter and lard and unsaturated from vegetable sources sunflower and olive oil.

Vitamins are needed in very small amounts for growth and health. The main ones are Vitamins A, B, C and D.

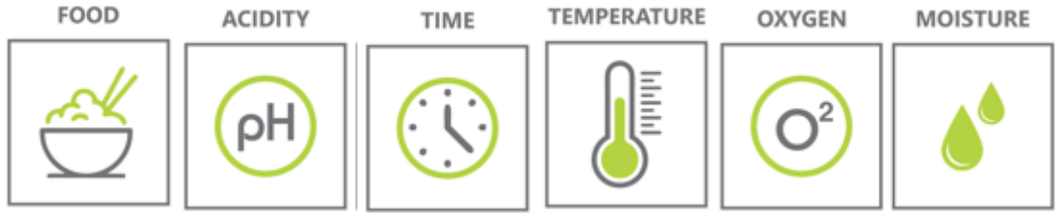


Year 10 FPN – Knowledge Organiser General 3

Clean hands. Hair tied back. Wear an apron. Wear blue plasters. Don't cough/sneeze over food. Use the bridge and claw grip methods for cutting/chopping.



What bacteria needs to multiply



Most bacteria grow rapidly at body temperature (37°C), but can grow between 5°C and 63°C. This is known as the danger zone. The more time food spends in the danger zone the greater the risks of harmful bacteria growing. Therefore it is vitally important that we try to keep food out of the danger zone during the production processes.

METHODS OF COOKING

Heat transfers in <u>three</u> ways:

Conduction

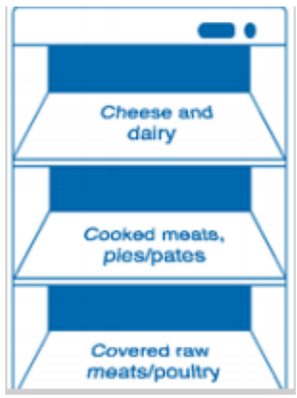
Metal is a **conduct**or of heat and carries the heat from the heat source to the food

Convection

When heated, gas or air particles expand and rise, causing colder particles to sink, creating convection currents which distribute heat.

Radiation

Heat is transferred directly onto the surface



Storage of Food

To prevent cross contamination (the spreading of bacteria), foods must be stored separately. Follow the rules of food storage within a fridge.

Fat

Saturated: Animal
Unsaturated: Plant
Trans-fats are unhealthy
1g fat = 9 Kcal

The three main types of vegetarian

are: lacto-vegetarian, lacto-ovo vegetarian and vegan.

lacto-vegetarian –will not eat any meat, fish or eggs, but will consume milk and dairy products.

lacto-ovo vegetarian –will not eat any meat, or fish , but will consume eggs, milk and dairy products.

Vegan – will not eat any food that is made directly or indirectly from an animal. They also refuse to use product such as soap and cosmetics which involve the use of animal oils or fats.

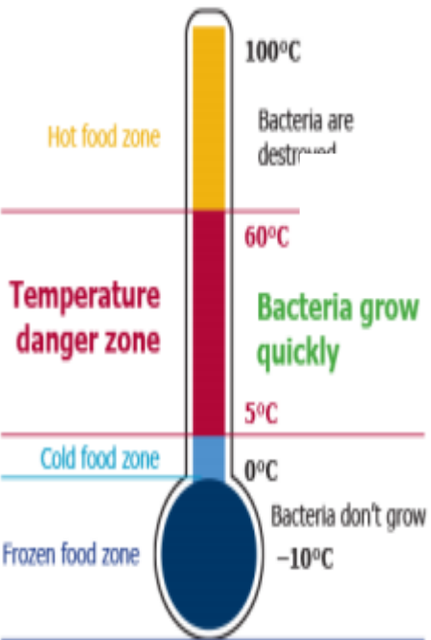
Vegetarian

Vegetarian Society	Do not eat the meat of any animal (meat, poultry or fish) or eggs, milk, cheese and honey.
Vegan	Do not eat the meat of any animal (meat, poultry or fish), but they do eat eggs, milk, cheese and honey.
PESCETARIAN	Do not eat red meat or poultry but they do eat fish, eggs, milk, cheese and honey.

You should store meat and poultry on the bottom shelf of the fridge to prevent liquid dripping on to other food. Store in a clean, sealed container. Keep cooked and raw meats separate to avoid **cross contamination**. The fridge temperature should be between 1 and 5 degrees Celsius.

Key facts - Bread

Wheat flour – when mixed with water the proteins in the flour combine with water to make gluten.
Gluten – protein - makes the dough stretchy and elastic – this traps a lot of the carbon dioxide gas produced by the yeast.
Yeast - single celled living organism that requires certain conditions for growth.
Carbon dioxide –produced by the yeast – aerates the dough ands makes it rise.
Kneading - to work the dough, usually by hand, for the purpose of developing the glutens in the flour to form the structure.



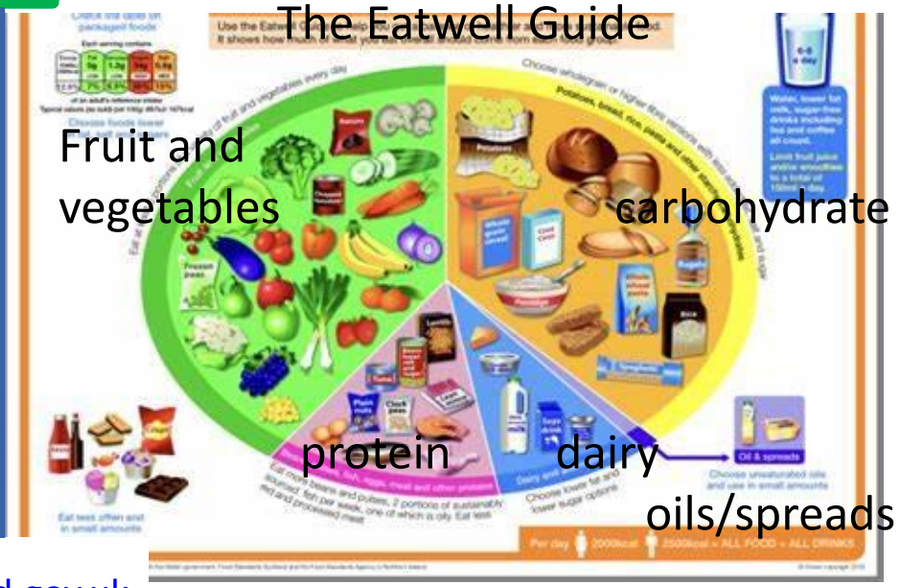
TYPES OF CONTAMINATION

PHYSICAL: Hair, jewellery, plasters, glass, plastic
CHEMICAL: cleaning products, pesticides
BIOLOGICAL: bacteria, fungi, mould

PREVENTING CROSS CONTAMINATION

Washing hands before and during food preparation.
Washing hands after handling raw foods.
Using colour coded chopping board.
Wearing correct clothing (apron).
Keeping raw foods separate from cooked foods.
Cleaning equipment thoroughly.
Keeping food stored at the correct temperature.

The Eatwell Guide



Wider thinking/further reading: www.foodafactoflife.org.uk www.food.gov.uk

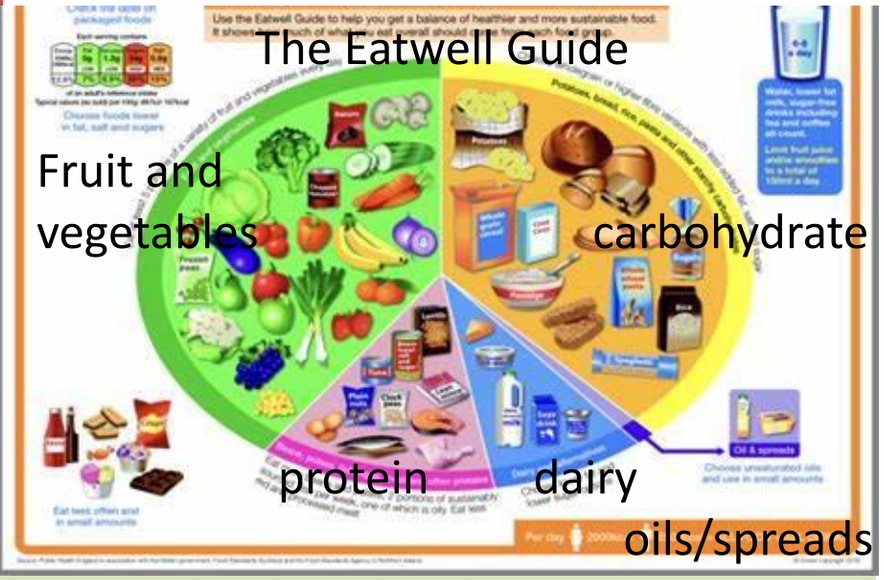
Year 10 FPN – Knowledge Organiser 1. 1st Half Term

Key words: Knife skills

1. **Bridge hold**
2. **Claw grip**
3. **Jardinière**
4. **Julienne**
5. **Macedooine**
6. **Chiffonade**
7. **Baton**
8. **Dicing**
9. **Chopping**
10. **Filleting**

• Temperature danger zone: The danger zone is from 5 to 63°C. This is the temperature range in which bacteria grow rapidly.
• Core temperature: This is the internal temperature food must be heated to which to ensure it is cooked properly. A minimum core temperature of 70°C for 2 minutes (or an immediate reading of 75°C).

1. Food and packaging waste contributes to greenhouse gases (GHG's)
2. Food miles are the distance food travels from its point of origin to your table. Recycling and producing less waste can help reduce carbon emissions.
3. Nearly a third of all food produced ends up in landfill sites where it gives off methane gas as it decomposes.
4. Cheaper foods are ones that are GM/intensively farmed
5. Under EU law, all foods need to be traceable from field to fork.
6. Carbon emissions and global climate change affect food and water supplies. Sustainable food production ensures less negative impact on the environment and the farmers.



Points to look for when buying: Fresh Fruit and vegetables
• A good, bright colour
• A firm, crisp texture (not wilted or soft)
• An unblemished smooth skin
• No mould growth
• Not too much soil on the skin of root vegetables
• No damage
• Stored so air can circulate freely
• Buy only when you can see the quality of the fresh produce
• Buy food in season.

Sources of Food

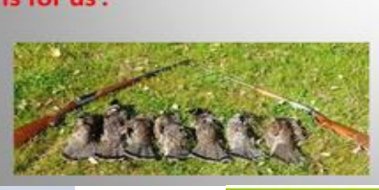
Ingredients can be grown, gathered, caught, reared or made / manufactured.

This aspect of food is known as **FOOD PROVENANCE**

Why do we need to know this?

How food is produced has an impact on it's quality, its nutritional properties, the environment, as well as its cost.

The general rule is **'the closer to its original form, the better the food is for us'.**



Rules when making Shortcrust Pastry

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Rolling pastry– using the rolling pin gently roll forwards, backwards and then turn the pastry 90 degrees. Do not over work the pastry – it will become hard

Nutrient	Why the Body Needs It	The Foods which are High in this Nutrient
VITAMINS	**To help protect the body.**	
A	Healthy eyesight ('Visual Purple').	All yellow, orange and red fruit and vegetables e.g. carrots, peppers, tomatoes. Oily fish, cheese, and added to (fortified) margarine.
B	Helps release energy. Keeps skin, digestive and nervous system healthy.	Wholegrain cereal foods, most fruit and vegetables, meat fish, dairy products, pulses, nuts and yeast extract (Marmite).
C	Healthy skin, and resistance to infection e.g. colds.	Most fruit and vegetables, especially citrus fruit (oranges, lemons, grapefruit and limes) and berries.
D	Helps calcium to make strong bones and teeth.	Sunshine, added to (fortified) some breakfast cereals and all margarines. Oily fish and liver.

A portion of Fruit or vegetable = 80g OR 3 tablespoons, or as much as you can fit onto the palm of your hand.

Main nutrients found in our food:
Protein **Carbohydrates**
Fats and Oils
Vitamins **Minerals**

Nutrient	Why the Body Needs It	The Foods which are High in this Nutrient
MINERALS	**To maintain body processes.**	
Calcium	Strong bones and teeth.	Dairy foods, dark green vegetables, fish with bones, almonds and brazil nuts, fortified (added to) white bread.
Iron	For healthy blood.	Added to (fortified) white and wholemeal bread and breakfast cereals. Dark green vegetables, red meats, offal, pulses (peas, beans and lentils).
Sodium	Balances the fluids in the body.	Meat, vegetables, salt.

People with **food allergies** are unusually **sensitive to particular foods**.

An allergic reaction to a food can be mild such as **mouth irritation** or a more severe reaction known as **anaphylactic shock** which can potentially be life threatening. Although food allergies only affect a small number of people it is **vital that caterers provide necessary information and treat all allergy enquiries seriously.**

Food intolerance occurs when the body is **unable to digest a particular food** properly.

Intolerance to a food is not the same as a food allergy because the immune system is not involved. Symptoms can include nausea, bloating, abdominal pain, diarrhoea and headaches.

Year 10 FPN – Knowledge Organiser 2. 2nd Half Term

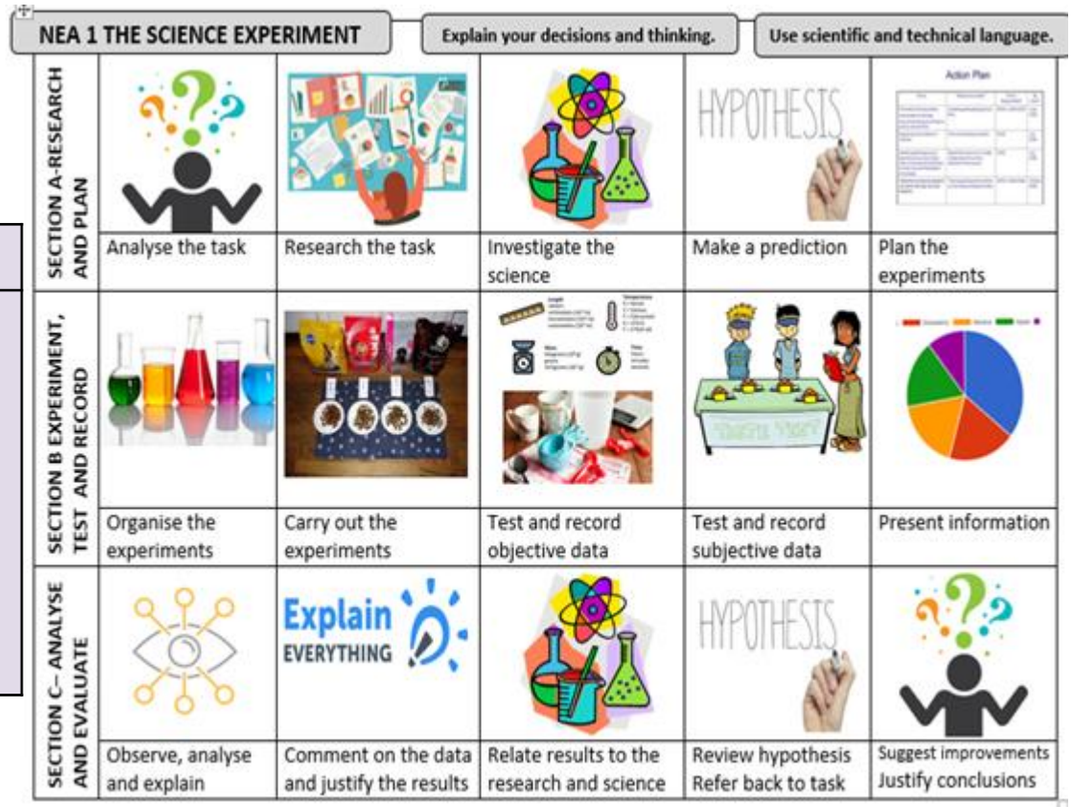
www.foodafactoflife.org.uk
http://www.legislation.gov.uk/ukpga/1990/16/contents

How milk is used:
- As a drink on its own or flavoured – for its nutritional content.
- Added to cereal to improve the nutritional content, it changes the texture
- As an essential ingredient in batter, sauces and custards—it allows gelatinisation., combining with egg to coagulate into a soft product.
- In baked products such as cakes, biscuits and bread, providing moisture to help them rise and produces a soft texture as it stops starch and fat clumping together.
- The fat is separated from the rest of the milk to make cream
- When acid is added it curdles and becomes solid or semi-solid, making cheese
- Cream is churned (moved around quickly—beaten) to make butter
- Yoghurt is fermented milk. A bacteria culture is added. This breaks down the protein and makes it coagulate (thicken). Acid is also produced.
  - Single cream = 18% fat
  - Double cream = 48% fat
  - Whipping cream=35% fat
  - Clotted cream = 63% fat
- When cream is whipped it changes from a liquid into a foam. Air is beaten into it. The protein in the cream changes shape—it 'denatures' and surrounds the air bubbles.

Where does Milk come from?
Milk can come from, a cow, a goat, a sheep and even a horse. Milk can also be made from soya beans. rice and wheat.

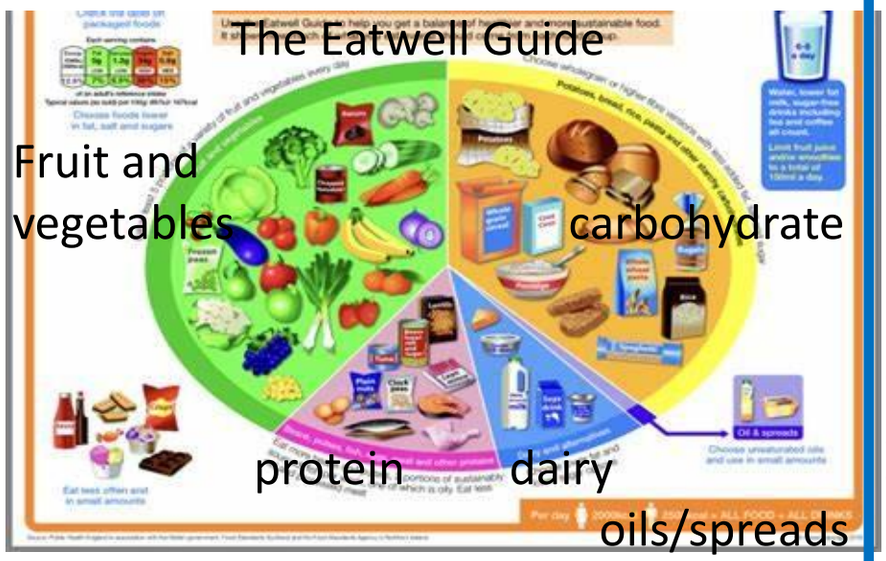
The Mineral: Calcium

Milk & Milk products: canned fish with bones (salmon, sardines); fortified tofu and fortified soy beverages; greens like broccoli.
It is important for healthy bones and teeth; helps muscles relax and contract; important in nerve functioning, blood clotting, blood pressure regulation and immune system health.



Uses of Cheese
Cheese can be used to make both sweet and savory dishes.
- ✓ Cheese can:
- ✓ provide flavour (e.g. when making a white sauce adding cheese gives improved flavour)
- ✓ provide colour (e.g. when sprinkled on top of dishes and grilled or baked it will turn an attractive brown colour)
- ✓ provide texture (e.g. when melted in can provide a soft, moist and stringy texture)
- ✓ increase the nutritional value of a dish (e.g. when sprinkled on top of a baked potato, it will provide additional nutrients such as protein, fat, calcium and vitamins).

Cheese can be described as a solid or semi-solid form of milk. It is sometimes referred to as a fermented dairy food. It is made from cows', ewes', goats' or buffalo milk.



Ways to preserve milk -
Heat treatments
Pasteurised
✓ A mild heat treatment.
✓ It only kills pathogenic bacteria to make it safe to drink.
✓ It extends the shelf life.
✓ It needs to be kept chilled.
✓ There is no change in flavour or nutritional value.
✓ The fat (cream) rises to the top.

Whole milk	Milk with nothing added or removed. Fat content: 3.9%.
Semi-skimmed milk	The most popular type of milk in the UK. Fat content: 1.5%
Skimmed milk	Milk that has had most of the fat removed. Fat content: 0–0.5% (average 0.1%)
1% fat milk	Offered to consumers who like the taste of semi-skimmed, but want milk with a lower fat content.
Organic milk	Milk from cows that have been grazed on pasture that has no chemical fertilisers, pesticides or agrochemicals used on it.
UHT milk	Milk that has been heat treated to give it a longer shelf life. Once opened it must be treated in the same way as fresh milk.
Lacto-free milk	Milk that has had the milk sugar (lactose) removed, making it suitable for those who have an intolerance to lactose.
Soya milk	Made from the liquid of cooked soya beans. It is suitable for vegans who do not eat any animal products, or as a substitute milk for those who are allergic to dairy food.
Almond and coconut milk	An alternative for vegans or people with allergies.
Goat's milk	Another substitute milk for people allergic to cow's milk.
Evaporated milk	A concentrated, sterilised milk product. It has a concentration twice that of standard milk. Evaporated milk is heat treated and then evaporated under reduced pressure, at temperatures between 60°C and 65°C. The evaporated milk is poured into cans, which are then sealed. At this point the cans are moved to a steriliser where they are held for 10 minutes.
Condensed milk	Concentrated in the same way as evaporated milk, but with the addition of sugar.
Dried milk powder	Produced by evaporating the water content of milk using heat.