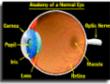
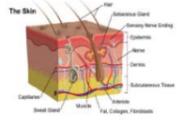


## Year 8 Knowledge organiser Food safety and nutrition

Nutrient name	Job / Function in the Body	Sources / foods giving us that nutrient
<b>Carbohydrates</b> 	Primary energy source NSP (fibre) get rid of waste products: produce soft, bulky faeces. Keeps digestive system healthy. 	Bread, potato, pasta, rice, wheat, couscous Sugar, sweets, drinks, cake, chocolate, biscuits
<b>Fats</b> 	Primary energy source Insulates to keep the body warm <ul style="list-style-type: none"> <li>Protects bones and kidneys from damage providing a cushion layer</li> <li>Provide fat soluble vitamins A, D, E and K.</li> </ul>	Butter, lard, dripping, poultry skin, fat on meat – bacon, ham, mince beef Olive, sunflower, avocado, rapeseed
<b>Protein</b> 	Secondary energy source, growth and repair.	Meat, poultry, game, offal, fish, soya Peas, beans, lentils, chickpeas Baked beans on toast
<b>Vitamin A</b> 	 <ul style="list-style-type: none"> <li>Keeps the skin healthy</li> <li>Helps us see in dim light</li> <li>Helps children to grow</li> <li>Keeps mucous membranes moist and healthy</li> <li>An antioxidant</li> </ul>	Animal (retinol); milk, cheese, butter, eggs, liver, kidney, oily fish, added to veg. fat spreads plant (beta carotene): cabbage, spinach, kale, lettuce, peas, orange/red/yellow veg. + fruit
<b>B Vitamins</b>	Helps energy to be released from food in the body	Meat, milk, cheese, eggs, veg. fresh + dried fruit wholemeal bread, fortified breakfast cereals, flour
<b>Vitamin C</b> 	Boosts your immune system • Helps the body absorb iron • Keeps connective tissue, which binds the body cells together, healthy skin • an antioxidant	Fruits + veg. especially citrus fruits (e.g. oranges, lemons, limes, grapefruit), blackcurrants, kiwi, Brussel sprouts, cabbage, broccoli
<b>Vitamin D</b>	Helps calcium to be absorbed in the body • Helps calcium to strengthen the bones and teeth	Sunlight on skin; oily fish, meat, eggs, butter, added to veg. fat spreads, fortified breakfast cereals 
<b>Iron</b> 	For healthy blood <ul style="list-style-type: none"> <li>Iron forms part of the haemoglobin molecule in red blood cells.</li> <li>Red Blood Cells carry oxygen around the body.</li> <li>Lack of iron causes <b>anaemia</b> (pale, tired, unable to concentrate) described as being “anaemic”.</li> </ul>	Red meat, poultry, egg yolks, green leafy vegetables, shell fish, dried fruit, lentils
<b>Calcium</b> 	Strong bones and teeth	Dairy products, nuts and green vegetables
<b>Water</b>	We need water to live. All body cells and tissue contain water Saliva, sweat, blood, urine, digestive juices Controls body temperature Need to digest food Removes waste from the body when we urinate and poop Keeps skin healthy	Tap water, fruits, vegetables, milk, fruit juices

## Teenage Nutritional Needs Fact Sheet.

**Growth** is rapid in the teenage years and plenty of **protein** is therefore needed. Foods like **fish, meat, cheese, nuts and eggs** could be eaten to provide protein.



Due to this rapid growth, **calcium** is needed for the **bones and teeth** to make them strong. Calcium is found in dairy foods like **milk, cheese and yoghurt**; and also **green vegetables** like broccoli and spinach.

**B vitamins**; found in wholemeal carbohydrate foods like bread, pasta and rice, will give teenagers the **energy** for growth and development.



Hormones for adulthood may cause the **skin** to become oily and disturbed so plenty of **fruit, salad and vegetables** must be eaten every day. The **Vitamin C** in these will keep the skin in good condition, and promote general good health.

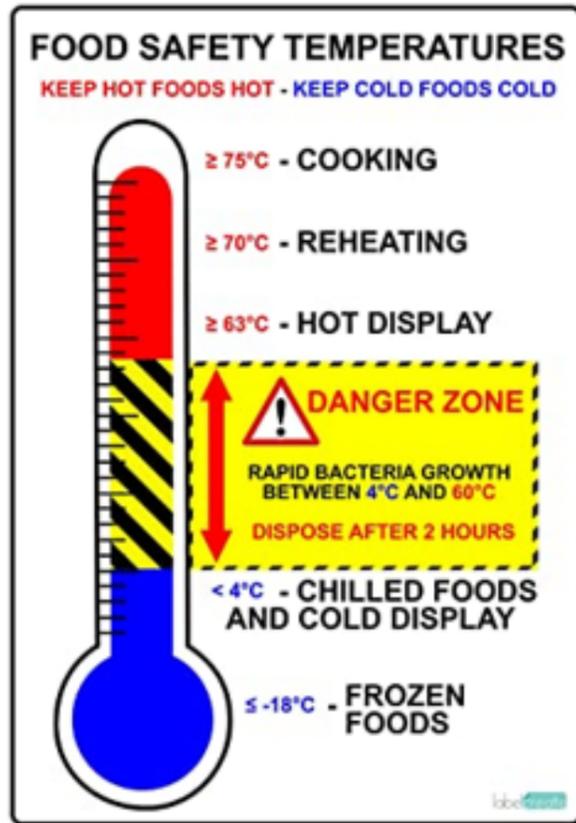


Too much **sugar should be avoided**, from fizzy drinks, sweets, milk chocolate, cakes and biscuits. Sugar is an “empty” food and causes tooth decay, uneven blood sugar levels leading to Diabetes, and weight gain due to fat storage around the tummy region.

For girls, **menstruation** will begin and higher levels of the mineral **iron** are needed. This is found in meat, green vegetables, dried fruit and cocoa powder. If you lack iron in your diet then you risk being *anaemic* (tired, pale and unable to concentrate) as you cannot make enough red blood cells to carry oxygen around the body. This deficiency disease is called **anaemia**.



# Year 8 Knowledge organiser Food safety and nutrition



## Danger Zone: 5-63°C

- Between 5°C and 63°C, bacteria can grow and multiply very rapidly.
- Bacteria grow best at 37°C, which is normal human body temperature.
- Hot food should be eaten before it drops below 63°C.

## Freezing: -18°C

- Bacteria can no longer grow at temperatures below -18°C.
- Freezing preserves nutrients and increase the shelf life of many foods.
- Its important to note that bacteria become dormant when food is frozen – they don't die. As soon as food defrosts, they turn active again.

## Cooking or reheating: 75°C

- To destroy bacteria, we should cook food at temperatures higher than 75 °C.
- We should only reheat food once, ad we should always reheat food thoroughly. We should heat the food for a minimum of 3 minutes or until the food is 'piping hot' (definitely above 75°C).

## Chilling: 0-5°C

- Food may harden a little when its chilled, but besides that food, doesn't really change when its chilled.
- Storing food between 0°C and 5°C will slow bacteria growth and increase shelf life (how long the food stays safe for).



## High Risk / Low Risk

High risk foods carry a "use by date".

These are high protein and moist foods

- Raw meat & poultry
- Raw egg
- Raw fish
- Shell-fish
- Moist dairy products
- Gravy
- Meat, fish and egg products like sausages, pies, puddings

Low risk foods carry a "best before date"

These are low in protein and / or dry

- All dry foods (pasta, rice, biscuits)
- All low protein foods like clean fruit and vegetables

*(Bacteria need moisture and protein to grow, and warm conditions. To stop bacteria:- remove the water or chill the food.)*

## To grow on our food, bacteria need 5 things:-

- **Protein for food.** Like us they need protein for growth.
- **Moisture to live.** Like us they must have water to survive.
- **Warmth.** The ideal temperature for pathogenic bacteria to grow is our body temperature 37°C
- **Time to grow.** Bacteria can double in number every 10 to 20 minutes!!
- **pH must be correct.** If too acid, as in pickles, bacteria can't grow.



## Preparing Food:

- Good personal hygiene – wash hands, cover hair with hair nets or hats, put plasters, or bandages on cuts to cover them, wear clean cooking clothing (e.g. aprons), and take off all jewellery.
- Wash uncooked fruits and vegetables well. Make sure no earth remains on the vegetables.
- Make sure frozen food completely defrosts.
- Separate food – separate groups on different chopping boards and prepare cooked and uncooked foods on different surfaces.
- Make sure equipment is clean.
- Sanitise surfaces with antibacterial spray.



## Cooking Food:

- Cook food thoroughly and all they way through.
- Cook food for the right amount of time at the correct temperature.
- Use a sterilised temperature probe to test food temperature. Make sure you insert the probe into the thickest part. Cooked food should be 75°C or above.



## Serving Food:

- Ideally, hot food should be served immediately.
- If you're leaving hot food to stand, don't let it drop below 63 °C and don't let it stand for more than 2 hours.
- Cover food to stop contamination from flies or pests.
- Minimise food waste.
- Do not overfill waste bins.



## COLOUR CODED CUTTING BOARDS

- RAW MEAT
- RAW FISH
- COOKED MEAT
- SALAD & FRUIT
- VEGETABLES
- BAKERY & DAIRY



## How do you know if you have food poisoning?

### What are the symptoms?

- Abdominal Pain
- Nausea
- Vomiting
- Diarrhoea
- Fever

In ideal conditions where there is **Moisture, Food and Warmth** (37degrees centigrade is ideal), bacteria can double every 10 to 20 minutes. They do this by dividing in to two. This is called

## Binary Fission