

Bacteria

What are bacteria?

A micro organism that multiply in certain conditions.

Where can bacteria be found?

Everywhere!

Are all bacteria bad?

No- some are good and essential for normal bodily function.

How can you reduce the risk of bacteria?

- Storing food separately
- Storing and cooking foods at the correct temperatures

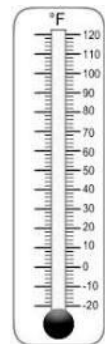
Can we kill bacteria by putting them in the fridge?

No- but keeping food chilled at the correct temperatures will slow bacterial growth.

What do bacteria need to multiply?



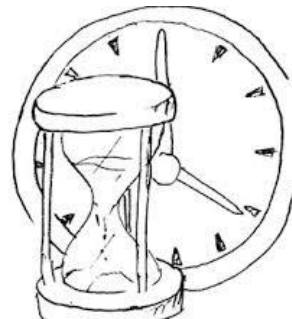
Water: bacteria need moisture to grow



Temperature: bacteria grows when warm



Food: provides the energy for bacteria to grow, multiply and produce toxins



Time: if food is exposed to these things for a long time they will quickly multiply

Why we cook food

Appearance - heat changes the colour and size of food

Taste - makes it taste nicer

Texture - heat changes the texture

Safety - heat kills bacteria so we don't get food poisoning

The 4 C's

Cleaning - wash your hands properly

Cooking - make sure you cook food properly or you could make someone very ill

Chilling - keep it chilly silly

Cross contamination - keep raw meat and cooked food apart

Year 8 Food Knowledge Organiser: The Science of Food

Cross Contamination

What is cross contamination?

Cross contamination is spreading bacteria from one place to another.

What are the four C's to help prevent spreading bacteria?

- Clean
- Cook
- Chilling
- Cross contamination

Why do we use different coloured chopping boards when preparing food?

To prevent the spreading of bacteria (to avoid cross contamination).

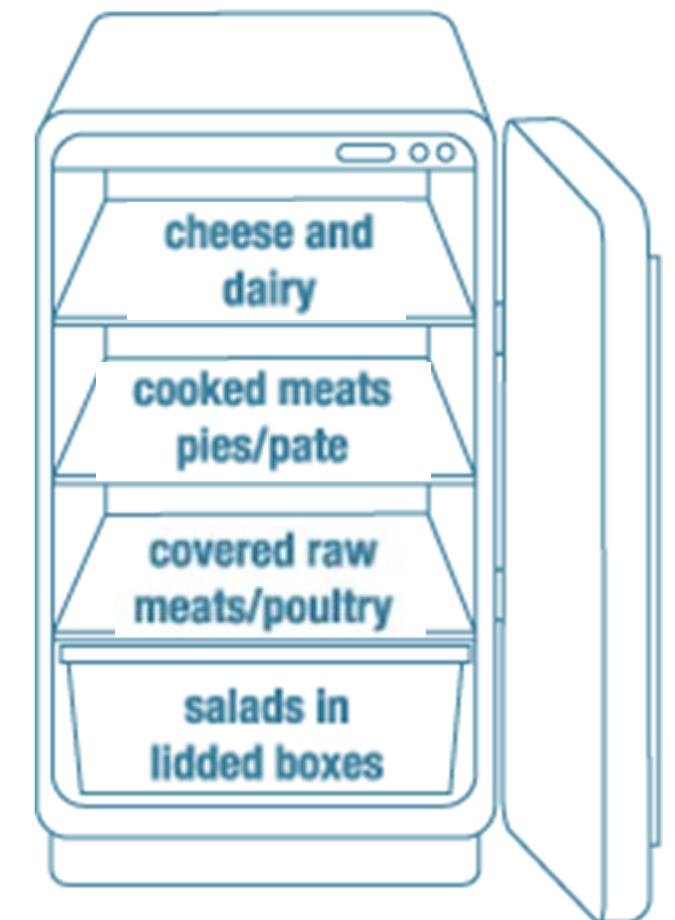


Storing Food

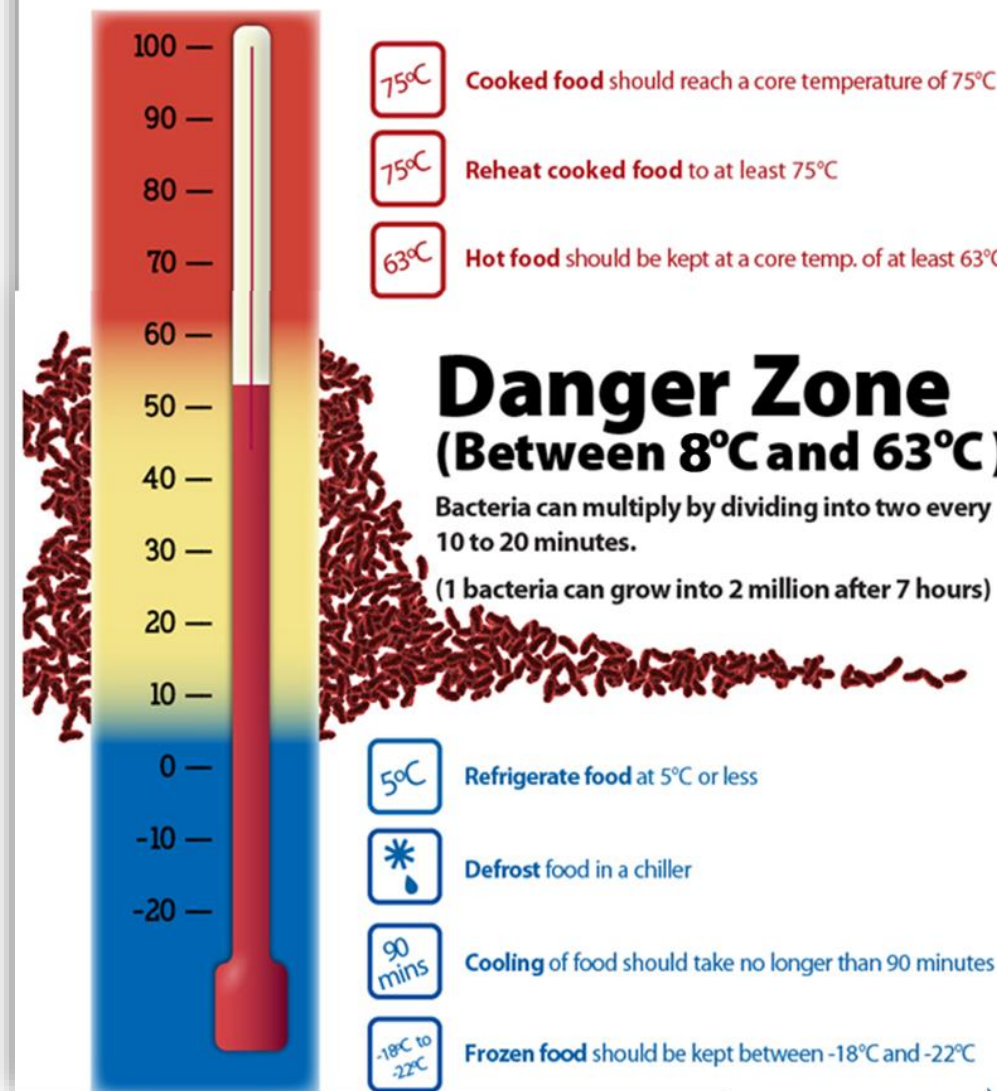
Temperature is really important to keep food safe. The following temperatures should be used:

Refrigeration	Fridges should run at 4°C or below.
Freezing	Freezing of food at -18°C or below will stop bacteria multiplying.
Cooking	Temperatures of 72 °C or above kills almost all types of bacteria.
Danger Zone	The temperature range where bacteria is most likely to reproduce: 8°C-63°C.

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



Keep food out of the Danger Zone



What is the Eatwell Guide?

The Eatwell Guide is a guide that shows you the different types of food and nutrients we need in our diets to stay healthy.

Why is the Eatwell Guide important?

The Eatwell Guide shows you how much (proportions) of food you need for a healthy balanced diet.

What are the consequences of a poor diet?

A poor diet can lead to diseases and can't stop us from fighting off infections.

What are the sections on the Eatwell Guide?

- 1. Fruit and vegetables
- 2. Potatoes, bread, rice, pasta and other starchy food
- 3. Dairy and alternatives
- 4. Beans, pulses, fish, egg, meat and other proteins
- 5. Oils and spreads

The Eatwell guide



Macronutrients

Needed in **large amounts** to help the body to function properly

Fat



Function:
Energy
Warmth
Protection of organs



Sources:

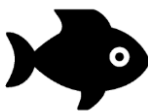
Saturated Fat
(*Bad Fats*)
Meat
Processed Foods
Lard

Unsaturated Fat
(*Good Fats*)
Avocado
Nuts
Olive oil

Too much

- Obesity
- Type 2 diabetes
- Heart Disease

Protein



Function:
Growth and Repair
Energy

Sources:

Plant (LBV)
Nuts
Quorn
Beans
Lentils

Animal (HBV)
Eggs
Fish
Meat

Too much

Turns to fat if not turned into energy

Too little

- Anaemia
- Slow growth in children

Carbohydrates



Function:
Energy



Sources:

Bread
Pasta
Rice
Wheat
Potatoes
Cereals

Sugars:

Cakes
Sweets

We should consume no more than 30g of sugar per day

Too Much

- Weight Gain -Tooth decay
- Type two diabetes -Heart disease

Water

Keeps us hydrated.

Source

Drinks, fruit and vegetables, soup.

Function

- Controls body temperature.
- Gets rid of waste in the body.

Too little

- Dehydration leads to headaches, irritability and loss of concentration.

Fibre

Function:

It helps us poo
It helps to get rid of waste

Source:

Wholegrain, whole wheat, wholemeal cereals,
Peas and beans

Too Little

- Constipation
- Bowel Cancer

Micronutrients

Needed in small amounts to help the body to function properly



Vitamin	Sources	Function
Vitamin A	Fish, eggs, oranges	Helps us to see well
Vitamin C	Oranges, tomatoes, vegetables	Helps to heal cuts, helps the immune system.
Vitamin D	Eggs, the sun	Helps our bones to grow
12 B Vitamins	Cereals, meat, fish	Helps to keep us healthy

Mineral	Sources	Function
Iron	Red meat, spinach, beans and lentils	Helps our red blood cells carry oxygen so that we are not anaemic.
Calcium	Milk, cheese and some cereals	Help us to have strong bones and teeth.