

You have produced your own knowledge organisers for Food safety, contamination and poisoning. Please find some additional information below.

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.

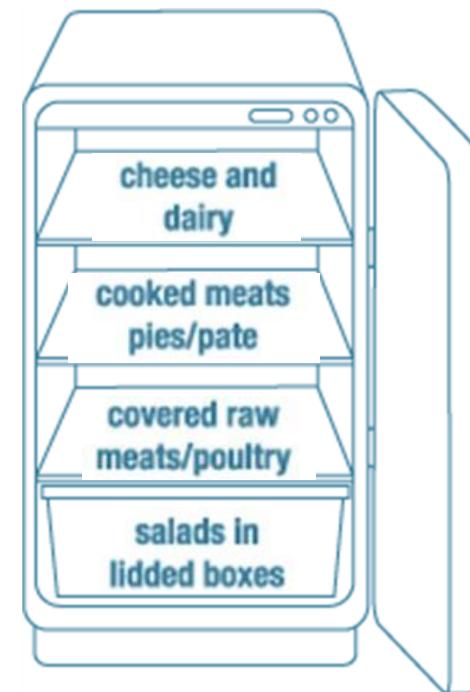
Contamination and Food Poisoning

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:



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

What do bacteria need to multiply?



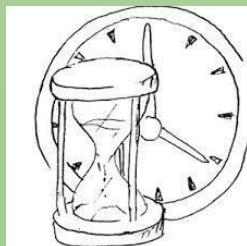
Water: bacteria need moisture to



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

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

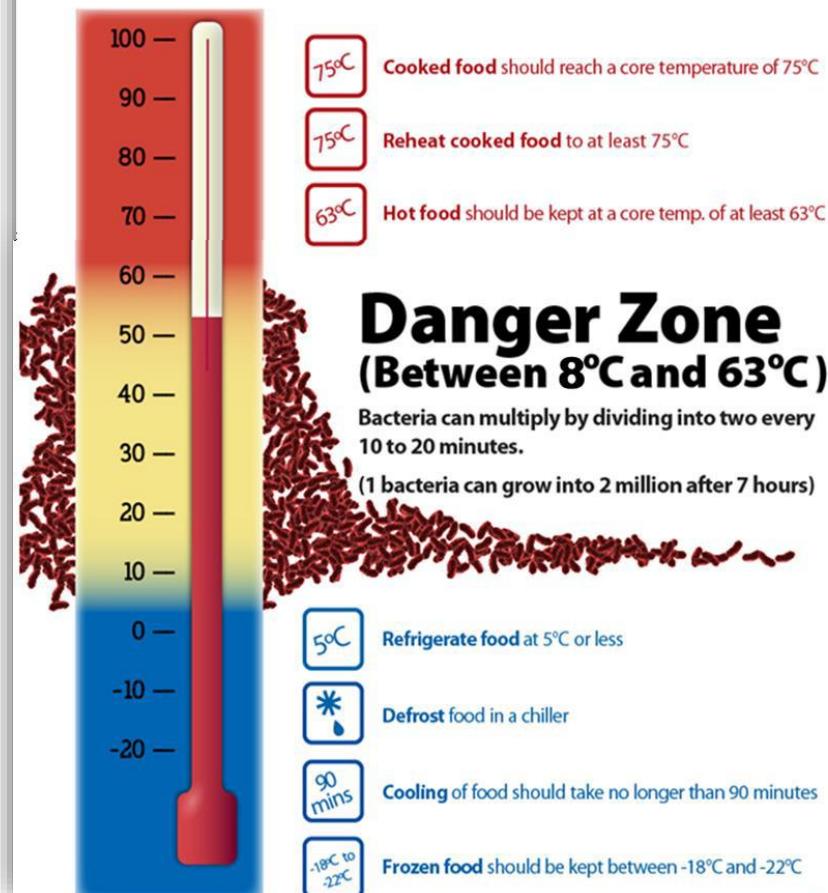
Why do we use different coloured chopping boards when preparing food?

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

Cross Contamination



Keep food out of the Danger Zone



Food Contamination and Poisoning

Sources of contamination:

Food can get contaminated in a number of ways.

Name	Natural contamination	Additional contamination	Prevention
 Biological	Food poisoning bacteria	Bacteria from another source	Store your cleaning chemicals away from food Always label chemicals Always wash fruit and vegetables
 Chemical	Chemical - poison, or pesticides	From cleaning chemicals,	Tie your hair up Remove jewellery Wear blue plasters
 Physical	Bones	Foreign objects (hair, plasters, flies, screws)	Store food properly Cook food properly No cross contamination Clean hands

Signs of Spoilage

Discolouration -
Change in colour

Change in texture -
Slimy, wrinkly,
lumpy, hard

Visible mould

Smell -
Sour, bitter or sharp

Change in flavour -
Sour, rancid, acidic

Positive use of Microorganisms:

1. Mould is added to blue cheese
2. Yeast is used to make bread
3. Bacteria is used to make yoghurt

Food Preservation:

Food need to be preserved in a way that reduces the bacterial growth, moulds or spoilage.

Controlling temperature
Removing moisture/air
Changing pH
High cooking temperature

Why Bother?

Prevents food poisoning
Reduces food waste
Saves money
Helps planet

Methods of cooking food

Method	How	Example	Advantage	Disadvantage
Moist heat method				
Boiling	Starchy food boiled vigorously	Potatoes	Quick and healthy (no extra fat)	Water soluble vitamins lost
Poaching	Food gently cooked in a small amount of liquid	Meat, fish or eggs	Quick and healthy (no extra fat)	Water soluble vitamins lost
Steaming	Food cooked in the steam of boiling water	Vegetables, fish	Quick and healthy (no extra fat) Water soluble vitamins kept	Takes a long time
Dry Heat Method				
Baking	Dry, hot air of oven	Cakes, bread	Good colour and texture, Many products cooked at once	Specific times and temperatures needed
Roasting	Dry, hot air of oven. Food is basted to stop it drying out	Joints of meat, vegetables	Flavour and texture, multiple products at the same time	Takes a long time, food can dry out
Grilling	Small pieces of food cooked by radiant heat	Sausages, bacon	Healthy (fat drips out of meat)	Needs supervision, easy to under/overcook
Frying Method				
Shallow frying	Small items cooked with a little fat	Chicken, vegetables, sausages	Quick method, minimal fat added	Not very healthy, needs constant supervision
Deep Frying	Food submerged in hot oil	Chips, chicken, fish	Golden colour and crunchy texture Quick and versatile	Very unhealthy Needs supervision dangerous
Stir frying	Food kept moving in small amount of oil	Thin strips of meat, vegetables	Quick, limited vitamin loss	Lots of prep needed, constant supervision

Methods of preservation:

1. Freezing: Freeze foods to slow growth/make organisms dormant. e.g. meat
2. Chilling: Keeping food in the fridge or a chiller cabinet slows down growth of microorganisms. e.g. meat
3. Jam Making provides a sugary medium which inhibits growth of bacteria and mould e.g. strawberries
4. Pickling: alters the pH levels inhibiting growth of bacteria and moulds e.g. onions
5. Salting: the salt draws moisture from the food which therefore prevents/inhibits growth of bacteria and moulds e.g. fish
6. Canning: food contents are processed and sealed in an airtight container. e.g. fruit