

Refrigeration and Freezing

Freezing prevents the growth of some bacteria and moulds, so the rate of food spoilage is reduced.

Due to the cold temperatures in refrigerators and freezers, the rate of microbial activity is reduced. To ensure high quality of frozen foods when thawed (melted), the ice crystals that form during freezing must be small. This is achieved by freezing the product very quickly.



Freezer Burn: A condition that occurs when frozen food is not covered packaged correctly and air comes in contact with the food.

- ***Identify FIVE foods that are preserved using the freezing process.***
- ***How do you think 'freezer burn' can affect the texture and flavour of food?***

Salting

Salt draws moisture away from food and the salt is dissolved in the food. This stops bacteria and other micro-organisms from growing as there is no water activity in the food. Salting is the oldest method of preserving food.

- ***Beef Jerky is a type of salted meat. Describe the texture (mouth feel) and flavour of the meat. Why do you think it has changed?***
- ***Identify TWO foods that are preserved using the salting process.***



Dehydration

Drying is a method of food preservation that works by removing water from the food, which stops the growth of bacteria and has been practiced worldwide since ancient times to preserve food. Water is usually removed by evaporation; air drying, sun drying, smoking or wind drying. Foods can be dried at home using a food dehydrator or an oven.



Image: Fish being air dried in Madagascar.

- *Identify FIVE foods that are preserved using the dehydration process.*
- *Why is drying fruit a good idea?*

Canning

During the canning process, you boil the food in the can to kill all the bacteria and seal the can (either before or while the food is boiling) to prevent any new bacteria from getting in. Many canned foods contain high amounts of sodium (salt) or sugar to prevent the flavour of the food from changing. The canning process is effective because air is entering the food and the high amounts of salt or sugar also assist with the preservation process.

- ***Identify FIVE foods that are preserved using the canning process.***
- ***Describe the flavour, texture and colour of the canned vegetables. Why do you think these have been altered?***



Jamming: Addition of Sugar

Sugar is the key ingredients in the preservation of fruits in the form of jams, jellies, marmalades and fruit butters. Sugar has a dehydrating effect similar to that of salt. It draws the moisture away from the food and increases the food's natural sugar levels, which stops the growth of bacteria. When preparing jam, you boil equal amounts of sugar and fruit.

- *How would you store Jam?*
- *What types of fruits are most suitable for Jamming?*



Pickling

Pickling is the process of preserving food in brine (salted water) or vinegar. This process gives the food a salty or sour taste. The high amounts of acid (from vinegar) stop microorganisms from growing and spoiling the food. Pickling also improves the flavour of the food.

- ***Identify THREE foods that are preserved using the pickling process.***
- ***Describe how the addition of salt/vinegar has altered the flavour, texture and colour of the vegetables?***

