

PENANG SANGAM HIGH SCHOOL
P.O.BOX 44, RAKIRAKI
LESSON NOTES WEEK 3

Subject: Home Economics

Year/Level: 10

Strand	Food and Nutrition
Sub Strand	Food Processing
Content Learning Outcome	1. Discuss methods of preservation and foods suitable for that preservation method. 2. Plan and prepare a preserve using one of the methods.

Home Preservation

1. Freezing:



- Freezing is a quick, convenient, and easy method of preserving foods in the home. Freezing preserves nutritive quality so that frozen foods resemble fresh foods.
- Bacteria, molds, and yeast are present on all fresh foods and multiply rapidly when the temperature is between 40°F and 140°F.
- Freezing does not kill most microorganisms in food, but it does prevent their growth if the food is held at 0°C or lower.
- When thawed, the surviving organisms can grow again. This is why proper handling and preparation techniques are essential.

Blanching – scalding **vegetables** in boiling water or steam for a short time

Why blanch Vegetables?

- To improve flavor, color, texture, and nutrient retention
- To slow or stop the action of enzymes in the ripening process
- To brighten the color of green vegetables

2. Drying:

- Drying basically dehydrates or removes the moisture from the food and this simple action inhibits the growth of bacteria, mold and yeast.
- Moreover, it slows down the enzyme action without deactivating them.

Ways of drying food:

- Sun Drying: Drying food in the sun is a safe and economical way to preserve food, especially fruits. Meats and vegetables, however, cannot be dried outdoors since they have a low sugar and acid content.



Equipment needed for sun drying

- Racks/ screen
- Block/ concrete surface
- Sheet of aluminum

- **Oven Drying:** An oven can easily and effectively be used to dry food.
-For this, place the food in a single layer on a tray or in a shallow pan, and then place the tray or pan in an oven preheated to 1600 F for 30 minutes.
-Ovens have all the three elements needed for food drying – heat, low humidity and air flow.



- **Room Drying:** Food has to be dried is placed in a well-ventilated room or covered space.
-To dry herbs and hot peppers, either suspends them from a string or ties in bundles and suspends them from overhead racks.
-Keep the herbs and peppers covered in paper bags with small openings to allow air circulation.
-The paper covering will protect them from dust, insects and other pollutants.
-To air dry nuts in the room, simply spread them on a single layer of paper while for partially sun dried fruits, one can simply leave them on their drying trays.

3. Smoking

- When food is smoked, some of the water inside it is lost.
- Some of the smoke and resin from the wood goes into the food, giving the food a special taste. The loss of water and the smoke and resin help to preserve the food.
- Suitable foods for smoking are: Fish, Shellfish, Meat, Whole breadfruit.

Method for smoking food:

1. Cut meat into thin strips or prepare fish and shellfish as for drying.
2. Thread the fish onto a wire or bamboo and hang about 3 feet (approx. 1metre) above the cooking fire. The fire must be kept low so that the food does not cook. There should be smoke with no flame.

4. Fermenting food

- Process of causing food to change in taste through the action of special kinds of yeasts or bacteria.
- People in the Pacific used to preserve root crops and breadfruit in fermentation pits for ages.
- It was once the most important method of preserving large amounts of surplus food for times of need and for special ceremonies.
- It was also an important way to store foods when disasters forced people to harvest all the food at once: for example, breadfruit blown down by cyclone.

5. Addition of chemicals (PRESERVATIVES)

i. Salt

- Salting is the preservation of food with dry edible salt.
- Salt draws water out of food and dehydrates it.
- It is used to preserve beef jerky by keeping it dry, and it prevents butter from spoiling by drawing water out, leaving just the fat.

ii. Acids

- Vinegar and all other citric juices can be used as a preservative.
- They contain acetic acid which does not allow bacteria to survive.

iii. Sugar

-The addition of sugar to jams and jellies, for example, inhibits microbial growth and prevent spoilage.

-Having the ability to absorb water, sugar withdraws moisture from micro-organisms.

-As a result, micro-organisms become dehydrated, and cannot multiply and cause food spoilage.

iv. Oil

-Oil has an ability to stop the moisture from entering the food.

-It acts as a barrier for moisture by forming a layer on the surface of the food to stop the process of oxidation.

v. Spices

-Spices like red chillies, coriander, bay leaves, garlic, ginger etc. are great preservatives.

-Spices also contain antioxidants that help in preventing food oxidation.

Pineapple chutney

Ingredients

10 cups pineapple, cut into small pieces
2 cups sugar
Cups vinegar
2 tbsp chopped green ginger
3 pieces of garlic
2 tbsp salt
1 lemon skin, grated
2-3 chillies

Method:

1. cut the peeled pineapple into small cubes.
2. put the cubes into a big pot.
3. add all the other ingredients
4. bring to boil and cook slowly till the chutney becomes thick.
5. pour into sterile jars, cool and seal the tops.

It keeps for about 9 months.



Mango Pickle

Ingredients

5-6 medium sized raw mangoes
1 tbsp fenugreek
2 tbsp mustard seed
2 tbsp fennel seed
1tbsp tumeric
2 tbsp red chilli powder

Salt as required

Mustard oil as required

Method:

1. Rinse, wipe and dry the mangoes
2. Dice the mangoes, discard the seeds.
3. Mix all the spices, spice powders and salt with the diced mangoes.
4. Keep this spiced mango mixture in sunlight for 3-4 days.
5. Cover with a thin muslin to protect from dust.

1. After 3-4 days, add the mangoes to a sterilized dry jar.
2. Pour mustard oil till it just about covers the rim of the mangoes up to 1inch.
3. Stir and mix well.
4. Store the pickle in a dry and cool place for 3-4 days.
5. After 3-4 days you can start having the mango pickle.
6. Serve the mango pickle with your dhal- rice, curd – rice, roti & veggie dishes.



Activity

1. Think of a food that you can use to preserve at home and list down the ingredients needed and method. An example is Chilly chutney.
2. Differentiate between smoking and drying method of preservation provide examples.
3. Define blanching and give reasons as to why vegetables are thawed.
- 4.