

5

Food inventions

Reading

Before reading

1 Discuss these questions.

- 1 Why do we keep meat and fish in the fridge?
- 2 What happens if you leave milk out of the fridge all day?
- 3 Why do bananas go bad in a week, but dates or raisins stay good for months?

2  Read and listen.

Preserving Food

For thousands of years, people have tried to find ways to keep food for longer. In the past, this was important as people needed to save fresh food for times when it was hard to find, such as the winter. Today there are still many places without electricity and people living in these places need to **preserve** food in ways that don't use fridges. They need to make food last as long as possible.

Why doesn't food last?

The problem is that all food can grow **bacteria** and bacteria **spoils** food. To preserve food you have to destroy the bacteria or slow down their growth. There are different ways to do this.

1 Drying

Drying is the oldest type of food preservation. If water is **removed** from food, the bacteria can't grow. In ancient times in hot countries, people simply left fruit and meat outside to dry in the sun and the wind until all its natural water was gone. This made the fruit last a very long time. Drying fruit sometimes results in a completely new **product**. For example, grapes turn into raisins and plums turn into prunes. Drying food in the sun does not work in cooler or wetter climates, but people have other **methods** to preserve food in cold places.



2 Salting

Salting food, especially meat and fish, is another very old way to preserve food. Bacteria cannot grow in a very salty environment, so salted food lasts a long time. In many countries, salt fish or meat has become a **traditional** food and people still eat it today. For example, in Portugal the national dish is salt cod fish, and although people could buy fresh fish and **refrigerate** it, they prefer to eat the preserved fish.

3 Canning

A more modern way to preserve food was **discovered** in 1809 by an inventor called Nicolas Appert. He found that if food is heated at high temperatures and then sealed in a **container**, the food lasts for months. This is because the bacteria are killed when they are heated and cannot grow again without air. Vegetables and fizzy drinks in cans, and jam and juice in bottles are preserved using this method.



4 Freezing

Another newer method of food preservation is freezing. In the 1900s a scientist called Clarence Birdseye went to the Arctic. He noticed that when fish was caught it froze quickly in the icy conditions. He realised that freezing food slowed down the growth of bacteria. Back home, he invented a way of fast-freezing food.



Frozen food was first sold in 1930 and was very popular, especially in North America. Today millions of people have freezers in their homes. All sorts of food, from vegetables to pizza, is frozen in **factories** before it is **transported** to supermarkets for us to buy.

Vocabulary

3 Use the words from the text to complete the sentences.

- 1 You can preserve plums if you dry them in hot, dry places.
- 2 Scientists found that freezing makes _____ grow much more slowly.
- 3 If you have electricity, you can _____ food to preserve it.
- 4 There are many different _____ for preserving food, like salting and drying.
- 5 Food is _____ by lorries from farms to supermarkets.
- 6 Bacteria _____ meat if it is not kept in the fridge.
- 7 When we dry something, the water is _____ from it.
- 8 Ice cream is a frozen _____.
- 9 In _____, people put vegetables into cans before they are taken to shops.
- 10 Scientists _____ different ways to preserve food a long time ago.
- 11 Although drying is a _____ method, people still use it today.
- 12 If food is completely sealed into a _____, no air can get in.

Reading comprehension

4 Answer the questions. Write *D* (drying), *S* (salting), *F* (freezing) or *C* (canning).

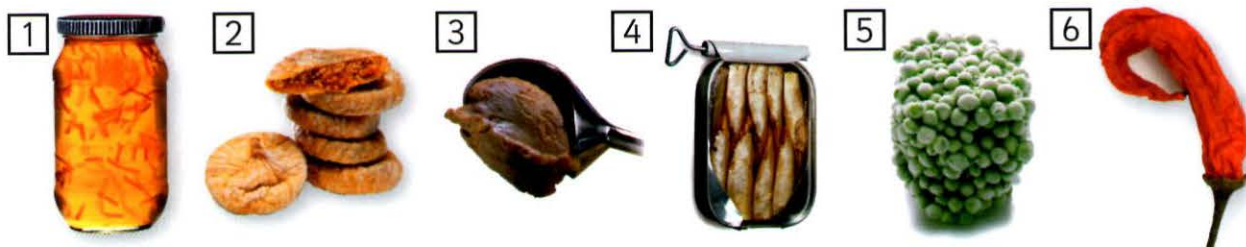
Which method of food preservation ...

- 1 takes the water out of the food? D
- 2 is the newest way to preserve food? _____
- 3 works because air can't reach the food? _____
- 4 only works in hot, sunny places? _____
- 5 was particularly popular in America? _____
- 6 is still a popular way to preserve fish in Portugal? _____
- 7 is the oldest? _____
- 8 was invented in a very cold place? _____

5 Write *True* or *False*.

- 1 In ancient times, people preserved food to eat in winter. True
- 2 Bacteria can grow in all types of food. _____
- 3 Drying food works well in cold countries. _____
- 4 Raisins are dried plums. _____
- 5 Some people like salt fish more than fresh fish. _____
- 6 Heating food to high temperatures destroys bacteria. _____
- 7 Freezing food destroys bacteria. _____
- 8 Food needs to be frozen in a factory to be preserved. _____

6 Write *dried*, *canned* or *frozen* under each food.



canned

7 Discuss these questions with a partner or with your class.

- 1 Which frozen / dried / salted / canned foods do you eat?
- 2 Do you eat more fresh food or more preserved food? Which do you prefer?
- 3 Can you imagine life without a fridge? Try to imagine what you would eat for breakfast, lunch and dinner if you couldn't eat any refrigerated food.

Canning is a popular way to preserve food. This is the process of canning green beans.

Step 1 First, the beans are picked in the fields. Then, they are transported by trucks to the factory.

Step 2 The beans are washed and cut up. Next, they are quickly put in boiling hot water. This keeps them green and firm and removes air.

Step 3 The beans are then inspected. Only beans that are the correct size, colour and quality are selected.

Step 4 After that, cans are filled with beans. Hot water is added to remove air and salt is added for flavour.

Step 5 Then the lids are put on and sealed. The cans are cooked at high temperatures for about 12 minutes.

Step 6 Finally, the cans are labelled and transported to shops.



When you describe a process ...

- Write an **introduction**, explaining which process you are describing.
- Divide the process into steps, and use **headings** to separate the steps.
- Use words and phrases such as **first, then, next, after that, finally** to introduce the steps.
- Use the **passive tense** to describe what is done at each step.

- 8 Describe the process of making chocolate. Use the notes below.

chocolate / make / from cocoa beans

Step 1 beans / pick / on the farms
they / leave / to dry in the sun
they / transport / to factories

Step 2 beans / clean / roast / shell
they / make into / rich brown chocolate liquid

Step 3 fat in the liquid / remove / to make cocoa butter
cocoa butter / turn into / cocoa powder

Step 4 different ingredients / add / to make milk and dark chocolate

