3.1.1

Preparing food to make it edible

PREPARATION TECHNIQUES

We often have to transform food before eating it. Bar only a few exceptions, food needs to be cleaned, cut up, peeled and so forth. The list is long.
Keywords > Clean, cut, peel, core, mince, squeeze, dry, melt...

These techniques allow food to be separated and prepared. There are many techniques. For example, there are mechanical techniques. These simply involve cutting, squeezing, grinding or sieving.
Mechanical techniques: cutting, peeling, churning, squeezing, centrifuging, grinding, sieving...

There are also thermal techniques such as drying, melting and crystallizing.
Thermal techniques: drying, melting, crystallizing, concentrating...

There are biochemical techniques, where the aim is to destabilise the molecular or cellular structure of a foodstuff. This is true of curdling milk, but we will be looking at that later on.
Biochemical techniques: destabilising the molecular or cellular structure

We will take two cereals as an example to illustrate these techniques.

GRAINS OF RICE

Grains of rice need to have their hard husks removed.

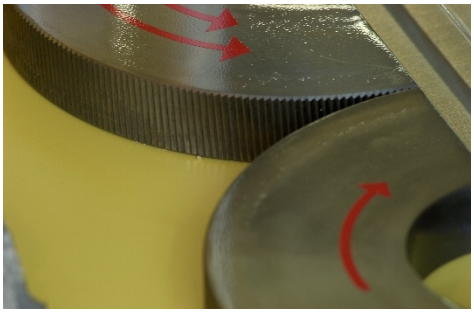
In the olden days, mechanical techniques involved beating every head of rice on a board. The grains were then poured into a mortar to be separated. They were separated from the husks by being hit by the flat side of a pestle, thus getting rid of the outside layers to reveal the white grains below.

Nowadays, the techniques are still mechanical, but rice is husked in industrial rice mills. Rubber rollers separate the grain from its husk without breaking it. The rice is then whitened by polishing the outside layers and removing the dust.

GRAINS OF WHEAT

What about grains of wheat? How are they milled into flour?

In the olden days, they were ground by millstones.



Nowadays, they are ground in industrial mills, which pass them between two corrugated steel cylinders.

Then they are sieved to separate the flour from the coarser, darker bits. So mechanical techniques are still in operation, alternating between grinding and sieving.

RULES FOR PREPARATION

In certain cases, preparation techniques may be subject to particular rules belonging to particular cultures. An example of this would be the technique for cutting up raw fish in Japan.

Photo: Set of Japanese kitchen knives showing a 'Deba bōchō' in the foreground, used to chop fish or meat, a square-bladed 'Nakiri bōchō' for vegetables and a 'Yanagi-ba-bōchō' used to make sashimis.

Or even the slaughtering methods used for preparing halal or kosher products, which require that the animal must have its throat cut and its blood drained out.

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Removing seeds from food is a...

- O biochemical technique
- O mechanical technique
- O thermal technique

Which of these techniques is a biochemical food preparation technique?

- O Drying
- O Curdling
- O Mixing

Cutting, peeling, pressing, centrifuging are...

- O biochemical preparation techniques
- O thermal preparation techniques
- O mechanical preparation techniques

Which biochemical preparation technique is used for making chocolate and coffee?

- O Fermentation
- O Germination
- O Neither

Rice is threshed to remove its hard husk. What kind of preparation technique is this?

- O Biochemical
- O Mechanical
- O Thermal

Which kind of technique is used to transform grains of wheat into flour?

- O Thermal
- O Biochemical
- O Mechanical

Just like in the past, millstones are always used to crush grains of wheat.

- O True
- O False

Slicing raw fish is a preparation technique widely used in...

- O Japan
- O India
- O Mexico

Answers

Removing seeds from food is a...

- ○ **biochemical technique**
  Wrong! Try again!
- ● **mechanical technique**
  Well done! Removing seeds from food is a mechanical preparation technique.
- ○ **thermal technique**
  Wrong! We do not use a source of heat to remove seeds from food.

Which of these techniques is a biochemical food preparation technique?

- ○ **Drying**
  Wrong! This is a thermal technique.
- ● **Curdling**
  Well done! Rennet is used to curdle milk.
- ○ **Mixing**
  Wrong! This is a mechanical technique.

Cutting, peeling, pressing, centrifuging are...

- ○ **biochemical preparation techniques**
  Wrong! These techniques do not require enzymes or microorganisms.
- ○ **thermal preparation techniques**
  Wrong! These techniques do not require a source of heat.
- ● **mechanical preparation techniques**
  Well done! That's right!

Which biochemical preparation technique is used for making chocolate and coffee?

- ● **Fermentation**
  Well done! Fermentation is an essential step in making coffee and chocolate. It helps develop aromas.
- ○ **Germination**
  Wrong! Germination is part of the process of preparing malt, used to make beer.
- ○ **Neither**
  Wrong! Try again!

Rice is threshed to remove its hard husk. What kind of preparation technique is this?

- ○ **Biochemical**
  Wrong! Threshing does not imply the use of enzymes or microorganisms.
- ● **Mechanical**
  Well done! That's right!
- ○ **Thermal**
  Wrong! Threshing does not involve the use of heat.

Which kind of technique is used to transform grains of wheat into flour?

- ○ **Thermal**
  Wrong! Making flour does not require a source of heat.
- ○ **Biochemical**
  Wrong! Making flour does not involve the use of enzymes or microorganisms.
- ● **Mechanical**
  Well done! Grains of wheat are ground into flour, which is then sieved.

Just like in the past, millstones are always used to crush grains of wheat.

- ○ **True**
  Wrong! Although mechanical preparation techniques are still used today, the equipment has changed.
- ● **False**
  Well done! Grains of wheat are now crushed in industrial mills with steel-fluted rollers.

Slicing raw fish is a preparation technique widely used in...

- ● **Japan**
  Well done! Sashimi is a key dish in traditional Japanese cuisine.
- ○ **India**
  Wrong! Think of sashimi!
- ○ **Mexico**
  Wrong! Try again!

ACTT03C01L01_B

Processed food

[8-10 years old and 11-13 years old and 14-16 years old]

Find the matching pairs.

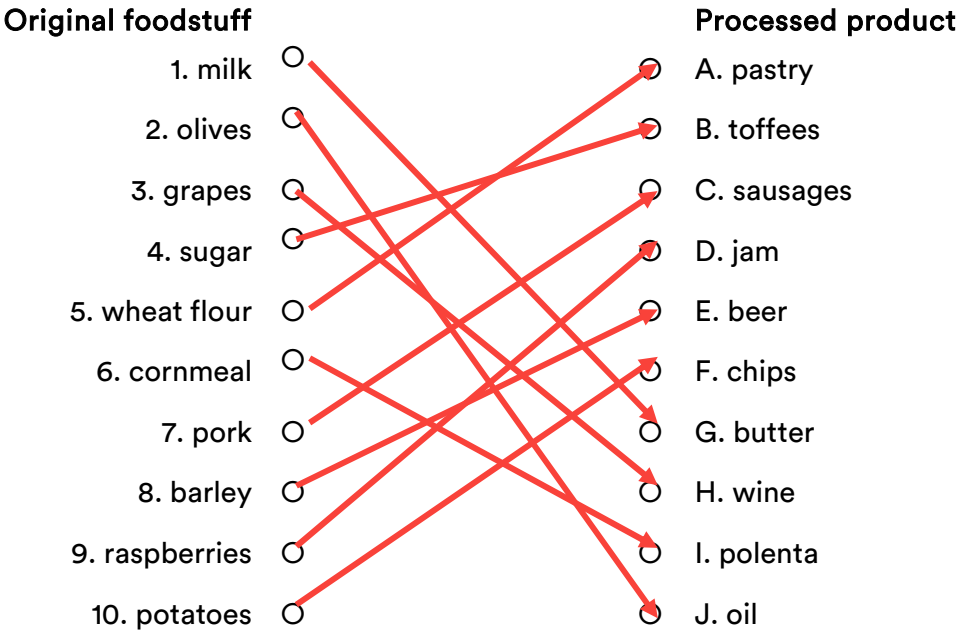
Original foodstuff		Processed product	
1. milk	○	○	A. pastry
2. olives	○	○	B. toffees
3. grapes	○	○	C. sausages
4. sugar	○	○	D. jam
5. wheat flour	○	○	E. beer
6. cornmeal	○	○	F. chips
7. pork	○	○	G. butter
8. barley	○	○	H. wine
9. raspberries	○	○	I. polenta
10. potatoes	○	○	J. oil

Answers

Processed food

[8-10 years old and 11-13 years old and 14-16 years old]

Find the matching pairs.



Answer:
milk – butter
olive – oil
grapes – wine
sugar – toffees
wheat flour – pastry
cornmeal – polenta
pork – sausages
barley – beer
raspberries – jam
potatoes – chips