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Discussion: Foodborne illness

Have you ever had a foodborne illness? What caused it and what signs and symptoms did you have? Discuss with your class.

Food borne illnesses is caused by consuming

contaminated foods

The signs and symptoms of food borne illness are

diarrhea and vomiting



Activity 1

Disease-causing microorganisms

In the space below, list the five disease-causing microorganisms that can be found in food.

1. Bacteria

2. Viruses

3. Fungi

4. Parasites

5. Chemicals

From the list above, which microorganism is the most common cause of foodborne illness?

Bacteria

Read the following paragraph about foodborne illnesses. Fill in the blanks with the correct answers.

Foodborne illnesses normally last a *short* time. They occur from *6* to *72* hours after eating food that is contaminated. Most people recover *on their own* ^{without} treatment.



Activity 3

The kitchen

Below is an image of a kitchen. Circle the places you think you would find bacteria in this kitchen.



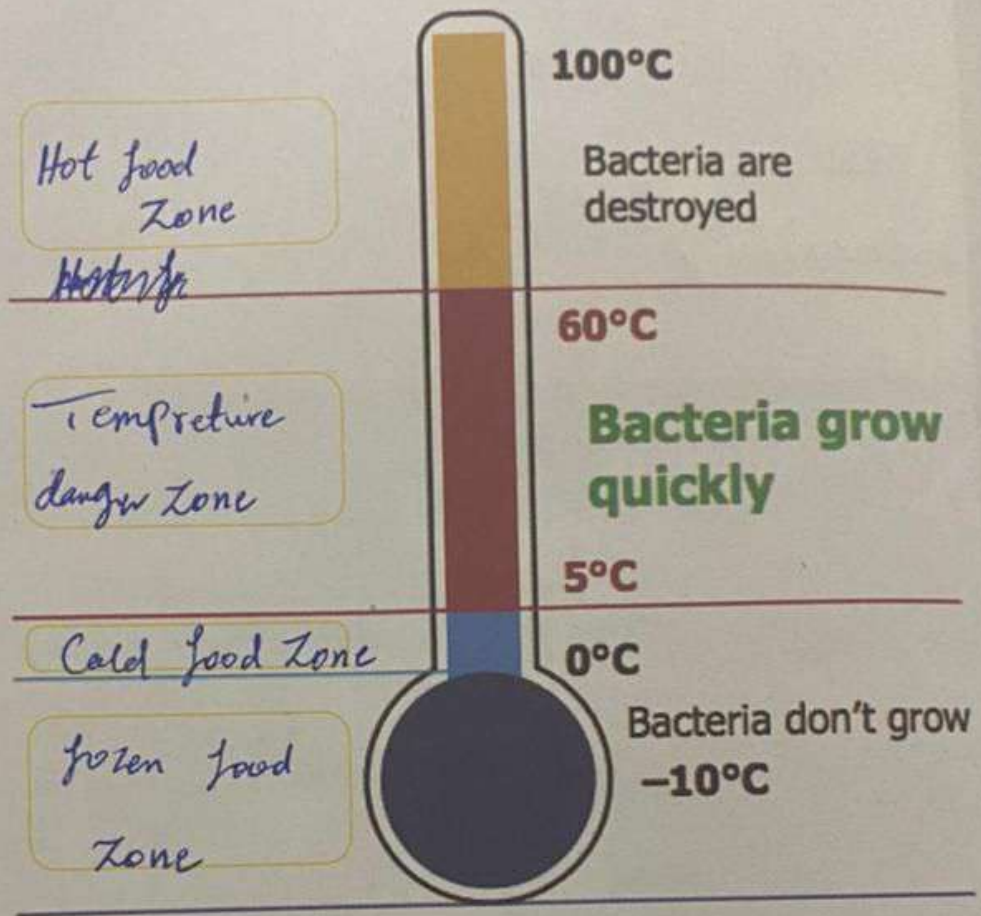
In which part of the kitchen do you think you would find the most bacteria?

..... *The fridge*

Why does it contain the most bacteria?

..... *Because keeping food in the fridge*
..... *can reduce the growth of bacteria*

Label each of the temperature zones correctly.



Activity 5

Bacteria leading to illness

Name the four types of bacteria that lead to foodborne illness.

Campylobacter
Escherichia coli (E. coli)
Salmonella
Listeria

Complete the table below by writing the names of three high-risk foods and explain why they are high risk.

Name of food	Why it is high risk
Poultry	Can be very dangerous... small amounts of bacteria can make people very sick.
Eggs, Eggs	Very high risk, bacteria can live in the yolk.
Sea food	There are lots of different bacteria and toxins that can cause foodborne illness from fish.

Now, answer the following questions.

1. What is the location of the restaurant?

Dubai

2. How many people became ill?

15

3. What symptoms did the people have?

Diarrhea

Vomiting

Fever

4. What bacteria caused the food poisoning and where did it come from?

Salmonella bacteria from raw eggs

5. Are eggs part of the 'high-risk foods' group? Explain why.

Yes they are, because bacteria can live
in the yolk

10.2 Cross-contamination

STARTER 

Contamination re-cap

Think back to the previous lesson where you learned about contamination.

In your own words, explain what contamination is.

It's when particles of an allergy-containing food accidentally lands on another food that is normally safe to eat.

List the points that contamination by bacteria can happen.

~~when~~ while preparing food especially if the person is not careful.



Types of cross-contamination

Read the following scenarios and decide which type of cross-contamination is being described.

Huda made dinner for the family. When she finished, she rinsed the utensils in cold water and left them to dry. The next day Huda's mother used the same utensils to prepare breakfast. During the day, the whole family became unwell.

..... *Equipment to food*

Mohammed works in a fast-food restaurant. He emptied the bins in the restaurant and did not wash his hands. Then he prepared some burgers. Customers reported feeling sick a few days after this happened.

..... *People to food*

Hind used a brown chopping board to prepare some sushi for her friends. Her friends and her friends thought the sushi was delicious, but they could not understand why everyone was sick the next day.

..... *Equipment to food*

Saeed made a chicken shawarma for dinner. He did not realise that the chicken he made was not fully cooked. It made him so unwell that he had to go to the hospital for a few days.

..... *Food to food*

Can you remember what food items are used with each colour of chopping board?
Label each of the colours below with the correct food items.

Prevent cross-contamination

Use the correct coded chopping board and knives

Raw meats and poultry only

Raw fish and shellfish only

Raw, unwashed vegetables, salads and fruits only

Ready to eat and cooked food only

Washed vegetables, salads and fruits only

Bakery and dairy products only

Read the following statements. Tick whether you agree, disagree or are not sure about the statement.

Statement	Agree	Disagree	Not sure
Regular handwashing during food preparation is worth spending extra time on.	✓		
Keeping kitchen surfaces clean reduces the risk of illness.	✓		
Keeping raw and cooked food separate will help to prevent illness.	✓		
Using different knives and cutting boards for raw and cooked foods is important.	✓		
Meat thermometers are useful in making sure food is cooked properly.	✓		
Soups and stews should be boiled to make sure they are safe.	✓		
You should thaw food in a cool place like a fridge.	✓		
It is unsafe to leave chilled food out of the fridge for more than two hours.		✓	
Checking foods are fresh before buying them is important.	✓		



Watch
to safe

What

Use 1



Activity 12

The five keys to safer food

Watch the video created by the World Health Organization. It shows the five keys to safer food handling and storage.

What are the five keys to safer food?

1- Keep clean

2- Separate raw and cooked food

3- Cook thoroughly

4- Keep foods at safe temperatures

5- Use safe water and raw materials

Use the space below to make any other notes you have from the video.

Can you remember the steps for proper handwashing? Number the steps below from one to four.

4	Dry hands with a clean dry towel.
1	Wet hands under running water.
2	Rub hands together for at least forty seconds with soap.
3	Rinse the soap from hands under running water.



Activity 14

Cleaning and sanitising

In the space below, explain the difference between cleaning and sanitising.

- Cleaning removes germs and dirt from surfaces

or objects

- Sanitising lowers the number of germs on surfaces to

a safe level

Look at the following pictures. Identify whether the pictures are good or bad examples of how to store food in a fridge. Give a reason for each answer.

Image

Is this a good or bad example of food storage? Explain why.



Yes, it ~~prevents~~ prevents the spread of bacteria in the fridge



Yes, prevents cross-contamination



NO, reduces cross-contamination



Yes - prevents cross-contamination and the spreading of bacteria in the fridge.

Research which bacteria can survive at low temperatures. Write your answers below.

- Bacteria cannot grow if it's too hot or too cold.
Therefore, storing foods at a temperature below 5 degrees
is advised.



Activity 16

Handwashing

Answer true or false to the following questions about cooking food.

To cook food thoroughly means that it is cooked correctly and properly.	✓
Cooking food to 50°C will kill large groups of bacteria within twenty seconds.	X
One way to check that food is cooked is to use a stethoscope.	X
Microwave ovens can cause toxic chemicals to be released from plastic.	✓

In the space below, write what the temperature danger zone for food is.



Temperature danger zone:

Between...5° and...60°...

Why is it called the danger zone?

Because it is the easiest for

harmful bacteria to grow in foods.

Activity 18

Microwave ovens

Write down two dangers of using a microwave oven to cook or reheat food.

- Can heat foods unevenly that would

leave cold spots where dangerous bacteria can survive.

- It can release toxic chemicals when plastic

is heated.

10.3 Preventing foodborne illness



Discussion: Foodborne illness

Do you drink tap water from your home? Discuss in your group either do or do not drink water from the tap.

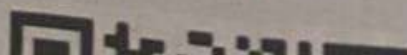
No, because contamination by bacteria and chemicals or chlorine may be added which can give it an unpleasant taste unless it is filtered at home



Activity 19

Food safety quiz

Scan the QR code below to complete the WHO quiz on food safety.





Activity 21

Allergies and intolerances

List as many food allergies and intolerances as you can think of.

Peanuts

Eggs

Gluten

Mustard

Shellfish

Fish

Milk and dairy foods

Sesame foods

Caffeine and lactose

In the space below, draw and label foods that contain lactose.

Natural Sugar

Found in milk

Yoghurt

Soft Cheese



Activity 23

What contains gluten?

In the space below, draw and label some foods that contain gluten.

Bread

Pasta

Cereals

Pastries

Cookies

Doughnuts

Complete the table below to compare food allergies and intolerances.

	Allergies	Intolerances
Which system of the body is involved?	immune system	Digestive system
How serious is a reaction?	life-threatening	not life-threatening
Does eating a small amount cause a reaction?	Yes	No
List some common foods that cause reactions.	<ul style="list-style-type: none"> - Peanuts - Mustard - Fish - Eggs - Sesame seeds 	<ul style="list-style-type: none"> - lactose - Caffeine - Gluten - Histamine in mushrooms and pickles

Diagrams below by writing the signs and symptoms of food allergies and food intolerances.

Signs and symptoms of food allergies

- Rashes or hives
- Itchy mouth
- Swelling of face, tongue and lips
- Trouble breathing

Signs and symptoms of food intolerances

- Gas
- Stomach cramps, bloating
- Heart burn
- Headaches



Anaphylaxis

Read the following sentences about anaphylaxis. Fill in the blanks in each sentence using one of the words in brackets at the end of the line.

Anaphylaxis is a *Severe* allergic reaction. (~~mild~~/severe)

Anyone experiencing anaphylaxis should get *immediate* medical attention. (immediate/~~gradual~~)

Symptoms of anaphylaxis include problems with breathing, skin rashes, nausea and an increased *heart* rate. (~~heart~~/thinking)

If a person goes into shock, they should be treated with a/an *injection* (tablet/injection)

The injection containing *adrenaline* comes in the form of an auto-injector. (~~paracetamol~~/adrenaline)

People with severe allergies should *always* carry an adrenaline auto-injector with them. (always/~~never~~)

Notes:

.....
.....
.....
.....
.....
.....

Adrenaline auto-injectors

Can you remember the steps taken to administer an adrenaline auto-injector? List the steps below. If you can't remember, carry out some research and write the steps down.

- 1 - Take the auto-injector out of its package
- 2 - Remove the safety cap
- 3 - Hold the injector in your fist
- 4 - Push the needle firmly against the person's thigh
half way between the hip and knee
- 5 - Hold the auto injector in place until all the medicine
is injected - usually no more than 3 seconds
- 6 - Remove the needle by pulling the pen straight out
- 7 - Cover the needle with the cap
- 8 - Put the needle back in the package
- 9 - Massage the area after the injection

Unit quiz

1. What are foodborne illnesses?

An illness that happens as a result of eating

foods that contain disease-causing microorganisms.

2. Explain the following types of cross-contamination:

a) Equipment-to-food

Most common types of cross-contamination

- Bacteria can live for a long time on surfaces like countertops

Cutting boards, utensils, storage containers and factory equipment

b) People-to-food

It's easy for humans to transfer bacteria from their

bodies or clothes to food during many steps of food preparation

This includes using dirty tea towels

3. Match each of the five keys to safer food with their correct description.

Keep clean.	Store food in containers to avoid contact between raw and cooked foods.
Separate raw and cooked food.	Use clean water to cook and clean with.
Cook thoroughly.	Thaw food in the fridge.
Keep food at safe temperatures.	Wash your hands before handling food and during preparation.
Use safe water and raw materials.	For meat and poultry, make sure the juices are clear and not pink.

4. Explain the difference between an allergy and an intolerance.

- Food allergy cause an immune system reaction that affects
numerous organs in the body which can cause range of symptoms

- Food intolerance symptoms are generally less serious and
often limited to digestive problems.