

Food Safety



a program about
food safety
for kids

A teacher's working guide
on Food Safe Practices



Table of Contents

Introduction.....	3
Why learn about Food Safety?	3
Before you start.....	3
What is a microorganism?.....	4
Symptoms of foodborne illness.....	4
Who is most vulnerable?	6
Hygiene and food safety.....	6
When should I wash my hands?.....	6
How to wash your hands.....	7
Food Preparation.....	7
Cross Contamination.....	7
Cooking and Serving	8
Food Storage and Reheating Foods.....	8
References	11
Organizations.....	11



Introduction

This food safety guide was developed to educate youth about food safe practices. This instruction guide is designed to be kid friendly while emphasizing the importance of good food safe practices for the prevention of disease and foodborne illness.

Why learn about Food Safety?

What is food safety anyway? Why do I need to know about it? You might think that "I know how to cook! I know how to prepare a meal for my family!"

Knowing how to cook is only one part of the food preparation process. Just think how horrific it would be if you prepared a meal for your family or guests that made them terribly ill, or, worse yet, someone died. Preparing food safely is everyone's responsibility. Following safe practices will ensure that the food you prepare and serve will be safe.

Before you start...

When you get ready to cook, the very first thing you need to do is **wash your hands**.

Why? Your hands carry microorganisms or germs that you cannot see. These germs may be small but are extremely powerful.



What is a microorganism?

A microorganism, also known as a germ or bacteria, is a very small life form that cannot be seen without a microscope. For instance, there are about 1,500 bacteria on just one square centimeter of your skin. When harmful microorganisms get into food, the food becomes contaminated and makes us sick.

How many times have you eaten something that made you sick?



Microorganisms on an unwashed hand

A foodborne illness is caused by eating food that has been contaminated with bacteria. Food is easily contaminated when a person doesn't wash their hands before handling the food, handles food when ill, has an open cut, uses dirty equipment, and so on.

Foodborne illness is a serious problem and a public health concern. It is estimated that as many as 76 million cases of foodborne illness and as many as 5,000 people die each year in the United States as a result of foodborne illness. Most of these cases could have been prevented by following food safe practices and washing of ones hands.

Symptoms of foodborne illness

- Abdominal pain
- Stomach cramps
- Diarrhea
- Vomiting
- Nausea
- Fever



Symptoms of foodborne illness begin to show after several hours or days. Most common symptoms are upset stomach, abdominal cramps, nausea, vomiting, diarrhea, and fever. In severe cases, food poisoning may be fatal. See the example below:

Tainted lunch kills 22 in India

26 hospitalized after school meal

By Indrajit Singh

PATNA, India — The children started falling violently ill soon after they ate the free school lunch of rice, lentils, soybeans and potatoes.

The food, part of a program that gives poor Indian students at least one hot meal a day, was tainted with insecticide, and soon 22 of the students were dead and dozens were hospitalized, officials said Wednesday.

It was not immediately clear how chemicals ended up in the food at the school in the eastern state of Bihar. One official said that the food may not have been properly washed before it was cooked.

The children, between the ages of 5 and 12, got sick soon after eating lunch Tuesday in Gandamal village in Masrakh block, 50 miles north of the state capital of Patna. School authorities immediately



Indian children who fell sick after eating a free school lunch lie at a hospital Wednesday in Patna, India.

student who uses only one name, said she had a stomach ache after eating soybeans and potatoes and started vomiting.

"I don't know what happened after that," Savita said at Patna Medical College Hospital, where she and many other children were recovering.

The lunch was cooked in the school kitchen.

The children were taken to a local hospital and then later to Patna for treatment, said state official Ab-

investigation suggested the food contained an organophosphate used as an insecticide on rice and wheat crops. It's believed the grain was not washed before it was served at the school, he said.

However, local villagers said the problem appeared to be with a side dish of soybeans and potatoes, not grain. Children who had not eaten that dish were fine, although they had eaten the rice and lentils, several villagers told the AP.

India's midday meal program is one of the world's biggest school nutrition programs. State governments have the freedom to decide on menus and timings of the meals, depending on local conditions and availability of food rations. It was first introduced in southern India, where it was seen as an incentive for poor parents to send their children to school.

Since then the program has been replicated across the country, covering some 120 million school children. It's as part of an effort to address concerns about

Who is most vulnerable?

Anyone can get sick from a foodborne illness, but certain people are more at risk of getting sick, such as:

- The elderly
- Infants and children
- Pregnant women
- People who are already ill



Hygiene and food safety

Bacteria are present all over your body, such as your hands, nose, mouth, ears, and hair. It is really important to maintain good personal hygiene to keep germs from contaminating your food. If you cough or sneeze over the food, you have just contaminated whatever you were preparing. Once you wash your hands, you shouldn't touch your body as the germs will jump right back onto your hands and into the food.



When should I wash my hands?

To prevent contamination, **it is extremely important to wash your hands with soap and water before you handle food.**

Also, always wash your hands after:

- After using the toilet
- After cleaning a child who has used the toilet
- After blowing your nose, coughing, or sneezing
- After touching an animal or animal waste
- After touching garbage



How to wash your hands

It's important to follow these steps when you wash your hands:

- Wet hands and upper arms with warm running water.
- Use soap and lather your hands thoroughly.
- Rub the hands together vigorously including the fingernails for 10 to 15 seconds.
- Rinse hands and arms.
- Dry hands with a paper towel.



Food Preparation

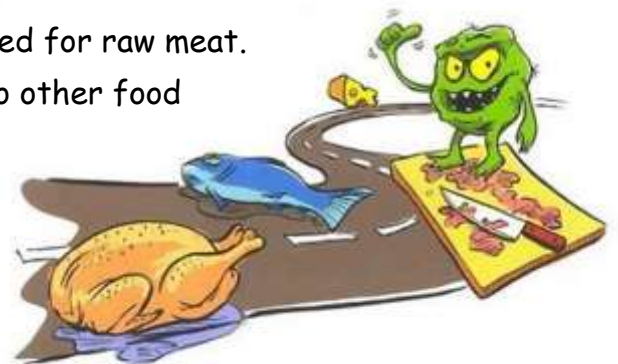
When preparing food, it is extremely important to keep the food preparation area clean to kill harmful microorganisms. If we eat food that has been prepared in an unsanitary area, it is highly probable that we will get sick.

Cross Contamination

Cross-contamination is the transfer of harmful organisms from one contaminated food to another through unsafe handling. Some examples of cross contamination include:

- Not washing a cutting board between jobs, i.e., cutting raw meat and not washing the board before cutting something else
- Not washing hands after touching raw meat and proceeding to touch other food
- Using the same plate for cooked meat as used for raw meat.
- Raw meat juices that are dripping down onto other food

To avoid cross-contamination, remember to wash all equipment and your hands between jobs.



Cooking and Serving

The cooking process is a very important step in the prevention of foodborne illness. There are also certain foods that are risky and need to be cooked thoroughly. These include: meat, shellfish, seafood, and poultry. When you cook meat and poultry, be sure to cook until the juices run clear. If risky foods are left out at room temperature for more than two hours, they are no longer safe to eat and should be thrown away.



Other foods that should be adequately cooked are soups and stews. Bring these to the boiling point, or until the first big bubble is seen, then serve. Remember to wash all produce with treated drinking water before preparing. Some produce are prone to carrying certain bacteria that will cause food poisoning. When serving fresh fruits or vegetables that are to be eaten raw, you should either wash with treated drinking water, or peel the skin away before eating.

Food Storage and Reheating Foods

All food, raw or cooked, needs to be kept at a safe cooled temperature to keep foods free from contamination. Some important rules to keep your food safe are:

- Do not allow food to remain out in the open for over 2 hours.
- Keep food covered to protect from insects and other creatures.
- Keep food out of direct sunshine.
- Prepare only as much food as needed and not too far in advance of serving.
- Discard food that is over 5 days old, despite being refrigerated.

When reheating foods, heat until hot and steaming. Stir while reheating to evenly distribute the heat. Reheating should be done quickly and reheated only once.

safe Cooking

Good cooks keep everything in the kitchen clean - this is called food hygiene

BEFORE YOU START

Wash your hands with warm water and soap then dry them. Make sure your nails are clean;

- ✓ before you start to cook
- ✓ after handling raw food
- ✓ after going to the toilet
- ✓ when you cough, sneeze or blow your nose



Do not lick your fingers!

Even though you can't see them, microbes on your hands can quickly spread and make you or other people ill. Keep your hands clean.



Did you know that a sneeze can travel at over 100 miles per hour!



An apron keeps food clean and protects your clothes. Look at people who handle food in shops. What do they wear on their heads? Why?

What could you do to make sure your food technology area is a safe place?

CLEANING UP

- ✓ Wash and tidy up as you go along.
- ✓ Keep surfaces clean.
- ✓ Always use clean cloths and tea towels.
- ✓ Wash all utensils with hot, clean, soapy water.
- ✓ Begin with the cleanest dishes.
- ✓ Use a clean tea towel or paper towels for drying.
- ✓ Wrap up food waste and seal in a bag before throwing away.

Water should be hot but still comfortable to your hands. Cold water does not clean well. Can you think why?



ALWAYS REMEMBER

- ✓ Do not rush or run in the cookery area.
- ✓ Keep tidy and organised.
- ✓ Take care with hot pans and dishes.
- ✓ Be careful with sharp knives.
- ✓ Think! - keep your mind on what you are doing.
- ✓ Use special oven gloves when moving hot dishes or pans.
- ✓ Listen to instructions and follow them carefully.

Never use a damp or dirty tea towel. Can you think why?



Name: _____

Germs



Do germs make people sick?



Yes



No

Can you see germs?



Yes



No

Where are germs found?

1. _____

2. _____

What can I do to help not spread germs?

1. _____

References

CDC: Center for Disease Control; <https://www.cdc.gov/disasters/handhygiene.html>.
<http://www.cdc.gov/foodsafety/groups/consumers.html>, August 2016.

Fight BAC! Partnership for Food Safety Education; <http://www.fightbac.org/food-safety-basics/the-core-four-practices/> August 2016.

Foodsafety.gov, <https://www.foodsafety.gov/keep/index.html> August 2016

Safe or Sorry. Food Safety Program of the Minnesota Department of Health, Environmental Health Division, 2006.

Water, Sanitation and Hygiene for Schoolchildren in Emergencies; A Guidebook for Teachers. UNICEF Programme Division / WASH 3 United Nations Plaza New York, NY 10017 USA, November 2011, www.unicef.org/wash/schools.

Organizations

CDC: Center for Disease Control

FDA: US Food & Drug Administration

FSIS: Food Safety and Inspection Service

NSF: National Science Foundation

USDA: US Department of Agriculture

US HHS: US Dept of Health and Human Services