

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

**A CURRICULUM DESIGNED TO HELP KEEP
YOU AND YOUR FOOD SAFE**



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What Will You Do When A Disaster Strikes? A Quick Reference Guide To Help Keep You And Your Food Safe

When a natural or man-made disaster, such as like a tornado, flood, bioterrorism or fire strikes in the community, there is an increased risk of getting a foodborne illness. For example, power outages make it hard to keep food cold and make it difficult to properly heat food. Flood waters may contaminate food in the home, or environmentally toxic substances may make the food harmful to eat. There may also be a major food recall.

Safe food, drinkable water and electricity may not be available for days or weeks. Having an ample supply of food and water for the entire family set aside in case of an emergency is a top priority when a disaster strikes. This supply of food and water is referred to as an “emergency food kit”. Having a communication plan along with the emergency food kit, in addition to following safe food handling practices, are valuable strategies for helping survive an emergency or disaster.

Following the food safety procedures and recommendations in this curriculum will lay the foundation for keeping food safe during an emergency or disaster.

Curriculum Overview

This educational curriculum will explain how to prepare for and keep food safe during and after a disaster.

What Will You Do When A Disaster Strikes? - A Quick Reference Guide To Help Keep You And Your Food Safe is a series of 8 lessons designed to educate consumers on how to keep themselves and their food safe before, during, and after a disaster. Each lesson is listed below.

Lesson 1 - Developing A Communication Plan

Lesson 2 - Preparing An Emergency Food Kit

Lesson 3 - Keeping Food Safe When The Lights Go Out

Lesson 4 - Water Is High And The Food Is Not Dry

Lesson 5 - Making Water Safe To Drink

Lesson 6 - Precautions With Airborne Toxins And Fires

Lesson 7 - Managing Food Recalls And Tampering

Lesson 8 - Steps To Preventing A Foodborne Illness

Format of the Curricula

Each lesson is designed to support an educational approach that is in-depth, interactive, and flexible to the needs of the educational setting. Educators using the materials should familiarize themselves with each lesson prior to its use.

Each lesson contains the following components:

- **Educators Guide** - includes approximate time needed to present the lesson, desired learning outcomes, lesson outline, resources and materials, a brief overview, and vocabulary.
- **Process** - instructional guidelines detailing how each lesson is to be conducted.
- **Activities** - procedure for each activity designed to reinforce the lesson.
- **Presentation** - a script to be used by the educator following the slide presentation.
- **Handouts** - includes all handouts designed for each lesson.
- **Booklet** - a take home reference for participants in the program. There are two different types of booklets available:
 1. Complete booklet covering the information in all 8 lessons. The complete booklet can be found on the disc provided, in the section entitled Complete Booklet For Printing.
 2. Subsection of booklet only containing the information from the lesson. Subsections of the booklet can be found on the disc provided, in the handouts section for each lesson.

(All resources listed above are provided on disk.)

Using the Curricula

The **What Will You Do When A Disaster Strikes? - A Quick Reference Guide To Help Keep You And Your Food Safe** curriculum is designed to meet the needs of educators and others who require flexibility in their content materials. It can be taught:

- With different size groups.
- In a variety of locations.
- With or without electronic media.
- During different time frames.

Each lesson can be independently taught or in combination with other lessons in the curriculum. **It is recommended that lessons 1 and 2 be taught first in your educational program, either on separate days or the same day.** Each individual should adapt the curriculum to the needs of his or her particular group or audience. For example, although we did not include videos, you have the option to incorporate your own videos or internet videos into your presentation.

The lessons may be applied to a variety of educational settings. Some examples may be:

- A local community center where you are holding workshops.
- A promotional booth at a regional fair.
- A classroom style setting where a conference is held for agency professionals.
- A home where a few interested listeners are gathered

Activities are included with each lesson, along with handouts that are intended to be copied and distributed to the participants.

Before You Begin

If you are not already familiar with general food safety recommendations, read Lesson 8 before teaching any of the lessons in this curriculum. There are also resources listed on the next page that can be reviewed. It is also recommended that you read through the entire booklet entitled “What Will You Do When A Disaster Strikes”

Evaluations

Evaluations are included with each lesson and are located in the handout section. They are tailored to measure the impact of the content of each lesson.

Appendix

Several items that you may find useful are included in the appendix. These items include:

- **References** - list of references used to create the curriculum.
- **Additional Reading Materials** - additional reading materials for more information on each lesson.
- **Glo Germ Product Information** - includes a brief description of the Glo Germ product as well as ordering information.
- **Evaluation Answer Keys** - answers to the knowledge based evaluations included in lessons 3, 4, 5, 6, and 8.
- **Activity Learning Outcomes** - specific learning outcomes for each suggested activity.

Conclusion

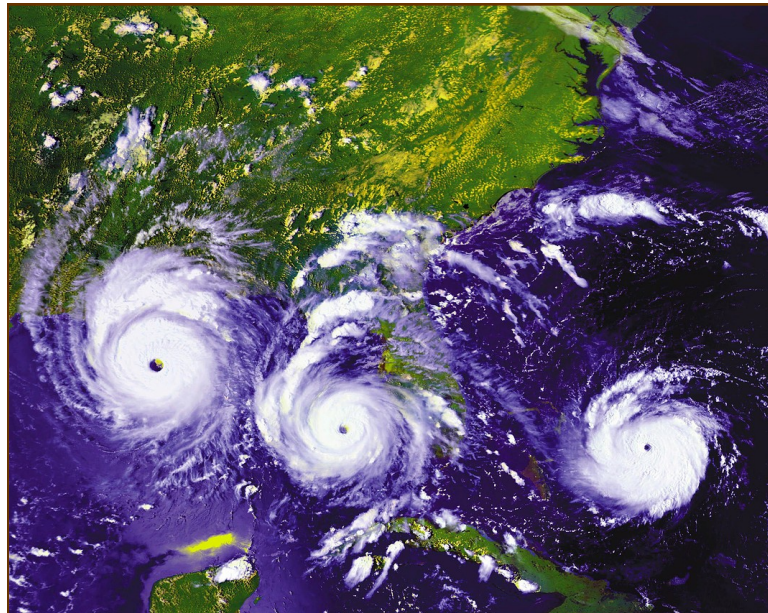
Disasters or emergencies can strike at any time, and it is important to be prepared. Keeping food safe as well as having an emergency food kit is often overlooked during these times. It is our hope that this program will provide essential information to members of the community, so they can survive a disaster with an ample food supply and be free from foodborne illness.

Curriculum Notes

- Items in brackets [], located in the presentation section, are not to be read out loud. They serve as reminders for the educator.
- Each lesson has the option of being taught by using slides and an LCD projector, slide handouts, the entire booklet, or pages from the booklet that pertain to each lesson.

Recommended Reading List

- <http://www.fightbac.org>
- <http://www.foodsafety.gov>
- <http://emergency.cdc.gov/disasters/foodwater/>
- <http://www.fema.gov/plan/index.shtm>



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES

LESSON 1: DEVELOPING A COMMUNICATION PLAN



Developing A Communication Plan

Brief Overview

Developing a communication plan is very important when preparing for a disaster. Family communication plans, shelter locations, and working together in the community are three concepts discussed in this section. A family communication plan is developed by the family members in case a disaster strikes. Finding a shelter is a very important decision. Always make sure that the chosen shelter fits the needs of everyone in the family. Make sure that there are multiple driving routes available to that shelter. Developing a plan to work together in the community, when a disaster strikes, is also very important. Working together can provide a great relief and everyone has something to offer providing a great service to the community.

Vocabulary

Disaster	An occurrence causing widespread destruction and distress; A grave misfortune.
Shelter	A building serving as a temporary refuge or residence for people experiencing a disaster.
FEMA	Federal Emergency Management Agency; FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.

Length: 1 hour

Desired Learning Outcomes

Participants will learn:

- How to develop a communication plan for a family
- Who to contact when a disaster strikes
- The importance of designating a safe meeting spot and the function of shelters
- The benefits of working together in the community if a disaster strikes

Lesson Outline

1. Importance of having a communication plan
2. Knowing who to contact in case of a disaster
3. Designating a safe meeting place
4. Emergency shelter locations and their role
5. Working together in the community

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (6):
 - Activity 1, Scenario 1-5
 - Activity 2
 - Lesson Evaluation
 - Crossword
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items needed to teach this lesson:

- Computer with LCD projector or handouts of power point
- Pens or pencils
- Copies of activity and take home handouts (listed above)
 - Activity 1 is a group activity and only requires one copy per group.
 - All other handouts require one copy per person.
- Emergency contact information for the city and/or county in which you will be presenting this lesson.

Instructions For Educators

1. Be sure the power point titled Developing a Communication Plan is ready. If you do not have access to a projector you have the option to print copies of the slides or work out of the emergency booklet.
2. Welcome the participants to the Developing a Communication Plan educational program. Break the participants into groups of 3-4 people. They will continue to stay in these groups for the remainder of the session.
3. Introduce the lesson by using slide 1 in the presentation section. After slide 1, complete Activity 1: Part 1 listed in the activities section (page 4).
4. Upon completion of Activity 1: Part 1 resume the program with slide 2 provided in the presentation section.
5. After slide 2 complete Activity 2, listed in the activities section (page 4). [Activity 2 will require you to do some preparation before your presentation day.] Upon completion of Activity 2, resume the presentation starting with slide 3.
6. When the slide presentation is concluded, have the participants complete Activity 1: Part 2 (page 4).
7. Ask if there are any questions for you at the end of this lesson. Pass out the lesson evaluation in the handouts section (Lesson 1 - Handout 3) for the participants to complete. Give each participant a copy of Take Home Handouts 1, 2, and 3 [Take Home Handouts 2 and 3 are optional] before they leave.

Activities

Activity 1 - Scenarios

Part 1 [At beginning of the lesson]

- Distribute the Communication Plan Activity 1 Handouts Scenarios 1 - 5, to the groups, along with a pen or pencil. There are 5 scenarios, each group will receive only one..
- Let the groups read and discuss the situation at the top of their handout.
- Have the groups write down what they would do if they were truly in that situation. [they are to only fill out Part 1 of the sheet]
- When their list is completed, have the groups share their answers and give the reasons to why they think those items are important.

Part 2 [After the lesson has been taught]

- In Part 2 of the sheet, have the groups develop and write down a Communication Plan for their situation. They should also note what they would do differently from their response to Part 1.
- When they are through, have the groups share their Communication Plans along with any changes from their response to Part 1.

Activity 2 - Communication Plan

- After Slide 2 in the Presentation, pass out Lesson 1 Handout 2, Emergency Contact Information Sheet. Be sure each participant has a pen or pencil.
- Have the participants fill in the emergency numbers (Police, Fire Department, Hospital, Red Cross, FEMA, Health Department) as you read them aloud.
- After the participants have added the emergency phone numbers, give them some time to add any other numbers they wish.
- Upon completion of the list, remind the participants of some different locations to post the information. The sheet is theirs to take home.

Presentation

Slide 1 - Developing A Communication Plan



Today we will be learning about developing a communication plan. When a disaster strikes, it is very important to have a communication plan in place, so all of your family members will know exactly what needs to be done to ensure their safety. A communication plan consist of knowing who to contact, designating a safe meeting place for all family members, and knowing the function and location of the emergency food kit.

We will also talk about how to find an emergency shelter and the benefits of working together in the community.



Stop here and complete Activity 1 - Scenario: Part 1. Instructions are in the Activities section on page 4.

Slide 2 - Family Communication Plan

Family Communication Plan

- Know who to contact
 - Family members and Relatives
 - Police
 - Fire
 - Hospital
 - Red Cross
 - FEMA
 - Health Department



- When developing a family communication plan, it is important to know how to contact family members, relatives, or some close friends.
- Other important contact information may be Police, Fire Departments, local hospitals, Red Cross, FEMA, and the State Health Department. Each of these provide important services to the community, especially before, during, and after a disaster.
- It is a good idea to create a reference list with phone numbers for the people and organizations previously mentioned. You may have others you want to add. Post the list in a convenient location that is easy to access, such as on home refrigerator or next to your home phone. Make sure everyone in the family knows where the reference list is located.



Stop here and complete Activity 2 - Communication Plan.
Instructions are in the Activities section on page 4.

Slide 3 - Family Communication Plan

Family Communication Plan

- Designate
 - A safe meeting place
 - Location for the Emergency Food Kit
 - Up to date identification
 - Up to date medical information
 - Area to post contact information sheet




- Designating a safe meeting place is also important when developing a communication plan. This is a safe place where family members can meet if they are separated. Keep in mind that there are different types of disasters, and be sure that your meeting places are safe for the disasters that threaten your area. Some examples of safe meeting places are: right outside your home in case of a sudden emergency, like a fire, or outside of your neighborhood in case you cannot return home.
- Determining a location for the emergency food kit is also important. Be sure that all family members are familiar with the location. Keep copies of up to date identification and medical information for all family members in your emergency food kit. You never know what information will be needed after a disaster. It is better to be prepared. It is also a good idea to store a copy of your emergency contact numbers in the kit.

Slide 4 - Shelters

Shelter

- Locations
 - Examples of shelter locations
 - Community Centers
 - Schools
 - Churches
- Route to shelter
 - Know different routes
- Pet friendly shelters if you have pets

An illustration showing two people standing in front of a sign that says "SHELTER". One person is wearing a green jacket and the other is wearing a white lab coat. The sign is yellow with the word "SHELTER" in black capital letters.

- Each state has an emergency plan in place, where they designate certain locations as emergency shelters. These shelters have an assigned staff, trained to help people remain safe during a disaster.
- Possible shelter locations are: community centers, schools, and churches.
- You can contact the local Health Department or the American Red Cross for locations of emergency shelters in your area.
- It is important to know different routes to shelters in your area. You never know when a road might be blocked or closed.
- Don't forget about your pets. There are some pet friendly shelters, but not all shelters are pet friendly so do your research. If there are no pet friendly shelters in your area, please do not try to take your pet to the other shelters.

Slide 5 - Work Together

Work Together

- What has been done to ensure your safety at:
 - Schools
 - Work
- Create a Safe Environment
 - Work with neighbors
 - Conduct community emergency drills



- Working together in your community not only deals with what you can do for your community but what others have done to ensure the safety of you and your family.
- Research the plan of action at the school/university where you or your child may attend. Some examples of these action plans may be a teacher's emergency training in first aid or CPR, emergency supplies such as emergency food kits or first aid kits, or school/class mock drills so all teachers and students know the correct procedures to ensure everyone's safety.
- It is also important to know your work's plan of action if a disaster were to strike. Some examples of action plans your work may have enacted are the storage of emergency supplies, well lit exit routes, securely structured rooms you can take refuge in, and the execution of mock drills.
- Creating a safe environment with neighbors as well as those in your community can be easily accomplished. Work with your neighbors, everyone has special skills that can be used in a disaster. An example may be, one of your neighbors can be a nurse or have medical training. This is important in case anyone is hurt during or after a disaster.
- Developing a communication plan with your neighbors will help to ensure everyone's safety.
- Community emergency drills will help everyone know what to do if a disaster were to strike. Talk to your community officials or neighborhood associations about performing an emergency drill.

Slide 6 - Be Ready To Take Action

Be Ready To Take Action!
Keep your communication plan with
your emergency food kit!



If disaster strikes, you and your
family will be prepared.

- Keeping a copy of your communication plan with your emergency food kit is a great way to ensure everyone is prepared. It can also serve as a memory refresher or checklist to make sure you cover every detail during an emergency.

Slide 7 - Follow All Instructions Provided



Follow all instructions provided on
the TV and radio or in the
newspaper.

Remember, your safety is top
priority during any disaster.




- It is important that you and your family follow every instruction provided on the TV and radio or in the newspaper. The safety of you and your family is their top priority during any disaster.

Slide 8 - Conclusion

Conclusion

- Post an emergency contact information list in a convenient location.
- Designate a safe meeting place.
- Know locations of shelters in your area.
- Create a safe environment in your community.
- Follow all provided instructions.



- In conclusion, a Communication Plan consists of knowing who to contact, designating a safe meeting place for all family members, and knowing the function and location of the Emergency Food Kit.
- Post your emergency contact list in a convenient location, for example on your refrigerator door or next to your home phone.
- When designating a safe meeting place, plan for the different types of disasters that can happen in your area.
- Work with your community to create a safer environment if a disaster were to happen.
- Most importantly, follow all the instructions provided on the TV and Radio or in the Newspaper.



Stop here and complete Activity 1 - Scenario: Part 2.
Instructions are in the Activities section on page 4.

**Lesson 1:
Developing A
Communication Plan**

Handouts





Activity 1 - Scenario 2



You are a manager of the local city bank. While you and your employees are at work a severe ice storm hits and roads are closed down. You have a family at home, but you also have your employees to take care of. Think about the communication plan needed for family, employees, as well as any customers in the bank.



Communication Plan: Part 1

Communication Plan: Part 2

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Lesson 1 - Handout 1



Activity 2 - Communication Plan

Emergency Contact Information Sheet

Police _____

Fire Department _____

Hospital _____

Red Cross _____

FEMA _____

Health Department _____

Work Mom _____

Dad _____

Relatives _____

Meeting Place _____

Lesson 1 - Handout 2

Communication Plan Lesson Evaluation

Circle your answer below each question.

1. This program has changed my thinking about how well prepared my family is to face an unexpected emergency.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

2. This program has shown me that I didn't know enough about who to contact for help during an emergency.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

3. My knowledge about developing a communication plan has so improved that I could now develop a communication plan for my family.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

4. I agree with and see the value in having a communication plan for my family.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

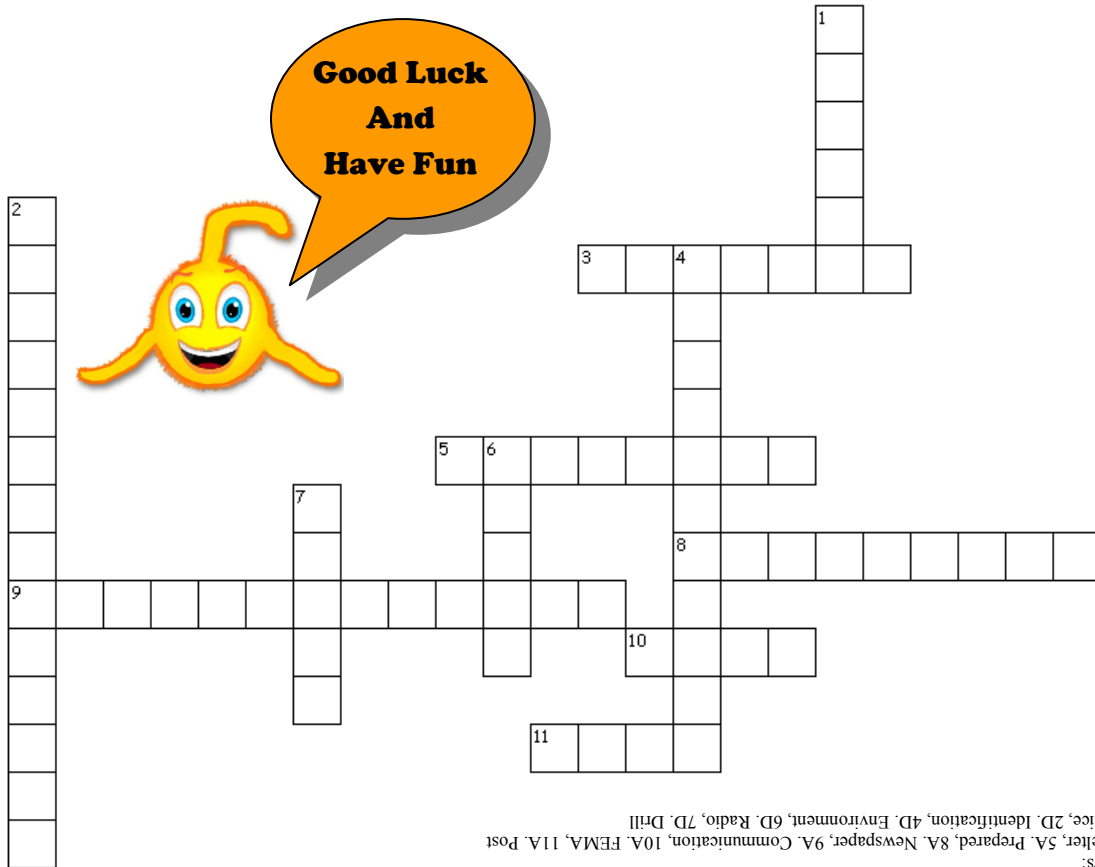
5. I will create and keep an updated communication plan for my family.

Yes No I Will Think About It



Lesson 1 - Handout 3

Communication Plan Crossword



Across

3. Know the location of these places in your area in case of an emergency.
5. What you and your family should be if a disaster were to strike.
8. This provides daily information that you do not receive on the television or radio
9. A type of plan you and your family should have in case a disaster strikes.
10. Federal agency that provides disaster relief.
11. What you should do with an emergency contact information sheet.

Down

1. These people work for the government to ensure the safety of your family.
2. This should be with you at all times or stored in the emergency food kit.
4. Work with your neighbors to create a safe _____.
6. This is what you listen to when you are in the car or the electricity is off.
7. This is practiced in homes and communities to help people know what to do in an emergency.

Lesson 1 - Take Home Handout 1

Developing A Communication Plan Take Home Messages

Be ready to take action! Keep an emergency plan with your emergency food kit! If disaster strikes, you and your family will be prepared.

- Family Communication Plan - As a family, make a plan before a disaster strikes.
 - Know how to contact each other if you are not together when a disaster strikes.
 - Designate a safe meeting place where the family will gather if separated.
 - Be sure everyone knows the location of the emergency food kit.
 - Keep-up-to-date identification and medical information on all family members in your emergency food kit.

- Shelter
 - Know the locations of emergency shelters in your area.
 - Know different routes to the shelter in case roads have been damaged or blocked off.
 - Identify pet-friendly shelters where you can go if you have pets.

- Work Together
 - Find out what steps schools and your place of employment have taken to ensure everyone's safety during an emergency.
 - Work with your neighbors to create a safe environment for everyone if disaster strikes.
 - Ask community officials to hold an emergency drill in your area.

*Follow All Instructions Provided on the TV and Radio or in the Newspaper.
Remember, Your Safety is Top Priority During Any Disaster.*

Lesson 1 - Take Home Handout 2

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Developing A Communication Plan



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**I hope you found this
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DEVELOPING A COMMUNICATION PLAN

Be ready to take action!
Keep an **emergency plan** with your **emergency food kit!** If disaster strikes, you and your family will be prepared.



Family Communication Plan - As a family, make a plan before a disaster strikes.

- **Know how** to contact each other if you are not together when a disaster strikes.
- **Designate** a safe meeting place where the family will gather if separated.
- **Be sure** everyone knows the location of the emergency food kit.
- **Keep-up-to-date** identification and medical information on all family members in your emergency food kit.

Hint: Create a contact information sheet with the important phone numbers for your area, and post a copy of this sheet in a place where everyone can find it easily.

Shelter

- **Know** the locations of emergency shelters in your area.
- **Know** different routes to the shelter in case roads have been damaged or blocked off.
- **Identify** pet-friendly shelters where you can go if you have pets.

Work Together

- **Find out** what steps schools and your place of employment have taken to ensure everyone's safety during an emergency.
- **Work with** your neighbors to create a safe environment for everyone if disaster strikes.
- **Ask** community officials to hold an emergency drill in your area.



Follow All Instructions Provided on the TV and Radio or in the Newspaper.

Remember, Your Safety is Top Priority
During Any Disaster.

Develop A Communication Plan



Family Communication Plan

- Know who to contact
 - Family members and Relatives
 - Police
 - Fire
 - Hospital
 - Red Cross
 - FEMA
 - Health Department



Family Communication Plan

- Designate
 - A safe meeting place
 - Location for the Emergency Food Supply Kit
 - Up to date identification
 - Up to date medical information
 - Area to post contact information sheet



Shelter

- Locations
 - Examples of shelter locations
 - American Red Cross
 - Community Centers
 - Schools
- Route to shelter
 - Know different routes
- Pet friendly shelters if you have pets



Work Together

- What has been done to ensure your safety at:
 - Schools
 - Work
- Create a Safe Environment
 - Work with neighbors
 - Conduct community emergency drills



Be Ready To Take Action!

Keep an emergency plan with your emergency food kit!



If disaster strikes, you and your family will be prepared.





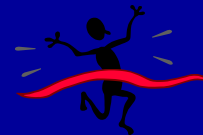
Follow all instructions provided on the TV and radio or in the newspaper.

Remember, your safety is top priority during any disaster.



Conclusion

- Post an emergency contact information list in a convenient location.
- Designate a safe meeting place.
- Know locations of shelters in your area.
- Create a safe environment in your community.
- Follow all provided instructions.



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES

LESSON 2: PREPARING AN EMERGENCY FOOD KIT



Preparing An Emergency Food Kit

Brief Overview

Preparing an emergency food kit can be vitally important if a disaster were to strike. There are many different components that make up this kit such as: food, water, important documents and other items that may be needed. It is important that there is enough food and water for each person, for three days. There should be one gallon of water per person per day. Having an emergency food kit along with a communication plan (communication plan is the subject of Lesson 1) is a step in the right direction to ensure everyone's safety during a disaster.

Vocabulary

UHT Milk	UHT stands for ultra high temperature pasteurization. This process allows milk to stay fresh for several month without refrigeration. Once milk is opened it does require refrigeration.
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Length: 1 hour

Desired Learning Outcomes:

Participants will learn:

- The kits function and importance during an emergency
- How to assemble an Emergency Food Kit



Lesson Outline:

1. Importance of having an emergency food kit
2. Where to store the emergency food kit
3. Amount of food and water needed for a 3 day supply
4. Types of food that should be in an emergency food kit
5. Other items that might be included in the emergency food kit
6. Maintenance of an emergency food kit

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (6):
 - Activity 1
 - Lesson Evaluation
 - Word Search
 - Shopping List For Your Emergency Food Kit
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items needed to teach this lesson:

- Computer with LCD projector or handouts of power point
- Pens or pencils
- Supplies to prepare the emergency food kit (list on page 4)
- Copies of activity and take home handouts (listed above)
 - Activity 1 is a group activity and only requires one copy per group
 - All other handouts require one copy per person

Instructions For Educators

1. Be sure the power point titled Preparing An Emergency Food Kit is ready. If you do not have access to a projector you have the option to print out copies of the slides or work out of the emergency booklet.
2. Welcome the participants to Preparing An Emergency Food Fit educational program. Break the participants into groups of 3-4 people. They will continue to stay in these group for the remainder of the session.
3. Introduce the lesson by using slide 1 in the presentation section. After slide 1, complete Activity 1: Part 1, listed in the activities section (page 4).
4. Upon completion of Activity 1: Part 1 resume the program with slide 2 provided in the presentation section. Prepare a sample emergency food kit as you present the slide show, so the participants will have a visual reference. When assembling the kit, be sure it corresponds with the correct slide. (A list is provided on page 5, and you will need to purchase these items before this session.)
5. When the slide presentation is concluded, have the participants complete Activity1: Part 2, listed in the activities section (page 4).
6. Ask if there are any questions for you at the end of this lesson. Pass out the lesson evaluation in the handouts section (Lesson 2 - Handout 3) for the participants to complete. Give each participant a copy of Take Home Handouts 1, 2, 3, and 4 [Take Home Handouts 3 and 4 are optional] before they leave.

Activities

Activity 1 - Emergency Food Kit Grocery List

Part 1

- Let the groups discuss what items they feel are essential for an emergency food kit.
- Using the emergency food kit Activity 1 Handout 1, have the groups write down a grocery list of the items they feel would be important to have in their kit. [they are to only fill out Part 1 of the sheet]
- When their list is completed, have the groups share their answers and give the reasons to why they think those items are important.

Part 2

- In Part 2 of the sheet, have the groups list the items they feel were left out of their list in Part 1.
- When they are through, have the groups share their changes, and why they feel these items are now important.

Emergency Food Kit Shopping List For Instructor Items that Need To Be Purchased Before The Lesson

- 14 gallon plastic container (with a snap on lid) - allows for gallon jugs of water to stand up

Water

- 3 gallons of water

Dried Foods

- 1 package of dried fruit (5 oz.)
- 1 - 16 oz. box of saltines (preferably low sodium)
- 1 - 10 oz. box of cereal
- 1 - 3.2 oz. bag of powdered milk

Canned Foods

- 3 - 6 oz. cans of tuna or chicken
- 1 - 16 oz. can of pork and beans
- 3 individual size cans of fruit (4 oz.)
- 3 - 6 oz. cans of juice

High Energy Foods

- 1 - 18 oz. jar of peanut butter
- 1 can of nuts (10 - 12 oz.)
- 3 protein, granola, or breakfast bars

Comfort Foods

- Snack Cakes
- Chips

Other Items

- Box of plastic spoons
- Paper / plastic cups
- Can opener
- Hand sanitizer

Helpful Hint

For easier transport, you can use empty cans, boxes, and gallons jugs for your presentation. If using empty cans, cut the bottom out instead of the top so it will still look like a canned item.

Presentation

Slide 1 - Preparing An Emergency Food Kit.

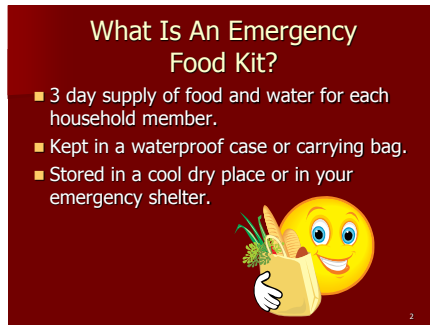


Today we will be learning about preparing an emergency food kit. You never know when a disaster will strike and it is best to be prepared. There is a chance you will have to survive on your own for a few days after a disaster. Emergency responders and local officials provide great assistance but cannot meet everyone's needs immediately. Having an emergency food kit is a great way to ensure your food and water needs are taken care of, allowing you to focus on issues such as home repair or checking on family members. There are many different components that make up this kit such as: food, water, important documents and other items that may be needed. It is important you have enough food and water for each person, for three days. Having an emergency food kit along with a communication plan is a step in the right direction to ensure everyone's safety during a disaster.



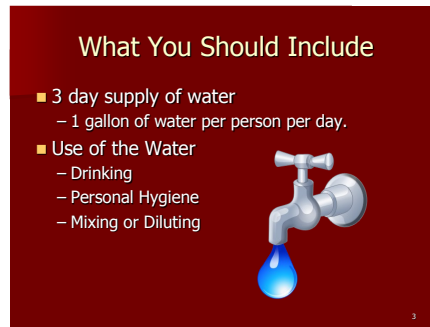
Stop here and complete Activity 1 - Emergency Food Kit Grocery List: Part 1. Instructions are in the Activities section on page 4.

Slide 2 - What Is An Emergency Food Kit?



- An emergency food kit is a 3 Day supply of food and water for each member of your household.
 - It is important to take every family member into account when putting an emergency food kit together. This includes the food likes and dislikes of your family members.
- Keep your emergency food kit in a waterproof case or carrying bag. [We recommend a 14 gallon plastic container. Show the participants the container to be used in your demonstration.]
 - Make sure that the kit can withstand outside weather conditions, that may result from a natural disaster.
 - You should also be able to move or take the kit with you to a safe place.
- Store the kit in a cool dry place that is easily accessible or in your emergency shelter. (Other names for an emergency shelter may be: storm shelter, disaster bunker, underground shelter, tornado shelter, or safe room.)
 - Foods last longer in a cool dry place where heat and moisture are not present.
 - Some examples of cool dry places are closets (hall, guestroom), pantry, or in a basement if you have one. Be sure the storage spot you choose is easily assessable for you and other members of your family.
 - The emergency shelter is a logical place to store your emergency food kit since that is where you will likely be when a disaster strikes.

Slide 3 - What You Should Include



- When assembling an emergency food kit be sure to include a 3 day supply of water. A 3 day supply of water consists of 1 gallon per person per day.
 - There are many different uses of the emergency water. Some uses may include: drinking, personal hygiene (such as hand washing or taking a sponge bath), mixing with powdered milk or formula, and diluting canned soups.
 - Remember that this water is being used for an emergency, and should be used sparingly.
- [As you put items in the storage container, tell the participants what you are adding.]
- For purposes of this demonstration, I have empty jugs but of course you would want water in yours.

Slide 4 - What You Should Include



- When assembling the food portion of your kit, it is important that you know that the foods are not nutritionally complete. The foods listed are designed to get you through the first few days of a disaster.
- Dried food is good to use in your emergency food kit because it has a long shelf life.
- Some examples of dried foods are: fruit (such as raisins and cherries), ready to eat cereal (the ones already in the serving bowls are the most convenient, but cost more), crackers (low sodium are the best choice so you don't get more thirsty), powdered milk, and beef jerky (this is also high in sodium, but it is a good source of protein).

[Show participants items from the **Dried Foods** section of the list provided on page 6, and then add the items to the emergency kit. Give them some more examples of dried foods they might put in their kit. These are listed on Take Home Handout 2.]

Slide 5 - What You Should Include

What You Should Include
Food For 3 Days

- Canned Foods
 - Meat and Fish (Chicken, Tuna Fish, Ham)
 - Beans
 - Fruit and Fruit Juices
 - Vegetables
 - Soups

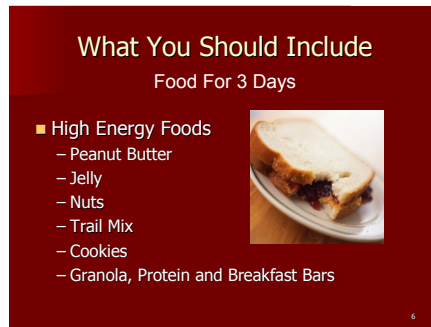


5

- Canned foods also have a long shelf life and can be eaten without heating. Remember that you will need to include a can opener in your kit if you have cans without the pull-tab.
- Some examples of canned foods are: cooked beans, meat and fish (such as chicken, tuna fish, ham) which give you protein, and fruit, fruit juice, vegetables, and vegetable soups which give you vitamins and minerals. Although they may not taste quite as good, all of these are safe to eat without heating.

[Show participants items from the **Canned Foods** section of the list provided on page 6, and then add the items to the emergency kit. Talk about other foods they might include.]

Slide 6 - What You Should Include



- Some high energy foods also provide protein which is essential to keep your body functioning during an emergency.
- Some examples of high energy foods are: peanut butter, jelly, nuts, trail mix, cookies, granola bars, protein bars and breakfast bars.

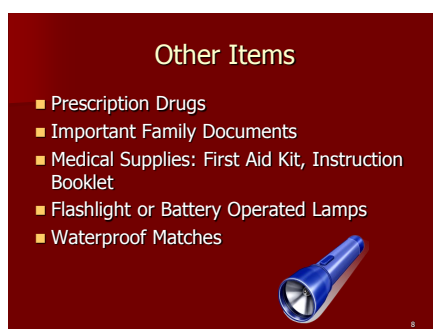
[Show participants items from the **High Energy Foods** section of the list provided on page 6, and then add the items to the emergency kit. Ask the participants if they can think of more high energy foods that could be included.]

Slide 7 - What You Should Include



- Baby formula is important if you have infants.
 - Even if you are breast feeding, stress may keep you from producing milk.
 - You may also be separated from your infant and another family member may need to care for your infant.
- Baby food is also important because babies need special foods and are not able to eat the foods listed in the previous slides.

Slide 8 and 9 - Other Essential Items



- There are other items that you may want to include in your emergency kit. Keep in mind that the emergency food kit is also an aid to keep you comfortable during an emergency.
- Examples of these items include: prescription drugs, important family documents, medical supplies (first aid kit, instruction booklet), flashlight or battery operated lamp, waterproof matches, paper plates, plastic utensils, moist towelettes, hand sanitizers, portable radio, manual or battery operated can opener, and extra batteries.

[Show participants items from the **Other Items** section of the list provided on page 6, and then add the items to the emergency kit.]

- Are there other items that you might consider essential but are not foods?

Slide 10 - Comfort Items



- Include some comfort items if you have room in the emergency food kit. Some items may be snack cakes, chips, or cookies.

[Show participants items from the **Comfort Foods** section of the list provided on page 6, and then add the items to the emergency kit. Talk about other foods they might include.]

- Remember, you may want to include some entertainment items such as playing cards or board games. This is especially important if you have children.

Slide 11 - Reminders

Reminders

- Check the expiration dates on foods every 6 months.
- Replace foods that are old.
- Include some comfort items if you have room.




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- Check the expiration dates on foods in the emergency food kit every 6 months. Be sure you replace the foods that are old.
- Include some comfort items in your kit if you have room.

Slide 12 - Conclusion

Conclusion

- 3 day supply of food and water.
- Store kit in a cool dry place.
- Include dried food, canned food, and high energy foods.
- Other items can be included in kit.
- Check the date of foods.



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- In conclusion, an emergency food kit is a 3 day supply of food and water for each member of your family.
- Store your kit in cool dry place that is easily accessible in case of an emergency.
- Include a variety of foods in your kit including dried food, canned food, and high energy foods.
- Other items that are not food and water can be included in your kit.
- Be sure to keep you kits up to date by checking the food expiration dates.



Stop here and complete Activity 1 - Emergency Food Kit Grocery List: Part 2. Instructions are in the Activities section on page 4.

**LESSON 2:
PREPARING AN
EMERGENCY FOOD KIT**

HANDOUTS



Emergency Food Kit Lesson Evaluation

1. Did you have an emergency food kit before this presentation?
 - a. Yes (If yes, skip question 2, go to question 3)
 - b. No

2. How likely are you to assemble an emergency food kit to keep in your home after this presentation?
 - a. Yes, definitely will
 - b. I am considering it
 - c. No, I will not

3. After participating in this lesson, I am more aware of how important it is to have an emergency food kit.
 - a. Agree
 - b. Disagree

4. I would recommend this lesson to my family and friends.
 - a. Agree
 - b. Disagree

5. I will share this information with others.
 - a. Agree
 - b. Disagree



Lesson 2 - Handout 3

Emergency Food Kit Word Search



See how many words you can find in the disaster of letters below.

C G A B B M Y M P W N G Q A B
W R J X D C U O A P T W O L E
S R A B N I E T O R P E F U A
T F X C L O E O S S G C I M N
J H Z I K R U L E G X I R R S
I V G G M E Y I R Z K U S O K
Z C B I I L R K E H M J T F U
L F E I L E I S R E P T A T O
U W I R T H T A D E Y I I K W
Q G H T E U S I R C J U D P M
G O A S N A C A Q T T R T L D
R B T A T I L I L Z W F E D R
X U E G N R H S I F A N U T A
N P F E C O O K I E S P U O S
D O C U M E N T S J I E P B C

BATTERIES

BEANS

CEREAL

COOKIES

CRACKERS

DOCUMENTS

FIRST AID

FLASHLIGHT

FORMULA

FRUIT JUICE

JERKY

MEDICINE

NUTS

PEANUTS

PROTEIN BARS

SOAP

SOUPS

TRAIL MIX

TUNA FISH

WATER

Lesson 2 - Take Home Handout 1

Shopping List For Your Emergency Food Kit

Choose at least three items from each group to purchase for your Emergency Food Kit.

Grains

- Crackers
- Rice Cakes
- Granola Bars
- Ready-to-eat Cereal
- Packaged Muffins and Pastries
- Snack Bars
- Breakfast Bar
- Pretzels
- Toaster Pastries
- Trail Mix



Fruits & Vegetables*

- Assorted Fruit
- Assorted Vegetables
- Vegetable Juices
- Fruit Juices
- Salsa
- Vegetable Soup
- Sweet Potato Chips



*Canned, packaged, or dried only

Dairy

- Dried Milk
- UHT Milk Cartons
- Pudding Packs/Cups
- Canned Milk
- Canned Pudding
- Canned Cheese and Sauces
- Canned Macaroni and Cheese
- Pre-packaged Cheese and Crackers



Proteins

- Protein Bars
- Canned Beans
- Nuts and Seeds
- Jerky (ex. deer, beef, buffalo, turkey)
- Dried Sausage (ex. summer)
- Canned Ham, Tuna, Chicken*
- Peanut, Almond, or Hazelnut Butters
- Chili
- Precooked Bacon



* Can also be purchased in pouches.

Other items you will also need to buy for this kit:

Plastic Spoons, Paper Cups, Manual Can Opener, Hand Sanitizer, Storage Bin with Lid (14 gallons), and 3 Gallons of Water

Lesson 2 — Take Home Handout 2

Emergency Food Kit Take Home Messages

Every family should have an emergency food kit. An emergency food kit contains enough water and food for each household member for at least 3 days and is kept in a waterproof case or carrying bag. Store the kit in a cool, dry place that is easy to access or in your emergency shelter (if you have one).

- What You Should Include
 - Water for Three Days
 - At least one gallon of clean water per person per day for drinking and hygiene.
 - Clean and sterilize all containers before filling.
 - Food for Three Days
 - Dried Foods
 - Fruit, Crackers, Ready-to-eat Cereals, Powdered Milk, Beef Jerky
 - Canned Foods
 - Meats and Fish, such as Tuna and Chicken
 - Vienna Sausages, Beans, Fruit, Fruit Juices, Vegetables, Soups
 - High Energy Foods
 - Peanut Butter, Jelly, Nuts, Trail Mix, Granola Bars, Protein Bars, Breakfast Bars, Cookies
 - Baby Formula and Baby Food, if needed (Even if you are breast feeding, stress may keep you from producing milk.)
- Other Items You May Want To Include In Your Emergency Food Kit
 - Prescription Drugs
 - Copies of Important Family Documents
 - Medical Supplies, such as a First Aid Kit and Instruction Booklet
 - Flashlight or Battery Operated Lamps
 - Waterproof Matches
 - Paper Plates and Plastic Utensils
 - Moist Towelettes and Hand Sanitizer
 - Portable Radio
 - Manual or Battery Operated Can Opener
 - Extra Batteries
- Remember
 - Check the expiration dates on food every 6 months.
 - Replace foods that are old.
 - Include some comfort items if you have room

Lesson 2 - Take Home Handout 3

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Preparing An Emergency Food Kit



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Contributors

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**I hope you found this
information helpful!**



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PREPARING AN EMERGENCY FOOD KIT

Every family should have an **emergency food kit**.

An **emergency food kit** contains enough water and food for each household member for at least 3 days and is kept in a waterproof case or carrying bag. Store the kit in a cool, dry place that is easy to access or in your emergency shelter (if you have one).

What You Should Include

Water for Three Days

- At least one gallon of clean water per person per day for drinking and hygiene.

Hint: Clean and sterilize all containers before filling.

Food for Three Days

- **Dried Foods**
 - Fruit, Crackers, Ready-to-eat Cereals, Powdered Milk, Beef Jerky
- **Canned Foods**
 - Meats and Fish, such as Tuna and Chicken
 - Vienna Sausages, Beans, Fruit, Fruit Juices, Vegetables, Soups
- **High Energy Foods**
 - Peanut Butter, Jelly, Nuts, Trail Mix, Granola Bars, Protein Bars, Breakfast Bars, Cookies
 - Baby Formula and Baby Food, if needed



Hint: Even if you are breast feeding, stress may keep you from producing milk.

Other Items You May Want To Include In Your Emergency Food Kit

- Prescription Drugs
- Copies of Important Family Documents
- Medical Supplies, such as a First Aid Kit and Instruction Booklet

Hint: Put the items listed above in a waterproof bag

- Flashlight or Battery Operated Lamps
- Waterproof Matches
- Paper Plates and Plastic Utensils
- Moist Towelettes and Hand Sanitizer
- Portable Radio
- Manual or Battery Operated Can Opener
- Extra Batteries



REMEMBER!

- Check the expiration dates on food every 6 months.
- Replace foods that are old.
- Include some comfort items if you have room.

Prepare An Emergency Food Kit



What is an Emergency Food Kit?

- 3 day supply of food and water for each household member.
- Kept in a waterproof case or carrying bag.
- Stored in a cool dry place or in your emergency shelter.



What You Should Include

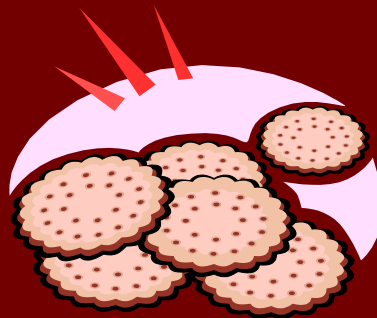
- 3 day supply of water
 - 1 gallon of water per person per day.
- Use of the Water
 - Drinking
 - Cooking
 - Hygiene



What You Should Include

Food For 3 Days

- Dried Foods
 - Fruit
 - Ready to Eat Cereal
 - Crackers
 - Powdered Milk
 - Beef Jerky



What You Should Include

Food For 3 Days

■ Canned Foods

- Meat and Fish (Tuna Fish, Spam, Chicken)
- Beans
- Fruit and Fruit Juices
- Vegetables
- Soups

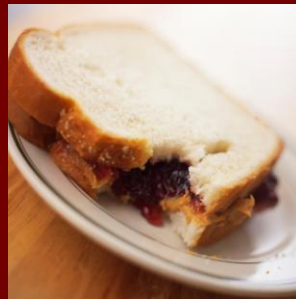


What You Should Include

Food For 3 Days

■ High Energy Foods

- Peanut Butter
- Jelly
- Nuts
- Trail Mix
- Cookies
- Granola, Protein and Breakfast Bars



What You Should Include

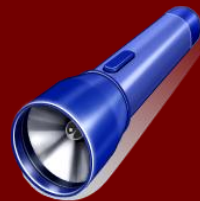
Food For 3 Days

- Baby Formula
 - Even if you are breast feeding, stress may keep you from producing milk.
- Baby Food



Other Essential Items

- Prescription Drugs
- Important Family Documents
- Medical Supplies: First Aid Kit, Instruction Booklet
- Flashlight or Battery Operated Lamps
- Waterproof Matches



Other Essential Items cont.

- Paper Plates and Plastic Utensils
- Moist Towelettes and Hand Sanitizer
- Portable Radio
- Manual or Battery Operated Can Opener
- Extra Batteries



Comfort Items

- Include some comfort items if you have room.
 - Snack Cakes
 - Chips
 - Cookies
 - Hard Candy
 - Playing Cards
 - Board Games



Reminders

- Check the expiration dates on foods every 6 months.
- Replace foods that are old.



Conclusion

- 3 day supply of food and water.
- Store kit in a cool dry place.
- Include dried food, canned food, and high energy foods.
- Other items can be included in kit.
- Check the date of foods.



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES

LESSON 3: Keeping Food Safe When The Lights Go Out



Keeping Food Safe When The Lights Go Out

Brief Overview

Electricity plays an extremely important role in keeping your food safe. It powers your refrigerators, stoves, and lights, which are all important in keeping you and your food safe. So, what happens when there is a power outage? How do you keep your food cold when the refrigerator is not working? The bacteria (germs) that cause foodborne illnesses will grow rapidly on foods when they are not kept hot (above 140°F) or cold (40°F or below). Unfortunately, during a power outage it is hard to keep foods at these temperatures. This lesson will teach the proper precautions and planning steps that will need to be taken before, during, and after a power outage. These precautions and plans will greatly affect both the food's safety and yours.

Vocabulary

Power Outage	Equipment failure resulting when the supply of electricity fails. A usual occurrence during any disaster.
Ice Crystals	Moisture on the outside of the food that turns into ice when the food is placed in the freezer.
Perishable Foods	Food items that decay or spoil rapidly, such as fresh meat, seafood, ripe fruits and vegetables, and refrigerated foods.
Non-Perishable Foods	Food items that do not spoil or decay, such as canned goods, ketchup, mustard, all pasta types, and dry goods.

Length: 1 Hour

Desired Learning Outcomes

Participants will learn:

- What threat a power outage poses to the safety of food
- Correct food safety actions that need to be taken before, during, and after a power outage
- Proper food handling and cooking procedures during and after a power outage

Lesson Outline

1. Preparing for a power outage
2. Keeping food safe during a power outage
3. Food preparation during a power outage
4. Handling food after a power outage

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (7):
 - Activity 1
 - Activity 2
 - Lesson Evaluation
 - Word Scramble
 - Refrigerator Sign
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items needed to teach this lesson:

- Computer with LCD projector or handouts of the power point
- Pens or pencils
- Copies of activity and take home handouts (listed above)
 - Activities 1 and 2 are group activities and only require one copy per group
 - All other handouts require one copy per person

Instructions For Educators

1. Be sure the power point titled Keeping Food Safe When The Lights Go Out is ready. If you do not have access to a projector, you have the option to print copies of the slides or work out of the booklet.
2. Welcome the participants to Keeping Food Safe When The Lights Go Out educational program. Break the participants into groups of 3-4 people. They will continue to stay in these groups for the remainder of the session.
3. Before you introduce the lesson, complete Activity 1 listed in the activities section (page 4).
4. Upon completion of Activity 1, introduce the lesson using slide 1 in the presentation section. Continue to follow the program layout in the presentation section.
5. When the slide presentation is concluded, have the participants complete Activity 2 listed in the activities section (page 4).
6. Revisit the ideas collected from Activity 1. Ask the groups if there are any changes that they would make or if they have any questions for you at the end of this lesson. Pass out the lesson evaluation found in the handouts section (Lesson 3 - Handout 3) for the participants to complete. After the evaluation is collected, go over the correct answers with the participants. Give each participant a copy of Take Home Handouts 1, 2, 3, and 4 [Take Home Handouts 3 and 4 are optional] before they leave.

Activities

Activity 1 - Group Discussion

- Have each group discuss what they do to keep their food safe at home during a power outage. Distribute the Group Note Sheets Activity 1 Handout 1 along with a pen or pencil, and have a member of each group take notes on the ideas presented.
- After 5-8 minutes, have one member of each group share the ideas of their group.
- Instructor should collect the written ideas for further discussion upon the conclusion of the presentation.

Activity 2 - Food Safety Timeline

- Distribute the Power Outage Food Safety Timeline Activity 2 Handout 2 to the groups, along with a pen or pencil. Each group will receive one handout.
- Let the groups read and discuss the situation at the top of their handout.
- Have the groups choose what actions they would take at each time interval to keep their food safe.
- When their list is completed, have the groups share their answers and give the reasons why they chose to perform the actions at each time interval.

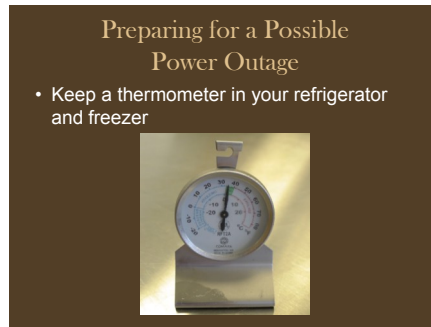
Presentation

Slide 1 - Keeping Food Safe When The Lights Go Out



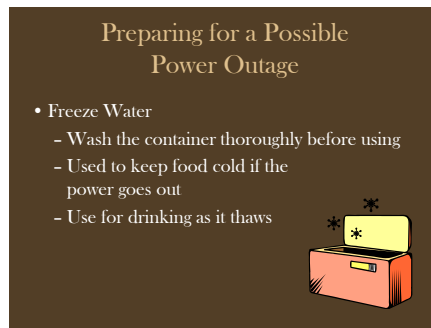
Electricity plays an extremely important role in keeping your food safe. It powers your refrigerators, stoves, and lights, which are all important in keeping you and your food safe. So, what happens when there is a power outage? How do you keep your food cold when the refrigerator is not working? The bacteria or germs that cause foodborne illnesses will grow rapidly on foods when they are not kept hot (above 140°F) or cold (40°F or below). Unfortunately, during a power outage it is hard to keep foods at these temperatures. This lesson will teach the proper precautions and planning steps that will need to be taken before, during, and after a power outage. These precautions and plans will greatly affect both the food's safety and yours.

Slide 2 - Preparing For A Possible Power Outage



- When you are preparing for a power outage, it is always important to keep an appliance thermometer in your refrigerator and freezer (this is separate from the thermostat dial in the refrigerator). This is the best way to ensure your food is kept at a safe temperature. The refrigerator temperature needs to be below 40°F and the freezer temperature needs to be below 0°F.

Slide 3 - Preparing For A Possible Power Outage





- When there is a threat of a power outage due to a storm or a disaster, freezing containers of water is one way to prepare. The frozen containers will help keep the temperature in the refrigerator, freezer, and/or cooler below 40°F. Some examples of containers may be plastic jugs that once held milk or juice, plastic storage containers, or zip lock bags. Before you add water to the containers, be sure to wash them inside and outside with soap and water. You do not want to let any dirt or leftover food particles contaminate the foods inside your refrigerator or freezer. Another reason to clean the containers thoroughly, is that once the water has thawed it can also be used for clean drinking water.

Slide 4 - Preparing For A Possible Power Outage

Preparing for a Possible Power Outage

- Purchase a generator
- Have a cooler
 - This will be used to store food and keep it cold
- Freeze refrigerated items that are not going to be used immediately
 - Meat
 - Milk and leftovers




- If it is possible, purchase a gas powered generator. It has many uses, which include powering your refrigerator, power for cooking (toaster oven, microwave), powering devices used for news and communication, and providing electricity for water pumps to remove water that may have accumulated in your basement.
- Having a cooler on hand is another way to keep your foods at a safe temperature of 40°F or below during a power outage. It is also a smaller space to cool than a refrigerator, which will keep your food colder longer.
- It is a good idea to place the refrigerated items that you are not going to use immediately in the freezer. Meat, milk, and leftovers are great examples of items to freeze. Frozen foods will stay at a cold temperature and last longer than foods in the refrigerator.
- Put the food items close together in the refrigerator and freezer. This helps to keep the temperature of the foods colder for a longer time.

Slide 5 - What To Do During A Power Outage

What to do during a Power Outage

- Keep refrigerator and freezer doors closed
 - This will keep the food cold
- Keep foods close together in the freezer
 - This will help the freezer keep its temperature longer
- Place foods in a cooler with frozen ice or gel packs
 - Do this only if the freezer is full



- During a power outage, keep the refrigerator and freezer doors closed as much as possible. Every time you open the refrigerator or freezer door cold air escapes and warm air goes inside, raising the temperature.



[In the handout section, you have the option of handing out a sign (Take Home Handout 2) that participants can hang on their refrigerator during a power outage. The sign serves as a reminder to anyone in the household to keep the refrigerator door closed.]

- Keep the food items close together in the refrigerator and freezer. This helps to keep the temperature of the foods colder, longer.
- If the temperature in the refrigerator rises above 40° F, you might want to move the food to a cooler. Use ice or gel packs to keep the food cold. Remember to keep the cooler closed as well to keep the cold in. Using a cooler is also a great option if the freezer is already full.

Slide 6 - What To Do During A Power Outage

What to do during a Power Outage
Cont.

- Do not place food outside
 - Temperatures can vary
 - Animals might get the food
- If it is cold outside:
 - Fill empty containers with water and place outside to freeze.
 - Snow and ice can be used in a separate container
 - Use the frozen containers in the refrigerator, freezer, or cooler.



- It is not recommended that refrigerated or frozen foods be stored outside if the weather is cold. Outside temperatures can vary which might put your food at an unsafe temperature. Also, there is nothing to stop animals or insects from getting into the food.
- Some alternatives to putting your food outside when it is cold are to fill empty containers with water and place them outside to freeze. These containers can then be placed in your refrigerator, freezer, or cooler to keep the food items cold. You can also gather snow and ice from outside. Put them in containers or re-sealable bags, then place them in the refrigerator or cooler. Do place the snow or ice in direct contact with the food. If it is not separated, the snow and ice may contaminate the food.

Slide 7 - Preparing Food During A Power Outage

Preparing Food during a Power Outage

- Heat foods outdoors
 - Camp Stoves
 - Grills
 - Contained Fires
- Build a fire
 - Use the fireplace to heat food


The image contains two illustrations. The top one shows a silver propane tank connected to a blue and red camp stove. The bottom one shows a fireplace with a fire burning inside, and a small green object on the mantel.

- Preparing food during a power outage can be dangerous if not done properly.
- Never cook inside with camp stoves or grills. They may put out gases and fumes that are harmful.
- Heat food outside on camp stoves, grills, or contained fires.
- A fireplace can also be used to heat or cook foods.

Slide 8 - Handling Food After A Power Outage

Handling Food After A Power Outage

- Discard refrigerated perishable foods after 4 hours without power
 - Milk and other dairy products
 - Meat
- Check the foods temperatures.
 - If the temperature is below 40°F, the food should be safe to eat.
- Check for ice crystals on foods in the freezer.
 - Food can be refrozen or cooked.



- Once the power is restored, discard all perishable foods that were in the refrigerator for 4 hours or more without power. After 4 hours the food has probably been at a temperature where dangerous bacteria and germs love to grow. Some examples of refrigerated perishable foods are milk, meat, other dairy products (cheese, yogurt, and sour cream), and any leftovers.
- Be sure to check the temperature of the food in the refrigerator to make sure it is safe to eat. You can use a food thermometer to check the temperatures of the foods in the freezer. If the temperature is below 40°F, it should be safe to eat. Foods in the freezer that still have ice crystals can be refrozen or cooked immediately.

Slide 9 - Handling Food After A Power Outage



- After a power outage, throw out all foods that have an unusual texture, color, or odor. Use your best judgment in this situation, do not gamble with your health or that of your family.
- It is very important to never taste food to see if it is safe to eat. Some bacteria produce poisons that can make you very ill.

Slide 10 - When In Doubt Throw It Out




- Always practice “When in doubt, throw the food out”.
- It may be hard to throw away food that you feel is perfectly good, but many bacteria cannot be seen or smelled.
- Wasting a few dollars now by throwing away doubtful food may save you from discomfort, doctor bills, or even a hospital stay later.

Slide 11 - Conclusion

Conclusion

- Keep an appliance thermometer in both your refrigerator and freezer.
- Keep the refrigerator and freezer doors closed during a power outage.
- Use a cooler if the temperature rises above 40° F in the refrigerator or freezer.




- In conclusion, it is important to have an appliance thermometer for your refrigerator and freezer so you can monitor the temperature, making sure it does not get above 40°F.
- Keep the refrigerator and freezer doors closed as much as possible during a power outage. Every time the doors are opened, valuable cold air escapes putting your food in jeopardy.
- If the temperature does rise above 40°F in the refrigerator or freezer, use a cooler to keep your food cold. It is a smaller space to keep cold with ice.

Slide 12 - Conclusion

Conclusion

- Never use camp stoves or grills indoors to cook food.
- Discard all foods that have an unusual texture, color, or odor.



- Never use camp stoves or grills to cook food indoors . They release toxic fumes and gases that are harmful if not in an open area that is well ventilated.
- Discard all food items that have an unusual texture, color, or odor. Never taste the food to see if it is safe to eat.
- When In Doubt, Throw It Out.



Stop here and complete Activity 2 - Food Safety Timeline. Instructions are in the Activities section on page 4.

**Lesson 3:
Keeping Food Safe
When The Lights Go Out**

Handouts



Activity 1 - Group Note Sheets



Notes



Notes

Lesson 3 - Handout 1



Activity 2 - Power Outage Food Safety Timeline

The weatherman is forecasting an ice storm to hit your area tonight, and warns of possible power outages due to frozen power lines. In the timeline below, choose the best action or actions that need to be taken to keep your food safe.

1. Before The Ice Storm:

- a. Fill clean containers with water and put in freezer to keep foods cold.
- b. Eat as much as you can so the freezer will be empty.
- c. Purchase an appliance thermometer for the refrigerator.
- d. Move perishable foods (milk, meat, or leftovers) to the freezer.

2. Power Goes Out

- a. Start cleaning out the refrigerator.
- b. Check the clock and record the time for reference.
- c. Keep refrigerator and freezer door closed as much as possible.
- d. Start your generator.

3. 1 Hour After Power Outage

- a. Keep the refrigerator door closed as much as possible.
- b. Check items in freezer for signs of thawing.
- c. Have a snack from the refrigerator.
- d. Put water in containers and place outside to freeze and to use as ice packs later.

4. 4 Hours After Power Outage

- a. Move thawing items in the freezer to a cooler, using ice packs to keep them cold.
- b. If it's cold outdoors, set the food items outside to keep them cold.
- c. Throw out all refrigerated perishable items such as meat and dairy products.
- d. Bring the grill inside and cook the food before it goes bad.

5. Power Is Back On

- a. Refreeze any items from the freezer that have ice crystals.
- b. Throw out any food that has an unusual color, texture, or odor.
- c. Discard any food from coolers that is above the recommended temperature (40°F).

Lesson 3 - Handout 2

Power Outages Evaluation



Please circle your choice.

1. How important do you think it is to keep a thermometer, such as the ones shown here, in your refrigerator to measure its temperature in degrees? (This is separate from the dial thermostat that sets the refrigerator temperature.)
 - a. Very important
 - b. Somewhat important.
 - c. Not very important
2. Do you have a thermometer in your refrigerator?
 - a. Yes (skip question 4)
 - b. No
3. How likely are you to buy a refrigerator thermometer after this lesson?
 - a. Very likely
 - b. Somewhat likely
 - c. Not very likely
4. When preparing for a possible power outage, I should:
(circle all that apply)
 - a. Freeze water in clean plastic jugs.
 - b. Have a cooler and ice packs ready.
 - c. Bring the grill or camping stove inside so they can be used for cooking.
 - d. Freeze refrigerated items (milk, meat, or leftovers) that are not going to be used immediately.
5. During a power outage, if the temperature outside is below 40°F, I can store refrigerated foods on the deck or porch.
 - a. Agree
 - b. Disagree
 - c. Do not know

Lesson 3 - Handout 3

Power Outages Evaluation

6. When there is a power outage, it is best to keep foods close together in the freezer.
 - a. Agree
 - b. Disagree
 - c. Do not know

7. All refrigerated perishable foods such as milk, meat, and dairy products should be discarded after 4 hours without power.
 - a. Agree
 - b. Disagree
 - c. Do not know

8. Foods that have a temperature below 40°F should be safe to eat after a power outage.
 - a. Agree
 - b. Disagree
 - c. Do not know

9. If there are ice crystals on the food in the freezer, it can be refrozen or cooked.
 - a. Agree
 - b. Disagree
 - c. Do not know

10. Food that has an unusual texture, color, or odor should be tasted to see if it is still safe to eat.
 - a. Agree
 - b. Disagree
 - c. Do not know

Power Outage Word Scramble

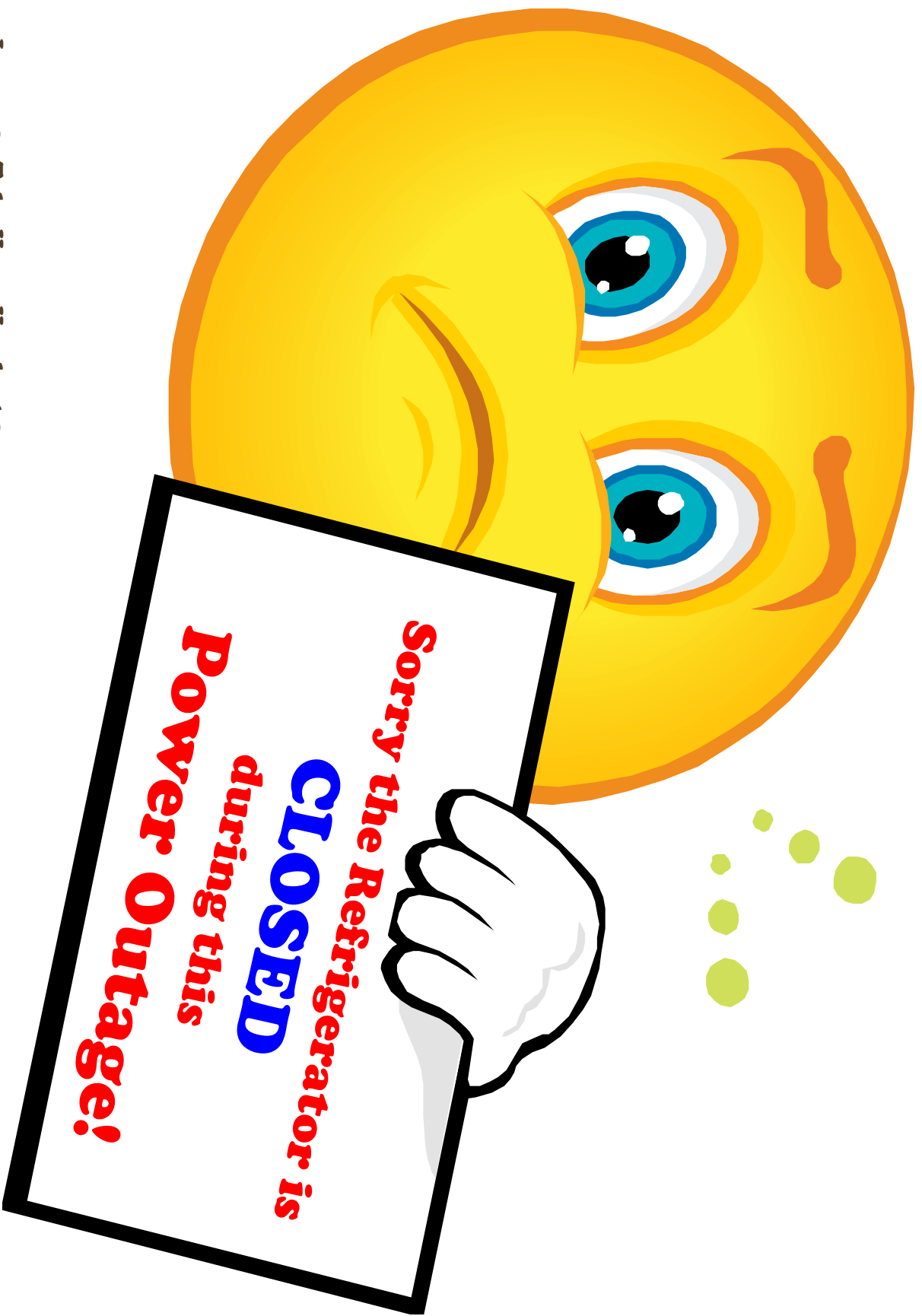


Unscramble the letters below each sentence to fill in the blanks.

- _____ the refrigerated items that are not going to be used immediately.
erzefe _____
- Keep the _____ and freezer doors closed as much as possible.
fitoaregrerr _____
- Do not place food _____ to keep it cold.
eiotdsu _____
- Discard refrigerated perishable foods after _____ without power.
rouf suorh _____
- After a power outage, check for _____ on the foods in the freezer.
cie ytaslrsc _____
- After a power outage, throw out foods that have an unusual _____, _____, or _____.
rxettu lrooc doro _____
- Be sure to use a _____ when cooking any raw meats, poultry, or fish.
odfo mttheeromer _____
- After a power outage, food in the refrigerator that is below _____ Fahrenheit should be safe to eat.
ftyor erdgsee _____

Lesson 3 - Take Home Handout 1

Answers:
1. Freeze, 2. Refrigerator, 3. Outside, 4. Four Hours, 5. Ice Crystals, 6. Texture, Color, Odor,
7. Food Thermometer, 8. Forty Degrees



Lesson 3 - Take Home Handout 2
Refrigerator Sign

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Keeping Food Safe When The Lights Go Out Take Home Messages

Electricity plays an extremely important role in keeping food safe. It powers the refrigerator, range, and lights. Taking the proper actions before, during, and after a power outage will help keep you and your food safe.

- Preparing For A Possible Power Outage
 - Keep an appliance thermometer in your refrigerator and freezer.
 - Freeze water in thoroughly washed or new plastic containers. These can be used to keep food cold in the refrigerator, freezer, or cooler. As the water thaws, it can be used for drinking.
 - Purchase a generator if possible.
 - Have a cooler on hand. Put ice packs in the freezer.
 - Freeze refrigerated items, such as meat, milk and leftovers, that are not going to be used immediately.
- What To Do During A Power Outage
 - Keep refrigerator and freezer doors closed as much as possible.
 - Place foods in a cooler with frozen ice or gel packs if the freezer is already full.
 - Fill empty containers with water and place them outside to freeze if it is cold enough. Use the frozen containers in the refrigerator, freezer or cooler. Snow and ice can also be used but must be sealed in a separate container before putting in the refrigerator or freezer.
 - Do not place food outside to keep it cold. Outside temperatures can vary, and animals or bugs might get into the food you are trying to keep safe.
 - Keep foods close together in the freezer, which helps the freezer keep its temperature longer.
 - When preparing food, heat outdoors over camp stoves, grills, or contained fires. Both are a potential fire hazard and pose a risk of exposure to the toxic gases they release. A fireplace can be used if properly ventilated.

Lesson 3 - Take Home Handout 3

Keeping Foods Safe When The Lights Go Out Take Home Messages

- What About After A Power Outage?
 - Discard refrigerated perishable foods such as milk, meat, and dairy products after 4 hours without power.
 - Check the temperature of the food in the freezer. Food that is still below 40 degrees F (4.4 degrees C) should be safe to eat. Foods that have defrosted completely and are not below 40 degrees F should be thrown out.
 - Appliance thermometers should be placed in your refrigerator and freezer so you know the inside temperature during and after a power outage.
 - Food Thermometers should be used to measure the temperatures of foods that have been defrosted, making sure they are still below 40°F.
 - Check for ice crystals on the food in the freezer. If there are ice crystals on the food in the freezer, it can be refrozen or cooked.
 - Throw out any food that has an unusual texture, color, or odor.
 - Never taste food to see if it is safe. Throwing the food out may save you discomfort, doctor bills, or even a hospital stay later.

Lesson 3 - Take Home Handout 3

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Keeping Food Safe When The Lights Go Out



Sandria L. Godwin, Ph.D., R.D.

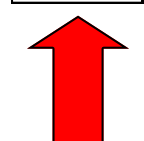
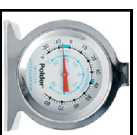
Richard Coppings, Ph.D.

Leslie Speller-Henderson, M.S.

Richard W. Stone, B.S.

What About After A Power Outage?

- Discard refrigerated perishable foods such as milk, meat, and dairy products after 4 hours without power.
- Check the temperature of the food in the freezer. Food that is still below 40 degrees F (4.4 degrees C) should be safe to eat. Foods that have defrosted completely and are not below 40 degrees F should be thrown out.



Appliance thermometers should be placed in your refrigerator and freezer so you know the inside temperature during and after a power outage.



Cooking thermometers should be used to measure the temperature of foods that have defrosted, making sure they are still below 40 degrees F.

- Check for ice crystals on the food in the freezer. If there are ice crystals on the food in the freezer, it can be refrozen or cooked.
- Throw out any food that has an unusual texture, color, or odor.

Never taste food to see if it is safe. Throwing the food out may save you discomfort, doctor bills, or even a hospital stay later.

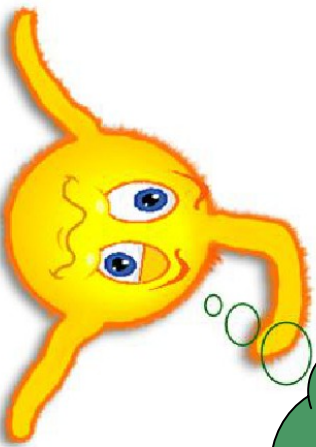


POWER OUTAGES

Electricity plays an extremely important role in keeping food safe. It powers the refrigerator, range, and lights. Taking the proper actions before, during, and after a power outage will help keep you and your food safe.

Preparing For A Possible Power Outage

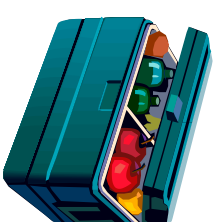
- **Keep** an appliance thermometer in your refrigerator and freezer.
- **Freeze** water in thoroughly washed or new plastic containers. These can be used to keep food cold in the refrigerator, freezer, or cooler. As the water thaws, it can be used for drinking.
- **Purchase** a generator if possible.
- **Have a cooler** on hand. Put ice packs in the freezer.
- **Freeze** refrigerated items, such as meat, milk and leftovers, that are not going to be used immediately.



Oh, I get it!
I need to make
sure the food is
kept cold enough or
I might get sick.

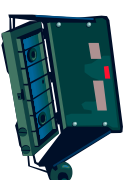
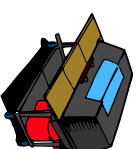
What To Do During A Power Outage

- **Keep** refrigerator and freezer doors closed as much as possible.
- **Place foods** in a cooler with frozen ice or gel packs if the freezer is already full.



Hint: Do not place food outside to keep it cold. Outside temperatures can vary, and animals or bugs might get to the food you are trying to keep safe.

- **Fill empty containers** with water and place them outside to freeze if it is cold enough. Use the frozen containers in the refrigerator, freezer or cooler. Snow and ice can also be used but must be sealed in a separate container before putting in the refrigerator or freezer.
- **Keep foods** close together in the freezer, which helps the freezer keep its temperature longer.
- When preparing food, heat **outdoors** over camp stoves, grills, or contained fires. A fireplace can also be used if properly ventilated.



Hint: Always use camp stoves or grills outside. Both are a potential fire hazard and pose a risk of exposure to the toxic gases they release.

Preparing For And Keeping Food Safe During A Power Outage



Preparing for a Possible Power Outage

- Keep a thermometer in your refrigerator and freezer



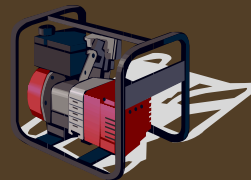
Preparing for a Possible Power Outage

- Freeze Water
 - Wash the container thoroughly before using
 - Use to keep food cold if the power goes out
 - Use for drinking as it thaws



Preparing for a Possible Power Outage

- Purchase a generator
- Have a cooler
 - This will be used to store food and keep it cold
- Freeze refrigerated items that are not going to be used immediately
 - Meat
 - Milk and leftovers



What to do during a Power Outage

- Keep refrigerator and freezer doors closed
 - This will keep the food cold
- Keep foods close together in the freezer
 - This will help the freezer keep its temperature longer
- Place foods in a cooler with frozen ice or gel packs
 - Do this only if the freezer is full



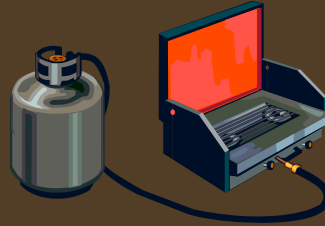
What to do during a Power Outage Cont.

- Do not place food outside
 - Temperatures can vary
 - Animals might get the food
- If it is cold outside:
 - Fill empty containers with water and place outside to freeze
 - Snow and ice can be used in a separate container
 - Use the frozen containers in the refrigerator, freezer, or cooler



Preparing Food during a Power Outage

- Heat foods outdoors
 - Camp Stoves
 - Grills
 - Contained Fires
- Build a fire
 - Use the fireplace to heat food



Handling Food After A Power Outage

- Discard refrigerated perishable foods after 4 hours without power
 - Milk and other dairy products
 - Meat
- Check the foods temperatures.
 - If the temperature is below 40 ° F, the food should be safe to eat.
- Check for ice crystals on foods in the freezer.
 - Food can be refrozen or cooked.



Handling Food After A Power Outage

- Throw out any foods that have
 - Unusual texture
 - Color
 - Odor



- **NEVER TASTE** food to see if it is safe.



When In Doubt, Throw The Food Out!



Wasting a few dollars now may save you discomfort, doctor bills or even a hospital stay later.



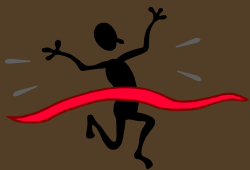
Conclusion

- Keep an appliance thermometer in both your refrigerator and freezer.
- Keep the refrigerator and freezer doors closed during a power outage.
- Use a cooler if the temperature rises above 40° F in the refrigerator or freezer.



Conclusion

- Never use camp stoves or grills indoors to cook food.
- Discard all foods that have an unusual texture, color, or odor.



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES.

LESSON 4: Water Is High And The Food Is Not Dry



Water Is High And The Food Is Not Dry

Brief Overview

Flood waters are extremely dangerous. Almost all food that comes into contact with flood waters must be thrown in the garbage. Undamaged cans and retort packages are the only food items that can be salvaged. Cookware and counters need to be cleaned thoroughly to remove all the harmful bacteria and chemicals that flood waters carry. This lesson describes what to do before and after a flood to keep you and your food safe.

Vocabulary

Sewage	Liquid and solid waste carried off in sewers or drains.
Contaminate	To make impure or unsuitable by contact or mixture with something unclean, bad, etc.; Full of bacteria
Salvage	To save damaged material for further use.
Retort Package	Retort packaging is a shelf stable flexible package and is a new alternative to cans and jars.
Undamaged Cans	Cans that have no signs of denting, swelling, or rust on the outside.

Length: 1 hour

Desired Learning Outcomes

Participants will learn:

- Proper food safety during and after a flood
- What items can and cannot be salvaged after being exposed to flood waters
- Correct cleaning procedure for kitchen equipment and salvaged foods after a flood

Lesson Outline

1. Importance of preparing for a flood
2. What to do after a flood
3. Preparing a bleach cleaning solution
4. Items that can be salvaged, and how to salvage them
5. Items that cannot be salvaged, and why they cannot be salvaged

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (7):
 - Lesson Pre-Test
 - Activity 1
 - Lesson Post-Test
 - Canned Food Inspection Sheet
 - Word Search
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items needed to teach this lesson:

- Computer with LCD projector or handouts of power point
- Pens or Pencils
- Copies of activity and take home handouts (listed above)
 - Activity 1a is a group activity and only requires one copy per group
 - All other handouts require one copy per person

Items needed to teach this lesson (continued):

- Flood water samples (preparation instructions in activities section)
- Glo Germ Kit
 - Black light
 - Glo Germ (Glo Gel is recommended)
- 5 clear mason jars with screw top lid
- 2 tablespoons yard dirt or potting soil
- 1 teaspoon lighter fluid or gas
- 2 teaspoons rubbing alcohol
- 1 teaspoon clear dishwashing liquid
- Canned food - enough for each group / 1 per group
- Dish cloths/towels
- Clean water
- Dish soap
- Bucket or tub

Instructions For Educators

1. Be sure the power point titled Water Is High And The Food Is Not Dry is ready. If you do not have access to a projector, you have the option to print copies of the slides or work out of the emergency booklet.
2. Welcome the participants to Water Is High And The Food Is Not Dry educational program. Before you introduce the presentation have the participants complete the lesson pre-test located in the handouts section (Lesson 4 - Handout 1).
3. After the pre-test is completed and collected, break the participants into groups of 3-4 people. They will continue to stay in these groups for the remainder of the session.
4. Introduce the lesson using slide 1 in the presentation section. After slide 1, complete Activity 1 listed in the activities section (page 4).
5. Upon completion of Activity 1 resume the program with slide 2 provided in the presentation section.
6. When the slide presentation is concluded, have the participants complete Activity 2 listed in the activities section (page 5).
7. Ask if there are any questions for you at the end of this lesson. Pass out the lesson post-test in the handouts section (Lesson 4 - Handout 3) for the participants to complete. After the post-test is collected, go over the correct answers with the participants. Give participants a copy of Take Home Handouts 1, 2, 3, and 4 [Take Home Handouts 3 and 4 are optional] before they leave.

Activities



Activity 1 Preparation Contaminated Jar Assembly Process



1. Set out containers and label them 1-5. Proceed to add the contaminants to each jar.
 - Jar 1: contains only the tap water
 - Jar 2: add 2 tablespoons dirt
 - Jar 3: add 1 teaspoon lighter fluid or gas
 - Jar 4: add 2 teaspoons rubbing alcohol
 - Jar 5: add 1 teaspoon clear dish soap
2. Once all the contaminants are added, add one cup of water to each jar. Be sure to tighten each lid so no water can leak out when the participants are investigating the contents.

Activity 1 - Contaminated Jars

- For each group, pass out one jar (jar preparation instructions are located at the bottom of this page), one clue sheet (Activity 1 - Investigation Sheet), and a pen or pencil. Let the groups discuss what they think is in each jar. Remind the groups that some of the jars contain no contaminants.
- After 5 minutes, ask each group to show their jar and explain what they think the water contaminant might be.
- Once every group has shared their answers, tell the participants which jars were contaminated, and the type of contaminant.

[Use your best judgment as to whether or not you want to explain why the contaminants are harmful.]

Activities

Activity 2 - Contaminated Can Cleaning

- Apply Glo Germ [Glo Gel is recommended] to 5 cans or to as many cans as there are groups present.
- Using the black light, illuminate the can allowing the participants to observe the contamination present on the can.
- Give each group one can coated in Glo Germ, a dish cloth, and a drying towel.
- Prepare the buckets or tubs with water. One bucket or tub should have soapy water (used for cleaning) and the other should be clean water (used for rinsing).
- Allow each group to go to the buckets or tubs to clean and rinse their can. The groups do not need to worry about the sanitizing step with this exercise since it will have no effect on the Glo Germ.
- After all groups have finished cleaning their cans, use the black light to observe results. When observing the results remind the groups of where bacteria can hide on cans (label and around the lip of the can) and the importance of taking the time to properly clean canned food items following a flood.

[Glo Germ may wash easily off the can. This is because the cans surface is smooth and may not hold the glow germ. The bacteria or germs in the environment will act the same way as the Glo Germ and wash off the cans easily if done correctly.]

Presentation

Slide 1 - Water Is High And The Food Is Not Dry

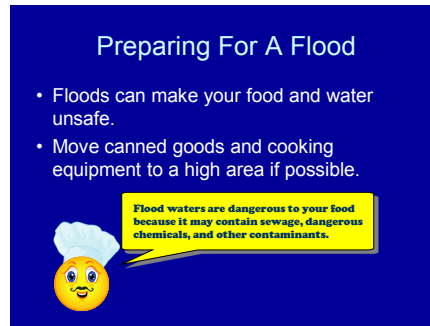


Flood waters are extremely dangerous because they may contain sewage, dangerous chemicals, or other contaminants. Almost all food that comes into contact with flood waters must be thrown in the garbage. Undamaged cans and retort packages are the only food items that can be salvaged. Cookware and counters need to be cleaned thoroughly to remove all the harmful bacteria and chemicals that flood waters carry. This presentation will describe what to do before and after a flood to keep you and your food safe.



Stop here and complete Activity 1 - Contaminated Jars. Instructions are in the Activities section on page 4.


Slide 2 - Preparing For A Flood



Preparing For A Flood

- Floods can make your food and water unsafe.
- Move canned goods and cooking equipment to a high area if possible.

Flood waters are dangerous to your food because it may contain sewage, dangerous chemicals, and other contaminants.



- Flood waters are dangerous to you and your kitchen. They may contain sewage, dangerous chemicals, or other contaminants.
- Because you do not know what flood water may contain, any food and bottled water that came into contact with flood water must be thrown out. However, there are some items that can be salvaged after being exposed to flood water. Those items will be discussed later in the presentation.
- If the area that you live in is under a flood watch, try to move your food and cooking equipment to a high place in your house so the waters cannot reach these items. It is also important that you evacuate your house if flood waters begin to approach.

Slide 3 - What To Do After A Flood

What To Do After A Flood

- Inspect your kitchen and food storage areas.
- Look for items that came into contact with flood waters.
 - Some items can be salvaged.
 - Other items must be thrown in the garbage.




- After the flood, inspect your kitchen and food storage areas. Look for the items that may have come into contact with flood waters. Some of these items can be salvaged. Other items must be thrown in the garbage. It is important that you do not put your health at risk by trying to save food that is contaminated.
- When determining what items can and cannot be salvaged, keep in mind that your hands are touching items that could have possible contamination on the outside. Be sure to wash your hands or use a hand sanitizer before you handle or eat any food items.
- A Helpful Hint - Use extreme caution when opening your refrigerator or freezer doors after returning to your house after a flood. Power outages come with floods and your food could have been in the refrigerator or freezer without power, causing food to rot and produce a bad smell.

Slide 4 - Bleach Solution

Bleach Solution

- Recipe:
 - 1 tablespoon of household bleach per
 - 1 gallon of clean water




**This is not the recipe for purifying water,
it is to be used for cleaning only.
DO NOT DRINK!**

- Before you begin to salvage any foods or cooking equipment you need to prepare a bleach cleaning solution. The bleach cleaning solution plays an important role in the cleaning and sanitizing of items following a flood.
- To make the sanitizing solution, mix one tablespoon of household bleach with one gallon of clean water.
- This solution should only be used for cleaning and sanitizing. The amount of bleach used in this solution is different than the amount of bleach used to purify water. So please, DO NOT use this recipe to purify water.

Slide 5 - Items That Can Be Salvaged

Items That Can Be Salvaged

- Metal pots, pans, glass or ceramic dishes, and metal utensils.
 - Wash in warm soapy water then soak in a bleach solution for 15 minutes.
- Counter tops and kitchen surfaces.
 - Clean with warm soapy water then sanitize with bleach solution.
- Undamaged cans or retort packages.
 - Wash and sanitize with bleach solution.



- There are some items that can be salvaged after a flood, and there are special cleaning procedures for salvaging each of these items.
- To salvage metal pots, pans, glass or ceramic dishes, and metal utensils, wash in warm soapy water then soak in a bleach solution for 15 minutes. Allow the items to air dry after they have finished their 15 minute soak.
- Counter tops and kitchen surfaces need to be cleaned with warm soapy water then sanitized with the bleach solution. You should clean and sanitize the countertops and storage areas first before returning any of your cleaned and salvaged items.
- Inspect all cans and retort packages for any damage. The cans and retort packages that are not damaged need to be washed in warm soapy water and sanitized with bleach solution. We will talk about different types of can damage on the next slide.

[You may want to provide a definition or example of a retort package (many tuna fish companies have started to switch from cans to retort packages). Many of the participants may be unfamiliar with the term retort packaging. The definition can be found in the Vocabulary section of this lesson plan.]

- When washing in warm soapy water be sure that you remove ALL dirt and silt left by the flood waters.
- Soak the cans and retort pouches in the sanitizing solution for 15 minutes.
- Allow the cans and retort pouches to air dry before opening. It may take cans up to one hour before they are completely dry.
- Try to remove the labels because they can hold dirt and bacteria. Label the cans after they have dried with their name and date.

Slide 6 - Canned Items And Retort Packages That Cannot Be Salvaged

Canned Items And Retort Packages That Cannot Be Salvaged

- Canned items with rust or damage to the outside.
 - Look to see if the can has swelling.
- Retort packages with damaged seams.



- As mentioned in the previous slide, canned foods need to be carefully inspected before you attempt to salvage. Look carefully for signs of rust, swelling, indentations, leakage, punctures, or anything that would not allow you to stack the cans. These signs of damage could mean that the air tight seal on the can has been broken, and the dangerous flood waters may have contaminated the cans contents.
- Retort packages must be examined carefully as well to determine if the package is still air tight. If the package has lost its seal, then there is also a danger that flood waters may have contaminated the contents of the retort package.

Slide 7 - Other Foods That Cannot Be Salvaged

Other Foods
That Cannot Be Salvaged

- Food not in a waterproof container.
 - Containers with screw caps, snap lids, pop tops, or crimped bottle caps.
 - Cardboard cartons and boxes



- Food items that are not in waterproof containers cannot be salvaged. You may think that the items are completely air tight and safe, but flood waters can contaminate the insides of each of these containers. Some examples are:
 - Screw caps (bottled water, soda bottles, jarred food)
 - Snap lids (plastic containers)
 - Pop tops (canned soda, soups)
 - Crimped bottle caps (glass bottled drinks ex. soda, beer)

Slide 8 - Other Items That Cannot Be Salvaged

Other Items
That Cannot Be Salvaged

- Cutting boards, wooden spoons and bowls, plastic utensils, baby bottle nipples, and pacifiers.




- Also, there are some kitchen items that cannot be salvaged after a flood. These items include:
 - Cutting boards
 - Wooden spoons and bowls
 - Plastic utensils
 - Baby bottle nipples
 - Pacifiers
- There is no safe way for you to clean these kitchen items.

Slide 9 – Items That Cannot Be Salvaged

Items That Cannot Be Salvaged
continued

- Refrigerators or freezers that were under flood waters cannot be salvaged.
- Once the insulation material is exposed to flood waters they are no longer safe.




- Refrigerators and freezers that were under flood waters are not safe to use and must be thrown out. They contain insulation that, when exposed to water, will become saturated (like a sponge) with flood water. Once the insulation is saturated it dries out extremely slow, which allows bacteria to grow easily. There is no way to replace the insulation without destroying your refrigerator. Be sure to childproof your refrigerator by removing the doors before you throw it out.

Slide 10 – Do Not Eat Or Drink Anything That Has Come Into Contact With Flood Waters.

**DO NOT EAT OR DRINK
ANYTHING THAT HAS
COME INCONTACT WITH
FLOOD WATERS.**

**WHEN IN DOUBT,
THROW IT OUT!**




- Lastly, DO NOT EAT OR DRINK ANYTHING THAT HAS COME INTO CONTACT WITH FLOOD WATERS. You do not know what the flood waters contain and you could become very sick.
- WHEN IN DOUBT, THROW IT OUT.

Slide 11 - Conclusion

Conclusion

- Flood waters are unsafe.
- After a flood inspect your kitchen.
- Bleach Solution=1 tbs bleach+1 gal water
- Items that are salvaged must be cleaned and sanitized.




- Flood waters are unsafe. They may contain many different contaminants which could make you or your family very sick.
- After a flood, inspect your kitchen, looking for items that came into contact with flood waters.
- To make a bleach sanitizing solution, mix one tablespoon of bleach with one gallon of clean water.
- Items that you are going to salvage after a flood must be cleaned and sanitized correctly.

Slide 12 - Conclusion

Conclusion

- Inspect all canned and retort food items after a flood.
- When In Doubt, Throw It Out!



- Inspect all canned and retort packaged food items before you salvage. Look for any damage to the container that would allow flood water to enter.
- When In Doubt, Throw It Out. Do not try to salvage any foods that are not in waterproof containers.



Stop here and complete Activity 2 - Contaminated Can Cleaning. Instructions are in the Activities section on page 5.

**Lesson 4:
Water Is High And The
Food Is Not Dry**

Handouts



Floods Pre-Test

Please circle your choice.

1. When preparing for a flood, you should move canned goods and kitchen equipment as high above the expected flood waters as possible.	I agree	I don't know	I disagree
2. All wood and plastic kitchen items that came in contact with flood water should be disposed of after a flood.	I agree	I don't know	I disagree
3. Undamaged canned goods can be cleaned, sanitized, and used.	I agree	I don't know	I disagree
4. Washing dishes and food containers in hot soapy water gets them sufficiently clean to use after they have been exposed to flood water.	I agree	I don't know	I disagree
5. Refrigerators and freezers that have been flooded can be cleaned, dried, and used again.	I agree	I don't know	I disagree
6. Foods in containers that are generally considered "easy open" such as pop tops, screw-top jars, and metal bottle caps can be cleaned and used.	I agree	I don't know	I disagree
7. A safe and effective sanitizing solution can be made by mixing one tablespoon of household bleach with one gallon of clean water.	I agree	I don't know	I disagree

Lesson 4 - Handout 1

Activity 1 - Investigation Sheets



Clue Sheets

Does the water look clean? _____

What happens when you shake the jar? _____

What do you see when you turn the jar over? _____

Notes:

Is the water contaminated? _____

If so, with what? _____



Clue Sheets

Does the water look clean? _____

What happens when you shake the jar? _____

What do you see when you turn the jar over? _____

Notes:

Is the water contaminated? _____

If so, with what? _____

Lesson 4 - Handout 2

Floods Post-Test

Please circle your choice.

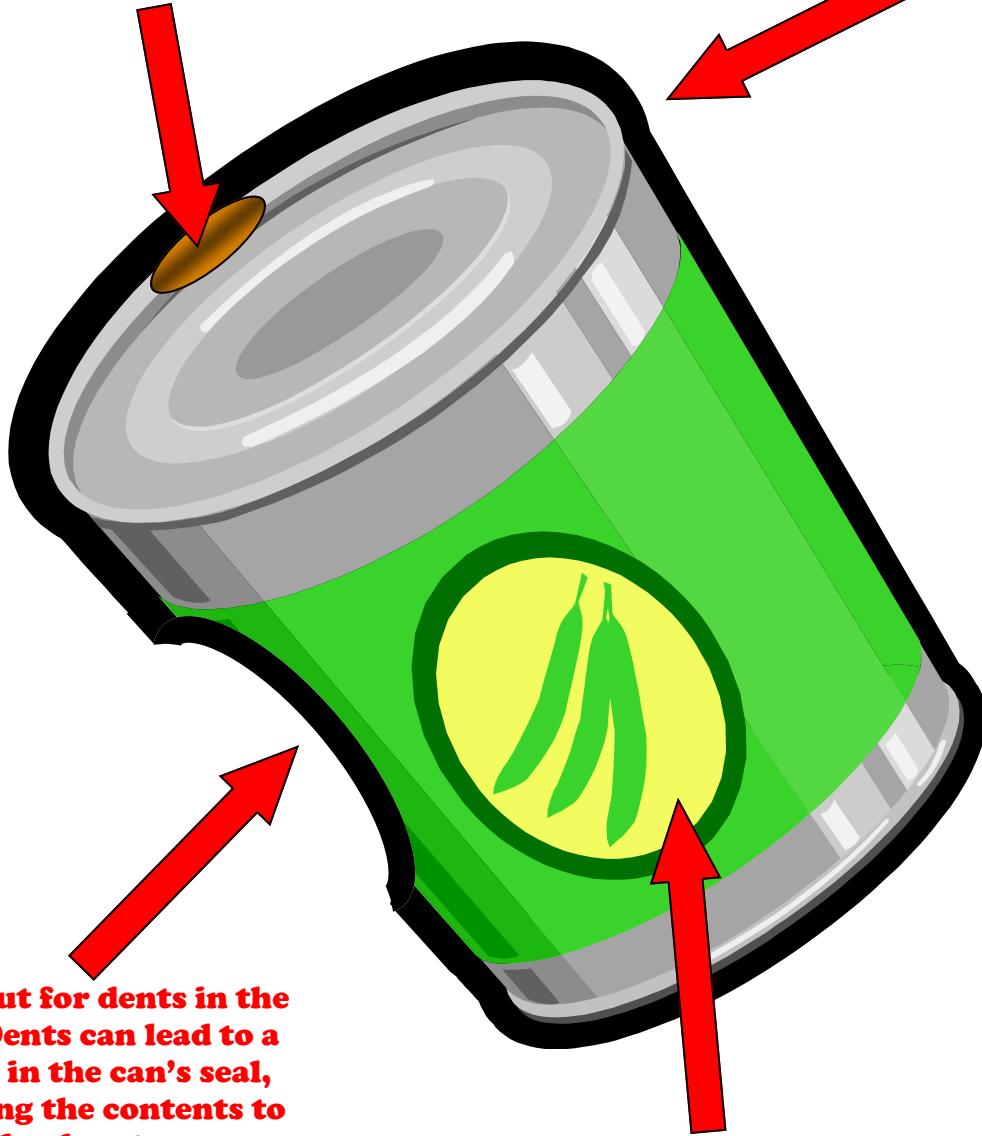
1. When preparing for a flood, you should move canned goods and kitchen equipment as high above the expected flood waters as possible.	I agree	I don't know	I disagree
2. All wood and plastic kitchen items that came in contact with flood water should be disposed of after a flood.	I agree	I don't know	I disagree
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7. A safe and effective sanitizing solution can be made by mixing one tablespoon of household bleach with one gallon of clean water.	I agree	I don't know	I disagree

Lesson 4 - Handout 3

Canned Food Inspection Sheet

Inspect the can for rust. Rust can lead to a break in the can's seal, exposing the contents to flood water.

Be sure to clean under the edge of the can. Bacteria love to hide under there.



Look out for dents in the can. Dents can lead to a break in the can's seal, exposing the contents to flood water.

Remove labels from cans exposed to flood water. Bacteria love to hide underneath the labels.

Lesson 4 - Take Home Handout 1

Can Damage and Salvage Word Search



Good Luck finding the hidden words below.

B E S A F E Y N B S G D H Y E Y S I R U
P H Z I J T Z I A P O I E V E A B U R T
Y U D R Y J Z U R E Q Z P B N M S V I B
C H N L E A K A G E L W B I S T B Z N I
Z K Q C D E N T I N G C T E I H Q S S O
N B L P T B Q F G E V I L N F S L Y E L
Y S X I X U X J N J Z O G Z K A T R Z G
X A Z B Z C R Z I E H I I S F W U C N J
R K J O K O B E H J S R X F W D A I X F
H E T F B U F Z S L A S Y I C N L X W T
A A Q G K N K I U G F A O O O L M Y C T
L U Y I Q R D S R B V R I W E T Y P Y Z
C Q J G X U M R C S O X L W R A X R J Z
F L L Y S Z V X S N U Q S H Y L A W W U
Z H A L E T U Y J H C L V L L H Z C E C
H C A E L B N R F C L K T N O E H L G F
G H J D L G J R F T Q W C H Z C L C Z Z
S E R U T C A R F L M D A I D O T I Y B
A Q V Z P T B X C U S A W L F F K Y O A
Z I E F M W R I I Z M O Z F Q Y K I F S

BLEACH
DENTING
HOLES
RINSE
SWELLING

CLEAN
DRY
LEAKAGE
RUSTING
WASH

CRUSHING
FRACTURES
PUNCTURES
SANITIZE

Lesson 4 - Take Home Handout 2

Water Is High And The Food Is Not Dry Take Home Messages

Flood waters are dangerous and may contain sewage or other harmful substances. It is important to take proper measures before and after a flood to ensure the safety of you and your food.

- Preparing For A Flood
 - Move canned goods and cooking equipment to a place out of the reach of flood waters.
- What Needs To Be Thrown Out After A Flood
 - All foods that have come in contact with flood waters if they are not in a waterproof container.
 - Food containers that are not waterproof include: containers with screw caps, snap lids, pop tops, crimped bottle caps, cardboard cartons, and boxes.
 - Cutting boards, plastic utensils, baby bottle nipples, and pacifiers; there is no way to safely clean these items after they have come in contact with flood waters.
 - Canned items that have damage or rust on the outside.
 - Damage to cans may be swelling, leakage, punctures, holes, fractures, or crushing/denting which would not allow you to stack or open the cans with a manual can opener.
 - Retort packages with damaged seams.
 - Refrigerators or freezers that were under flood water. Be sure to remove the doors so children or animals cannot be trapped inside.
- Cleaning Kitchen Items After A Flood
 - A bleach sanitizing solution consists of 1 tablespoon of household bleach per one gallon of clean water.
 - Clean and sanitize all counter tops and surfaces in the kitchen with the bleach solution.
 - Wash and sanitize any undamaged cans or retort packages before opening.
 - Wash all metal pots, pans, ceramic dishes, and utensils in hot soapy water. Rinse, then soak for 15 minutes in a bleach solution.

Lesson 4 - Take Home Handout 3

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Water Is High And
The Food Is Not Dry



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Richard Coppings, Ph.D.
Leslie Speller-Henderson, M.S.
Richard W. Stone, B.S.

This booklet has been prepared by the research staff in the School of Agriculture and Consumer Sciences at Tennessee State University, in collaboration with RTI International and Jackson State Community College. Funding was provided by the National Integrated Food Safety Initiative, National Institute of Food and Agriculture, US Department of Agriculture under project number TENX-2007-01846.

Contributors

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I hope you found this
information helpful!



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FLOODS

Flood waters are dangerous and may contain sewage or other harmful substances. It is important to take proper measures before and after a flood to ensure the safety of you and your food.

Preparing For A Flood

- **Move** canned goods and cooking equipment to a place out of the reach of flood waters.



What Needs To Be Thrown Out After A Flood

- All foods that have come in contact with flood waters if they are not in a waterproof container.

Hint: Food containers that are not waterproof include: containers with screw caps, snap lids, pop tops, crimped bottle caps, cardboard cartons, and boxes.

- Cutting boards, plastic utensils, baby bottle nipples, and pacifiers; there is no way to safely clean these items after they have come in contact with flood waters.
- Canned items that have damage or rust on the outside.
- Retort packages with damaged seams.
- **Refrigerators or freezers** that were under flood water. Be sure to remove the doors so children or animals cannot be trapped inside.

Hint: Damage to cans may be swelling, leakage, punctures, holes, fractures, extensive deep rusting, or crushing/denting which would not allow you to stack or open the cans with a manual can opener.

Fill me with all the food damaged by flood water.



Cleaning Kitchen Items After A Flood

- **Clean and sanitize** all counter tops and surfaces in the kitchen with the bleach solution.
- **Wash and sanitize** any undamaged cans or retort packages before opening.
- **Wash** all metal pots, pans, ceramic dishes, and utensils in hot soapy water. **Rinse**, then **soak** for 15 minutes in a bleach solution.



DO NOT EAT OR DRINK ANYTHING THAT HAS COME INTO CONTACT WITH FLOOD WATERS. WHEN IN DOUBT, THROW IT OUT!!

What To Do Before And After A Flood



Preparing For A Flood

- Floods can make your food and water unsafe.
- Move canned goods and cooking equipment to a high area if possible.



Flood waters are dangerous to your food because it may contain sewage, dangerous chemicals, and other contaminants.



What To Do After A Flood

- Inspect your kitchen and food storage areas.
- Look for items that came into contact with flood waters.
 - Some items can be salvaged.
 - Other items must be thrown in the garbage.



Bleach Solution

- Recipe:
 - 1 tablespoon of household bleach per
 - 1 gallon of clean water



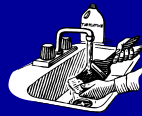
**This is not the recipe for purifying water,
it is to be used for cleaning only.**

DO NOT DRINK!



Items That Can Be Salvaged

- Metal pots, pans, glass or ceramic dishes, and metal utensils.
 - Wash in warm soapy water then soak in a bleach solution for 15 minutes.
- Counter tops and kitchen surfaces.
 - Clean with warm soapy water then sanitize with bleach solution.
- Undamaged cans or retort packages.
 - Wash and sanitize with bleach solution.



Canned Items And Retort Packages That Cannot Be Salvaged

- Canned items with rust or damage to the outside.
 - Look to see if the can has swelling.
- Retort packages with damaged seams.



Other Foods That Cannot Be Salvaged

- Food not in a waterproof container.
 - Containers with screw caps, snap lids, pop tops, or crimped bottle caps.
 - Cardboard cartons and boxes



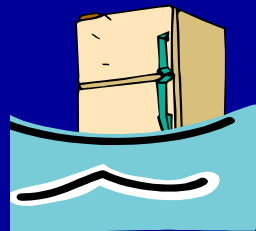
Other Items That Cannot Be Salvaged

- Cutting boards, wooden spoons and bowls, plastic utensils, baby bottle nipples, and pacifiers.



Items That Cannot Be Salvaged continued

- Refrigerators and freezers that were under flood waters cannot be salvaged.
- Once the insulation material is exposed to flood waters they are no longer safe.



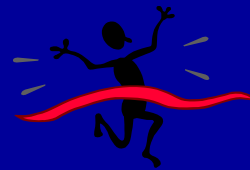
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COME IN CONTACT WITH
FLOOD WATERS.**

**WHEN IN DOUBT,
THROW IT OUT!**



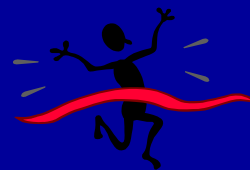
Conclusion

- Flood waters are unsafe.
- After a flood inspect your kitchen.
- Bleach Solution=1 tbs bleach+1 gal water
- Items that are salvaged must be cleaned and sanitized.



Conclusion

- Inspect all canned and retort food items after a flood.
- When In Doubt, Throw It Out!



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES

LESSON 5: Making Water Safe To Drink



Making Water Safe To Drink

Brief Overview

It is recommended to have a 3 day supply of water along with an emergency food kit in preparation for disaster. What happens after the 3 day supply of water runs out? Water purification is a simple solution to this problem. It involves gathering water from locations such as streams or rivers, or by collecting rain water. The water needs to be filtered to remove any particles in the water. Once the water is filtered there are 2 methods that can be used to purify water. One method is to boil the water for at least 3 minutes, which kills the bacteria in the water. The other method uses chlorine to purify the water, making it safe to drink. Flood waters are the only source of water that cannot be purified.

Vocabulary

Disinfecting	To destroy or prevent the growth of disease-carrying microorganisms.
Purification	To make pure; free from anything that debases, pollutes, adulterates, or contaminants.
3 day supply of water	At least one gallon of water per person per day for drinking and hygiene.

Length: 1 hour

Desired Learning Outcomes

Participants will learn:

- What water sources can be purified
- Correct procedures in water purification

Lesson Outline

1. Water sources that can be purified safely
2. Preparing water to be purified
3. Disinfecting water by boiling
4. Disinfecting water using bleach

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (6)
 - Lesson Evaluation
 - Maze
 - Disinfecting by Boiling
 - Disinfecting with Bleach
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items need to teach this lesson

- Computer with LCD projector or handouts of power point
- Pens or pencils
- Copies of take home handouts (listed above)
 - All handouts require one copy per person
- 1 gallon container of water for each group
- 1/4 measuring teaspoon for each group
- Small bottle of household bleach (unscented)

Instructions For Educators

1. Be sure the power point titled Making Water Safe To Drink is ready. If you do not have access to a projector, you have the option to print copies of the slides or work out of the emergency booklet.
2. Welcome the participants to Making Water Safe To Drink educational program. Break the participants into groups of 3-4 people. They will continue to stay in these groups for the remainder of the session.
3. Introduce the lesson using slide 1 in the presentation section. After slide 1 continue on with the rest of the slides in the presentation section.
4. When the slide presentation is concluded, have the participants complete Activity 1 in the activities section (page 4).
5. Ask if there are any questions for you at the end of this section. Pass out the lesson evaluation in the handouts section (Lesson 5 - Handout 1) for the participants to complete. After the evaluation is collected, go over the correct answers with the participants. Give each participant a copy of Take Home Handouts 1, 2, 3, 4, and 5 [Take Home Handouts 4 and 5 are optional] before they leave.

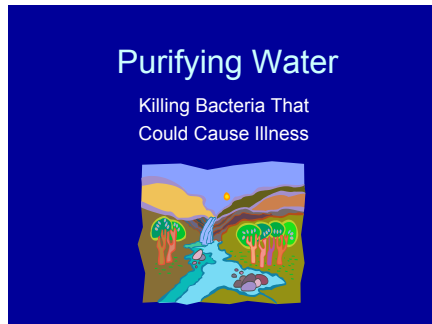
Activities

Activity 1 - Water Purification With Bleach

- Give each group the materials needed to purify water with bleach.
 - A clean 1 gallon container that you have filled with contaminated water. [If your contaminated water contains particles you have the option to let the participants filter the water or you can do it before hand. If you allow your participants to filter the water you will need to provide each group with a clean towel or paper towel.]
 - 1/4 teaspoon (measuring spoon)
 - Small bottle of unscented household bleach.
- Have each group add 1/4 teaspoon of unscented household bleach to the gallon of water.
- Put cap on the container and shake up the solution. [Remind the participants to put the cap on tight so none of the bleach water gets on them or their clothing.] If you are not using gallon containers with a tight lid you should provide the groups with a stirring utensil.
- There is a wait time of 30 minutes. Proceed to answer any question that the participants may have. Remind the participants that if there are any particles in the water they will need to filter them out. Allow the participants to check for a faint odor of bleach as they leave the class.

Presentation

Slide 1 - Making Water Safe To Drink




It is recommended to have a 3 day supply of water along with an emergency food kit in preparation for disaster. What happens after the 3 day supply of water runs out? Water purification is a simple solution to this problem. It involves gathering water from locations such as streams or rivers, or by collecting rain water. The water needs to be filtered to remove any particles in the water. Once the water is filtered there are 2 methods that can be used to purify water. One method is to boil the water for at least 3 minutes, which kills the bacteria in the water. The other method uses chlorine to purify the water, making it safe to drink. Flood waters are the only source of water that cannot be purified.

Slide 2 - What Would You Do?

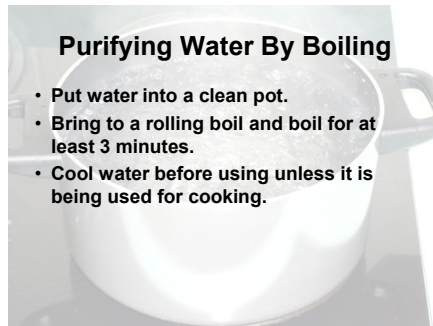
What would you do if you ran out of safe drinking water during a disaster?

- Sources of Water for Purification
 - Rainwater
 - Streams
 - Rivers
- Before Purifying
 - Let water settle to the bottom of the container.
 - Strain water through a clean cloth or paper towel.



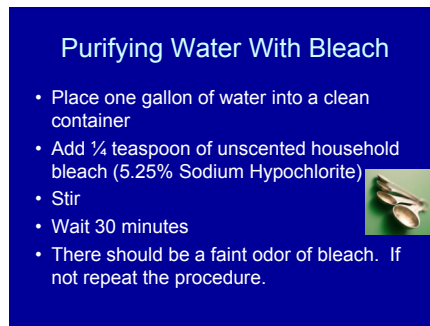
- When choosing water for purification there are many different sources you can use.
 - Rainwater is a great source and depending on how you collect it may not need much filtration. You do not want to collect rainwater from puddles on the ground or in the streets. The water could be contaminated with dangerous chemicals such as oil or fertilizers.
 - Fresh water streams and rivers are the best choice for water purification. Make sure that the water source is fresh water. Salt and brackish water are not good sources for water purification. In order for salt and brackish water to be purified the salt must first be removed.
[Salt can be removed by distillation.]
 - When choosing a water source, avoid sources that are murky or contain a lot of trash.
- Before Purifying
 - Let any particles in the water settle to the bottom of the collection container. You do not want these particles in your drinking water.
 - After the large particles have settled, carefully strain the water through a clean cloth or paper towel, removing smaller particles.
 - Pour the water slowly; you do not want to disturb the larger particles settled at the bottom of the container.

Slide 3 - Purifying Water By Boiling



- When purifying water by boiling, you will pour the strained water into a clean pot. Bring the water to a rolling boil and boil for at least 3 minutes. The water is now purified.
- The newly purified water can be used right away for cooking if you choose to do so. If you do not intend to use the water for cooking allow the water to cool before drinking. Be sure you store your newly purified water in a clean container. You can also pour the cooled water back and forth between two clean containers. This will improve the taste by putting oxygen back into the water.

Slide 4 - Purifying Water With Bleach



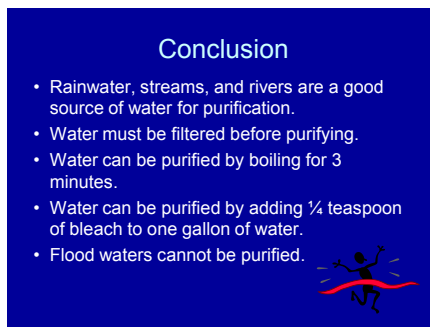
- When purifying water with bleach, you will pour one gallon of strained water into a clean container. Add ¼ teaspoon of unscented household bleach (5.25 % Sodium Hypochlorite) to the water. It is important that the bleach is unscented and does not contain any additives, such as fabric softener. Stir the water in the container and wait for 30 minutes. After 30 minutes, check for a faint odor of bleach. If not repeat the procedure. If you are going to transfer the purified water to a different container, be sure that it is cleaned before doing so.

Slide 5 - Most Importantly



- Flood waters or any other water source that has come into contact with flood waters cannot be purified. It does not matter how clean the flood water may look. You do not know if it contains sewage, fertilizer, or any other type of contaminant.

Slide 6 - Conclusion



- Rainwater, streams, and rivers are a good source of water for purification. Make sure to distill any salt water sources.
- Before purifying water it must be filtered to remove any debris.
- Water can be purified by bringing the water to a rolling boil and boil 3 minutes.
- Water can be purified by adding $\frac{1}{4}$ teaspoon of unscented bleach to one gallon of water.
- Flood waters cannot be purified.



Stop here and complete Activity 1 - Water Purification With Bleach. Instructions are in the Activities section on page 4.

**Lesson 5:
Making Water Safe To
Drink**

Handouts



Making Water Safe To Drink Lesson Evaluation

Circle your answer below each question.

1. This program has changed my thinking about water purification.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

2. My knowledge about water purification has so improved that I can now purify contaminated water sources for my family.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

3. I agree with and see the importance in selecting the correct source of water to be purified.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

4. When purifying water with bleach, 1/4 (one fourth) teaspoon of bleach should be added to 1 gallon of water.

True False

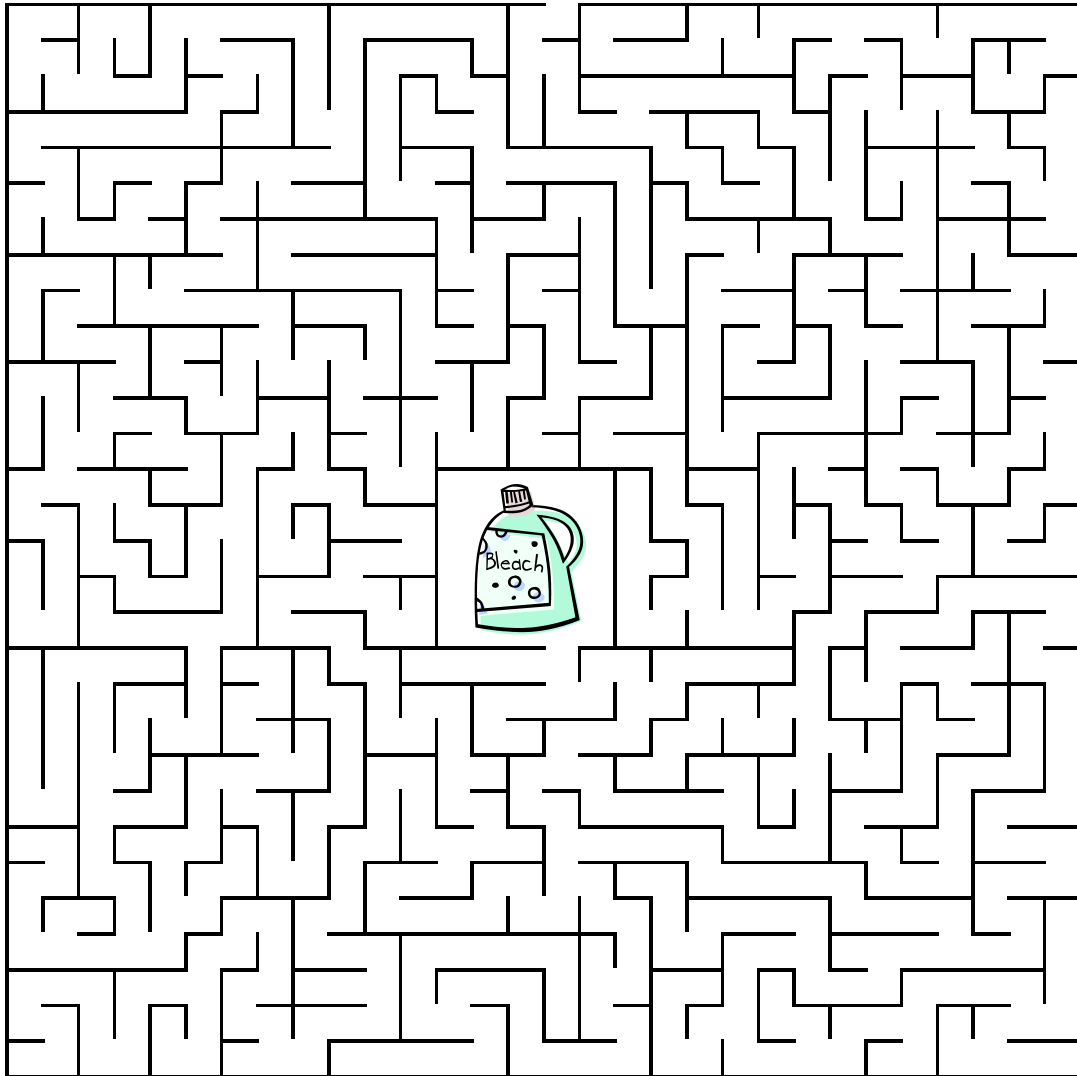
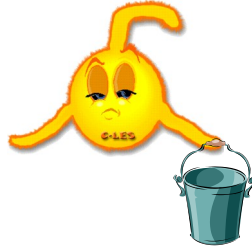
5. When purifying water by boiling, water should be brought to a rolling boil for 3 minutes before drinking.

True False

Lesson 5 - Handout 1

Water Purification Maze

Can you help C-Les purify his water by leading him to the bleach in the center of the maze?



Lesson 5 - Take Home Handout 1

Disinfecting By Boiling

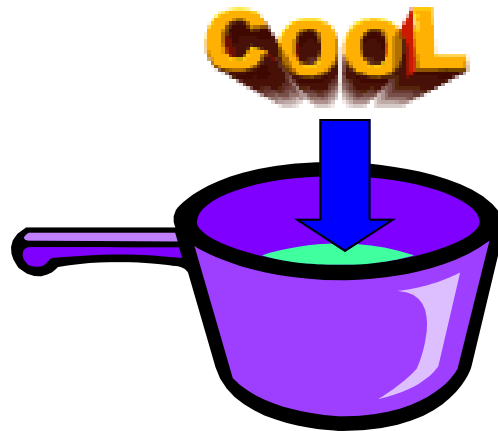
1. Put water in a clean pot.



2. Bring water to a rolling boil and boil for at least 3 minutes



3. Cool the water before using unless it is being used for cooking.



Lesson 5 - Take Home Handout 2

Disinfecting With Bleach

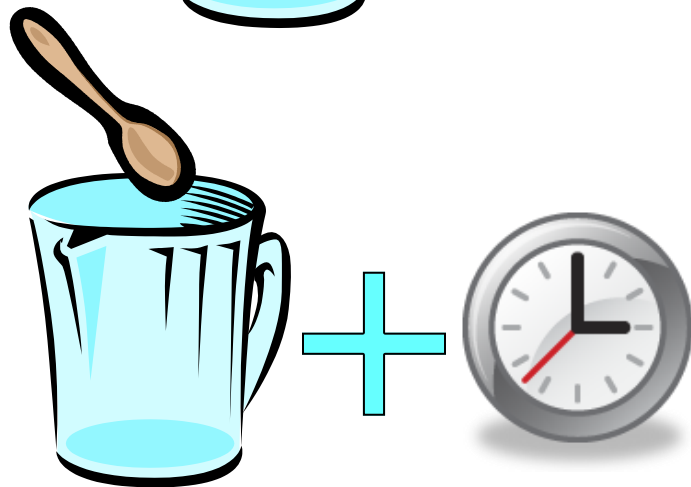
1. Place one gallon of water in a clean container.



2. Add 1/4 teaspoon of bleach to the water.



3. Stir and wait 30 minutes. There should be a faint odor of bleach remaining. If not repeat the procedure.



Lesson 5 - Take Home Handout 3

Making Water Safe To Drink Take Home Messages

What would you do if you ran out of safe drinking water in an emergency? Some water sources can be purified to kill bacteria that could cause illness, making water safe to drink.

If you need to find water outside your home to drink or use for cooking, you may be able to use rainwater or water from streams or rivers. Before performing any of these purification methods, let any particles settle to the bottom of the container and strain the water through a clean cloth or paper towels.

- Disinfecting By Boiling
 - Put water in a clean pot.
 - Bring to a rolling boil and boil for at least 3 minutes.
 - Cool the water before using unless it is being used for cooking.
- Disinfecting With Bleach
 - Place one gallon of water in a clean container.
 - Add $\frac{1}{4}$ teaspoon of unscented household bleach (5.25% Sodium Hypochlorite).
 - Stir.
 - Wait 30 minutes.
 - There should be a faint odor of bleach remaining. If there is not a faint odor of bleach, repeat the procedure.
 - The amount of bleach used to purify water is different than the amount of bleach used to make a sanitizing solution. Refer back to page 13 for the sanitizing solution.

Lesson 5 - Take Home Handout 4

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Making Water
Safe To Drink



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Richard W. Stone, B.S.

This booklet has been prepared by the research staff in the School of Agriculture and Consumer Sciences at Tennessee State University, in collaboration with RTI International and Jackson State Community College. Funding was provided by the National Integrated Food Safety Initiative, National Institute of Food and Agriculture, US Department of Agriculture under project number TENX-2007-01846.

Contributors

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I hope you found this
information helpful!



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PURIFYING WATER

What would you do if you ran out of safe drinking water in an emergency? Some water sources can be purified to kill bacteria that could cause illness, making water safe to drink.

If you need to find water outside your home to drink or use for cooking, you may be able to use rainwater or water from streams or rivers. Before performing any of these purification methods, let any particles settle to the bottom of the container and strain the water through a clean cloth or paper towels.

Disinfecting By Boiling

- Put water in a clean pot.
- Bring to a rolling boil and boil for at least 3 minutes.
- Cool the water before using unless it is being used for cooking.



Disinfecting With Bleach

- Place one gallon of water in a clean container.
- Add $\frac{1}{4}$ (one fourth) teaspoon of unscented household bleach (5.25% Sodium Hypochlorite).
- Stir.
- Wait 30 minutes.
- There should be a faint odor of bleach remaining. If there is not a faint odor of bleach, repeat the procedure.

QUICK NOTE

The amount of bleach used to purify water is different than the amount of bleach used to make a sanitizing solution. Refer back to page 13 for the sanitizing solution.

TIPS FOR SAFE CLEANUP AFTER A DISASTER

- Get a tetanus shot before attempting any cleanup.
 - Tetanus shots are good for 10 years.
 - It might be a good idea to get a tetanus booster shot, even if you have had one within 10 years.
- Be sure to always wear gloves when cleaning after a disaster.
 - Rubber gloves for cleaning and sterilizing.
 - Heavy duty leather gloves for debris removal.
- Wear a mask to prevent you from inhaling anything harmful.
- When removing debris be sure to wear safety glasses, long pants, and shoes (preferably work boots).
- Make a new bleach solution after each use. The solution used to soak pots and pans should not be reused to clean counters.
- Be sure to wash your hands often with clean water and soap. If you do not have access to clean water you can use hand cleaners that contain alcohol.



Hint: Make sure you apply soap and rub your hands together for 20 seconds before rinsing.



- Watch out for animals, especially poisonous snakes, that may be hiding in the debris. A long stick can be used to check the debris.

Hint: If you need help with your clean up, there are different organizations and churches you can contact.

Purifying Water

Killing Bacteria That
Could Cause Illness



 TENNESSEE
STATE UNIVERSITY

What would you do if you ran out of
safe drinking water during a
disaster?

- Sources of Water for Purification
 - Rainwater
 - Streams
 - Rivers
- Before Purifying
 - Let water settle to the bottom of the container.
 - Strain water through a clean cloth or paper towel.



 TENNESSEE
STATE UNIVERSITY

Purifying Water By Boiling

- Put water into a clean pot.
- Bring to a rolling boil and boil for at least 3 minutes.
- Cool water before using unless it is being used for cooking.



Purifying Water With Bleach

- Place one gallon of water into a clean container
- Add $\frac{1}{4}$ teaspoon of unscented household bleach (5.25% Sodium Hypochlorite)
- Stir
- Wait 30 minutes
- There should be a faint odor of bleach. If not repeat the procedure.





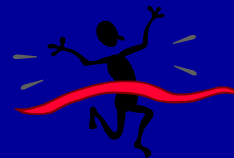
**Do Not Drink Any Water
That Has Come Into
Contact With Flood
Water!**

IT CANNOT BE PURIFIED!



Conclusion

- Rainwater, streams, and rivers are a good source of water for purification.
- Water must be filtered before purifying.
- Water can be purified by boiling for 3 minutes.
- Water can be purified by adding $\frac{1}{4}$ teaspoon of bleach to one gallon of water.
- Flood waters cannot be purified.



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES

LESSON 6: Precautions With Airborne Toxins and Fires



Precautions With Airborne Toxins And Fires

Brief Overview

Airborne toxins and fires can pose a great threat to the safety of food, cookware, and kitchen surfaces. Natural disasters, such as tornadoes or earthquakes, may release airborne toxins into the air. Depending on the wind, these toxins can be carried for many miles and affect your food. Fires can also pose these same threats. Excess heat, smoke, ashes, toxic fumes, and chemicals used by fire fighters all have the ability to make your food unsafe for consumption. All foods should be thrown in the garbage after being exposed to airborne toxins or a fire. There are no foods that can be considered safe to eat. All cookware that is not plastic should be washed in warm soapy water and submerged for 15 minutes in a bleach sanitizing solution. All kitchen surfaces should also be washed with warm soapy water and then sanitized with the sanitizing solution. This lesson will teach the proper actions that need to be taken after airborne toxins or a fire have made their way into the kitchen.

Vocabulary

Contaminate	To make impure or unclean by contact or mixture.
Indigestible	Inability to convert food into a simpler form, so it can be absorbed by the body.
Permeable	Having openings that permit liquids or gases to pass through.

Length: 1 hour

Desired Learning Outcomes

Participants will learn:

- The effects of airborne toxins and fires on foods, cookware, and cooking surfaces
- The correct procedure to sanitize cookware and kitchen surfaces
- That foods affected by airborne toxins and fires cannot be salvaged and should never be consumed

Lesson Outline

1. What airborne toxins are and why they are unsafe
2. How fires can be unsafe to foods, cookware, and cooking surfaces
3. What to do with food after being exposed to a fire or airborne toxin
4. Cleaning and sanitizing cookware after being exposed to a fire or airborne toxins
5. Cleaning and sanitizing kitchen surfaces after being exposed to a fire or airborne toxins

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (6):
 - Lesson Pre-test
 - Activity 2
 - Lesson Post-test
 - Word Search
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items needed to teach this lesson:

- Computer with LCD projector or handouts of power point
- Pens or pencils
- Copies of the handouts (listed above)
 - Activity 2 is a group activity and only requires one copy per group
 - All other handouts require one copy per person

Items need to teach this lesson (continued)

- Table
- Glo Germ Kit
 - Black light
 - Glo Germ (powder based)
- Canned food items
- Cookware (utensil, pot, or pan)

Instructions For Educators

1. Be sure the power point titled Precautions With Airborne Toxins And Fires is ready. If you do not have access to a projector, you have the option to print copies of the slides or work out of the booklet. Also, be sure to have the table set up in front of the classroom, in preparation for Activity 1 (listed on page 4).
2. Welcome the participants to the Precautions With Airborne Toxins And Fires educational program. Before you introduce your presentation have the participants complete the lesson pre-test located in the handouts section (Lesson 6 - Handout 1).
3. After the pre-test is completed and collected, break the participants into groups of 3-4 people. They will continue to stay in these groups for the remainder of the session.
4. Introduce the lesson using slide 1 in the presentation section. After slide 1, complete Activity 1 listed in the activities section (page 4).
5. Upon completion of Activity 1 resume the program with slide 2 provided in the presentation section.
6. When the slide presentation is concluded, have the participants complete Activity 2 listed in the activities section (page 4).
7. Ask if there are any questions for you at the end of this lesson. Pass out the lesson post-test sheet in the handouts section (Lesson 6 - Handout 3) for the participants to complete. After the post-test is collected, go over the correct answers with the participants. Give each participant a copy of Take Home Handouts 1, 2, and 3 [Take Home Handouts 2 and 3 are optional] before they leave.

Activities

Activity 1 - Airborne Toxins Demonstration

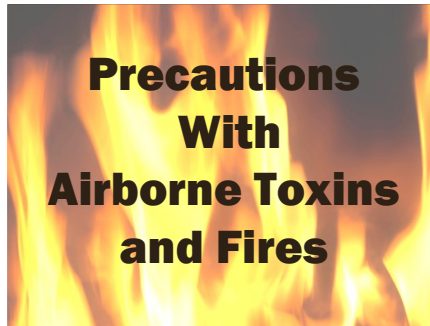
- Set the table up in front of the classroom before you begin the program. Place the canned food and cookware on the table.
- This activity is going to demonstrate how airborne toxins can easily spread over food, cookware, and kitchen surfaces.
- Add about 1 teaspoon of the powdered Glo Germ to the palm of your hand. Explain to the participants that the Glo Germ powder in you hand is going to simulate airborne toxins being spread by wind.
- Gently blow the Glo Germ over the canned food, cookware and the table.
- Turn the light down low in the classroom and invite each group individually up the table. Using the black light, slowly scan over the table allowing each group to see where the Glo Germ (airborne toxins) is present.
- After each group has visited the table, ask the groups to comment about the different places they saw the Glo Germ (airborne toxins).

Activity 2 - Questions To Consider

- Distribute the Things To Consider Activity 2 Handout 2 to the groups, along with a pen or pencil. Each group will receive one handout.
- Let the groups read and discuss each question, and have one person in the group record the answers to each question.
- When the groups have finished answering all the questions, have the groups share their answers and give the reasons why they chose each answer. After each question is discussed, be sure to share the correct answer to the question. If any groups had the wrong answer, explain why their answer was wrong.

Presentation

Slide 1 - Precautions With Airborne Toxins And Fires



Airborne toxins and fires can pose a great threat to the safety of food, cookware, and kitchen surfaces. Natural disasters, such as tornadoes or earthquakes, may release airborne toxins into the air. Depending on the wind, these toxins can be carried for many miles and affect your food. Fires can also pose these same threats. Excess heat, smoke, ashes, toxic fumes, and chemicals used by fire fighters all have the ability to make your food unsafe for consumption. All foods should be thrown in the garbage after being exposed to airborne toxins or a fire. There are no foods that can be considered safe to eat. All cookware that is not plastic should be washed in warm soapy water and submerged for 15 minutes in a bleach sanitizing solution. All kitchen surfaces should also be washed with warm soapy water and then sanitized with the sanitizing solution. This lesson will teach the proper actions that need to be taken after airborne toxins or a fire have made their way into the kitchen.




Stop here and complete Activity 1 - Airborne Toxins Demonstration. Instructions are in the Activities section on page 4.

Slide 2 - Airborne Toxins: Unsafe For Your Food

Airborne Toxins:
Unsafe for your Food

- Natural disasters may release airborne toxins into the air.
- Wind can carry toxins.
- Examples of toxins.
 - Dangerous gases
 - Ashes
 - Broken glass
 - Asbestos
 - Pesticides.



- Natural disasters, such as tornadoes or earthquakes, may release airborne toxins into the air which can contaminate foods. Depending on the wind, toxins can be carried for many miles and affect your food. For example, think about the spring, when everything you own is covered in pollen or your allergies start to act up. You can thank the wind because it is responsible for carrying the pollen. The wind works the same way when it carries airborne toxins.
 - Some examples of airborne toxins are:
 - Dangerous gases
 - Ashes
 - Broken glass
 - Asbestos
 - Pesticides.

Slide 3 - Fires: Unsafe To Your Food

Fires:
Unsafe to Your Food

- Foods exposed to fires can be made unsafe to eat by:
 - Excessive heat changing food components and packages.
 - Smoke.
 - Toxic fumes from burning materials.
 - Chemicals used to fight fires.




- Major fires can also make your food unsafe by:
 - Excess heat, which may cause food components to change form and become indigestible by the body.
 - Excess heat can also damage food containers and their seals, exposing food to outside elements and bacteria or germs.
 - Example – Canned foods could lose their seal when exposed to heat, due to an increasing internal pressure. Once the seal is lost the food is exposed to all the dangerous contaminants of the fire, and no longer safe to eat.
 - Smoke, ashes, and toxic fumes from burning materials can also make your food unsafe.
 - Chemicals used to fight fires may not be safe for human consumption.
 - It is best not to take a risk in trying to eat foods that were involved in a fire.

Slide 4 - Food Exposed To Fire Or Airborne Toxins

Food Exposed to Fire
or Airborne Toxins

- Discard all food items:
 - Foods stored outside of the refrigerator.
 - Raw foods in permeable packaging.
 - All food in cans, bottles, and jars.
 - Foods stored in refrigerators and freezers.




- Discard all food items listed below:
 - Foods outside the refrigerator.
 - Raw foods in permeable packaging.
 - All foods in cans, bottles, and jars.
 - Foods stored in refrigerators and freezers are not safe after a fire.
 - The seals are not air tight, and smoke or chemicals from fire can damage the food.
 - There are no foods that are considered safe to eat after a fire.

Slide 5 - Cookware Exposed To Fire Or Airborne Toxins

Cookware Exposed to Fire
or Airborne Toxins

- Wash all cookware in soap and hot water.
- Submerge for 15 minutes in a sanitizing solution.



Sanitizing Solution
1 tablespoon of household bleach per one gallon of
drinking water.

- All cookware, after being exposed to a fire or airborne toxins, will need to be cleaned and sanitized. Wash all items with warm soapy water and then sanitize. To sanitize you will need to submerge the cookware for 15 minutes in a bleach sanitizing solution. The sanitizing solution recipe (located at the bottom of the slide) is one tablespoon of household bleach per one gallon of drink water. After 15 minutes has passed, remove the cookware from the sanitizing solution and allow the items to air dry.
- Some items cannot be salvaged after a fire. Plastic cookware and plastic containers probably melted. Even if they did not melt, it is best to throw them out because they may have absorbed some chemicals.

Slide 6 - Countertops And Kitchen Surfaces Exposed To Fire Or Airborne Toxins

Countertops and Kitchen Surfaces Exposed to Fire or Airborne Toxins

- Clean with warm soapy water and then sanitize with bleach solution.
- Fires may require more attention.
 - Check for any damage before you begin to clean.
 - Have all appliances inspected by a service representative.
 - Do not touch any exposed electrical lines.

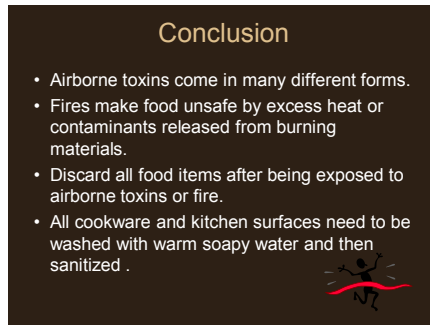
- Countertops and kitchen surfaces need to be cleaned with warm soapy water and then sanitized with the bleach solution. Be careful not to let the soapy water dry on the countertop or kitchen surface because it is a lot of work to remove soap scum. The bleach sanitizing solution is the same recipe as on the previous slide (1 tablespoon of household bleach per one gallon of drinking water).
- Countertops and kitchen surfaces exposed to fire may require more attention.
 - Before you begin to clean any of your surfaces check for damages. If there are damages to your countertops and kitchen surfaces they may be unstable and not safe for you to use.. You may need to replace them.
 - Smoke, ashes, soot, and extinguisher chemical damage may need a stronger cleaner than just soap and water. Ask your local hardware store representative for cleaning suggestions.
 - Before you use any appliances be sure you have a service representative inspect them, making sure they are still in proper working order. This is especially important for all gas appliances.
 - Check for exposed wires when entering your kitchen or any other part of your house. If you do notice any exposed wires do not touch them, they may be live and can give you a good shock.
 - If you have any questions about the fire damage to your home do not hesitate to ask your local fire department. They have the most knowledge pertaining to fire damage.

Slide 7 - Important Reminder



- Remember that toxic fumes cannot be washed off of food. All food exposed to airborne toxins and fires must be thrown in the garbage.

Slide 8 - Conclusion



- Airborne toxins come in many different forms and can be released by natural or man made disaster.
- Fires make your food unsafe by excess heat or by contaminants released from burning materials.
- All food exposed to airborne toxins or fires must be thrown in the garbage.
- Be sure to wash all cookware and kitchen surfaces with warm soapy water and then sanitize using the sanitizing solution recipe (1 tablespoon of household bleach per one gallon of water).



Stop here and complete Activity 2 - Questions To Consider. Instructions are in the Activities section on page 4.

**Lesson 6:
Precautions With
Airborne Toxins And Fires**

Handouts



Airborne Toxins And Fires Pre-Test

Please circle your choice.

1. Airborne toxins may come in the form of dangerous gases, ashes, broken glass, asbestos, and pesticides.	I agree	I don't know	I disagree
2. Food exposed to fires can be made unsafe to eat by excess heat, smoke, and toxic fumes released from burning materials, and chemicals used to fight fires.	I agree	I don't know	I disagree
3. Discard all food items that have been near a fire or exposed to airborne toxins.	I agree	I don't know	I disagree
4. Canned food items are not affected by a fire, and are still safe to eat.	I agree	I don't know	I disagree
5. Appliances that have been exposed to a fire can be cleaned and used again.	I agree	I don't know	I disagree
6. Foods stored in the refrigerator are safe to eat after a fire since the seals on the refrigerator are airtight and no fumes can get inside.	I agree	I don't know	I disagree
7. All surfaces must be cleaned and sanitized after being exposed to airborne toxins or fire.	I agree	I don't know	I disagree

Lesson 6 - Handout 1

Activity 2 - Things To Consider

1. Would your food be safe to eat if there was a fire in your house, but not in the kitchen?

2. If a tornado were to damage your house would your food still be safe to eat?

3. After a fire in your kitchen, what is the best way to clean and sanitize your plastic ladle and plastic serving spoons?

4. Is it safe to eat your canned food items after a fire has occurred in your kitchen?

Lesson 6 - Handout 2

Airborne Toxins And Fires Post-Test

Please circle your choice.

1. Airborne toxins may be dangerous gases, ashes, broken glass, asbestos, and pesticides.	I agree	I don't know	I disagree
2. Food exposed to fires can be made unsafe to eat by excess heat, smoke, and toxic fumes released from burning materials, and chemicals used to fight fires.	I agree	I don't know	I disagree
3. Discard all food items that have been near a fire or exposed to airborne toxins.	I agree	I don't know	I disagree
4. Canned food items are not affected by a fire, and are still safe to eat.	I agree	I don't know	I disagree
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6. Foods stored in the refrigerator are safe to eat after a fire since the seals on the refrigerator are airtight and no fumes can get inside.	I agree	I don't know	I disagree
7. All surfaces must be cleaned and sanitized after being exposed to airborne toxins or fire.	I agree	I don't know	I disagree

Lesson 6 - Handout 3

Airborne Toxins and Fires Word Search



Good Luck finding the hidden words below.

C U K K Y E H E A T V R T H E C L F Y F
V Z X S R S D Y E X Y X S J K P B C U W
A S W O N H E A U X C W S E A J B G K J
D S S E U F K V G I M T S T U I G K K L
V D B S C A O O W E Q G D J Q D Y A A N
D O E E A J M B Z V I E A V H F V E J C
C Z E T S L S Y Z I M L N W T Q V B I C
A Y R Q A T G A D N V O P C R P A H D J
L A C D C N O C W B A N H Z A Y F K M S
I R M C Y S I S V S J T G J E X U G C A
U J H E L B T M E N S H W B P N F C C N
F W E G W O L Y A E L X U Z R Q Z P N I
I F B P R S M J D T P E R M E A B L E T
T M Q N Q W I I T O N U Z S F P S Q Z I
X X A O V W C U Z M D O N K U E Z X R Z
B D J R W I R F F L S O C Y M H D M Z E
O Z T A T N D J S E H S A U F U A Y A G
G O L S C K G E U F P B F W Y R G H W M
H S E C M Q D T C I T F A X F S J R V E
C P E L I Y U C Y K U J N V M Q Z D S R

ASBESTOS
EARTHQUAKE
HEAT
SANITIZE

ASHES
FUMES
PERMEABLE
SMOKE

CONTAMINATED
GLASS
PESTICIDES
TORNADO

Lesson 6 - Take Home Handout 1

Precautions With Airborne Toxins And Fires Take Home Messages

You may not realize it, but when a natural disaster, such as an earthquake or tornado, strikes airborne toxins may be released. These may come from dangerous gases, ashes, broken glass, asbestos, and pesticides. Depending on the wind, the toxins can be carried for many miles and affect you and your food.

Food exposed to fires can be made unsafe to eat by excess heat, smoke, and toxic fumes released from burning materials, and chemicals used to fight fires.

- What Should You Do With Food And Cookware That May Be Contaminated?
 - Discard all food items that have been near a fire or exposed to airborne toxins. This includes:
 - Foods stored outside the refrigerator, such as bread, fruits, and vegetables.
 - Raw food or food in permeable packaging, for example cardboard, plastic wrap, etc.
 - All foods in cans, bottles, and jars. While they may appear to be okay, the heat from the fire can damage the containers and can activate food spoilage bacteria, and
 - Foods stored in refrigerators or freezers. Refrigerator seals are not airtight, and fumes can get inside.
 - Sanitize cookware exposed to firefighting chemicals by washing in soap and hot water. Submerge for 15 minutes in the bleach sanitizing solution.
 - Bleach Sanitizing Solution Recipe: Use 1 tablespoon of household bleach per 1 gallon of clean drinking water.
 - Chemicals and toxic fumes cannot be washed off food. The food must be thrown in the garbage.

Lesson 6 - Take Home Handout 2

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Precautions With Airborne Toxins And Fires



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AIRBORNE TOXINS AND FIRES

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Food exposed to fires can be made unsafe to eat by excess heat, smoke, and toxic fumes released from burning

What Should You Do With Food And Cookware That May Be Contaminated?

- **Discard all food items** that have been near a fire or exposed to airborne toxins. This includes:
 - Foods stored outside the refrigerator, such as bread, fruits, and vegetables.
 - Raw food or food in permeable packaging, for example cardboard, plastic wrap, etc.
 - All foods in cans, bottles, and jars. While they may appear to be okay, the heat from the fire can damage the containers and can activate food spoilage bacteria, and
 - Foods stored in refrigerators or freezers. Refrigerator seals are not airtight, and fumes can get inside.
- **Sanitize cookware** exposed to firefighting chemicals by washing in soap and hot water. Submerge for 15 minutes in the bleach sanitizing solution (solution recipe on page 13).

IMPORTANT!

Chemicals and toxic fumes cannot be washed off food. The food must be thrown in the garbage.

TIPS FOR SAFE CLEANUP AFTER A DISASTER

- Get a tetanus shot before attempting any cleanup.
 - Tetanus shots are good for 10 years.
 - It might be a good idea to get a tetanus booster shot, even if you have had one within 10 years.
- Be sure to always wear gloves when cleaning after a disaster.
 - Rubber gloves for cleaning and sterilizing.
 - Heavy duty leather gloves for debris removal.
- Wear a mask to prevent you from inhaling anything harmful.
- When removing debris be sure to wear safety glasses, long pants, and shoes (preferably work boots).
- Make a new bleach solution after each use. The solution used to soak pots and pans should not be reused to clean counters.
- Be sure to wash your hands often with clean water and soap. If you do not have access to clean water you can use hand cleaners that contain alcohol.



Hint: Make sure you apply soap and rub your hands together for 20 seconds before rinsing.



- Watch out for animals, especially poisonous snakes, that may be hiding in the debris. A long stick can be used to check the debris.

Hint: If you need help with your clean up, there are different organizations and churches you can contact.

Precautions With Airborne Toxins and Fires



Airborne Toxins: Unsafe for your Food

- Natural disasters may release airborne toxins into the air.
- Wind can carry toxins.
- Examples of toxins.
 - Dangerous gases
 - Ashes
 - Broken glass
 - Asbestos
 - Pesticides.



Fires: Unsafe to Your Food

- Foods exposed to fires can be made unsafe to eat by:
 - Excessive heat changing food components and packages.
 - Smoke.
 - Toxic fumes from burning materials.
 - Chemicals used to fight fires.



Food Exposed to Fire or Airborne Toxins

- Discard all food items:
 - Foods stored outside of the refrigerator.
 - Raw foods in permeable packaging.
 - All food in cans, bottles, and jars.
 - Foods stored in refrigerators and freezers.



Cookware Exposed to Fire or Airborne Toxins

- Wash all cookware in soap and hot water.
- Submerge for 15 minutes in a sanitizing solution.



Sanitizing Solution

1 tablespoon of household bleach per one gallon of drinking water.



Countertops and Kitchen Surfaces Exposed to Fire or Airborne Toxins

- Clean with warm soapy water and then sanitize with bleach solution.
- Fires may require more attention.
 - Check for any damage before you begin to clean.
 - Have all appliances inspected by a service representative.
 - Do not touch any exposed electrical lines.





Chemicals and toxic fumes cannot be washed off food.

The food must be thrown in the garbage.



Conclusion

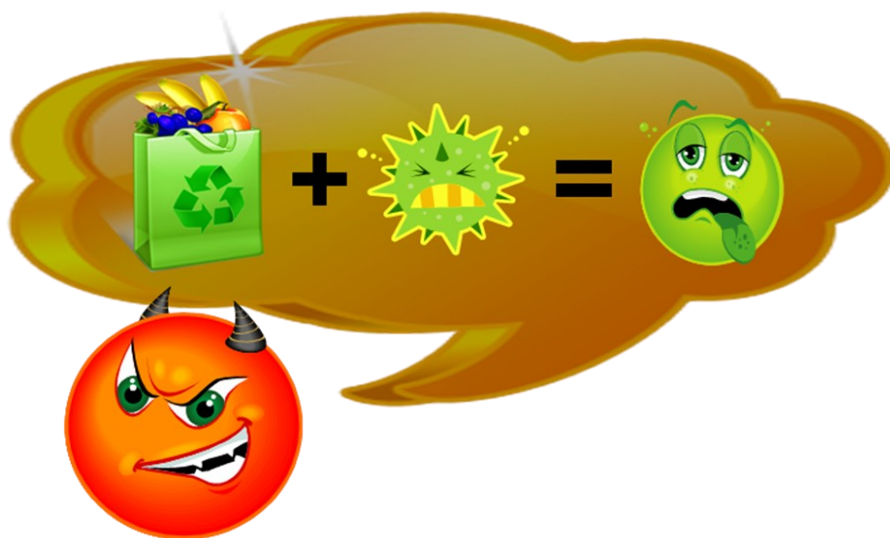
- Airborne toxins come in many different forms.
- Fires make food unsafe by excess heat or contaminants released from burning materials.
- Discard all food items after being exposed to airborne toxins or fire.
- All cookware and kitchen surfaces need to be washed with warm soapy water and then sanitized .



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES

LESSON 7: Managing Food Recalls And Tampering



Managing Food Recalls And Tampering

Brief Overview

Food recalls and tampering are a great concern to many in the food safety industry. While consumers may do everything correctly in the preparation and storage of foods, there are other outside factors that can lead to illness.

Food recalls occur when there is a discovery of a safety issue in food production. Upon discovery, the company recalls the unsafe product, preventing many from getting sick. Food recalls are announced on television and radio, in newspapers, and on the internet. If the consumer has a product that has been recalled, they should either return the product to the place of purchase or throw the product away. Most importantly the recalled product should never be consumed.

Food tampering occurs when an individual or group contaminates food with the intention to cause harm. The food product can be contaminated during any part of the food supply chain. Consumers can look for signs of tampering, such as broken seals, popped safety buttons, unusual stains, unusual smell or odor, and damage to the package. If these signs are present, the food product should not be consumed. If a tampered product is discovered in the store, it is important that you contact the store manager so he\she can assess the situation. There are also different government agencies that can be contacted depending on the type of item that has been tampered.

Foodborne illness is a possible outcome for those who consume a product that has been tampered with or is part of a recall. It can also occur through a consumers improper handling of food. Signs of a foodborne illness include stomach cramps, fever, nausea, chills, diarrhea, and headache. A health care professional should be contacted if the diarrhea is bloody, diarrhea and vomiting have lasted more than three days, or symptoms of stiff neck, severe headache, and fever occur all at once.

Vocabulary

Food Recall	A request to return a product due to a safety issue discovered in its production.
Food Tampering	Food tampering occurs when an individual or group contaminates food with the intention to cause harm.

Length: 1 hour

Desired Learning Outcomes

Participants will learn:

- Why food recalls occur, and what to do if there is a food recall
- The signs of food tampering and who to notify if they suspect food tampering
- The signs of a foodborne illness and when it is appropriate to contact a health care provider

Lesson Outline

1. What are food recalls
2. How food recalls are announced
3. What to do with the recalled product
4. Signs of food tampering
5. Who to contact if there are signs of food tampering
6. Signs of foodborne illness
7. When to contact your healthcare provider

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (7):
 - Activity 1
 - Activity 2
 - Lesson Evaluation
 - Signs of Food Tampering
 - Word Scramble
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items needed to teach this lesson:

- Computer with LCD projector or handouts of power points
- Pens or pencils
- Copies of activity and take home handouts (listed above)
 - Activity 1 and 2 are group activities and only requires one copy per group
 - All other handouts require one copy per person

Instructions For Educators

1. Be sure the power point titled Managing Food Recalls And Tampering is ready. If you do not have access to a projector, you have the option to print copies of the slides or work out of the emergency booklet.
2. Welcome the participants to Managing Food Recall And Tampering educational program. Break the participants into groups of 3-4 people. They will continue to stay in these groups for the remainder of the session.
3. Introduce the lesson using slide 1 in the presentation section. After slide 1, complete Activity 1 listed in the activities section (page 3).
4. Upon completion of Activity 1 resume the program with slide 2 provided in the presentation section.
5. When the presentation is concluded, have the participants complete Activity 2 in the activities section (page 4).
6. Ask if there are any questions for you at the end of this lesson. Pass out the lesson evaluation sheet in the handouts section (Lesson 7 - Handout 3) for the participants to complete. Give each participant a copy of Take Home Handouts 1, 2, 3, and 4 [Take Home Handouts 3 and 4 are optional] before they leave.

Activities

Activity 1 - Fact Or Fiction

- Distribute the Food Tampering Fact or Fiction Activity 1 Handout 1 to the groups, along with a pen or pencil. Let the groups discuss each story to determine if it is fact or fiction..
- After 5-8 minutes, have the groups share their answers for each story.
- After each group has shared their answers, inform the groups of the correct answers for each story (listed below).
 - Story 1 - Answer: True - Toronto, 2010
 - Story 2 - Answer: True - Long Island, 2010
 - Story 3 - Answer: True - Raleigh, 2006
 - Story 4 - Answer: True - Grand Rapids, 2003
 - Story 5 - Answer: True - Fairfax County, 2007

Activity 2 - Get You Thinking

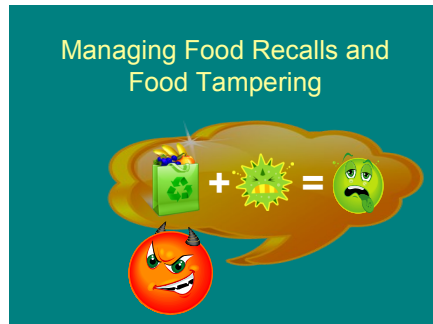
- Distribute the Get You Thinking Activity 2 Handout 2 to the groups, along with a pen or pencil. Each group will receive one handout.
- Let the groups read and discuss each question, and have one person in the group record the answers to each question.
- When the groups have finished answering all the questions, have the groups share their answers and give the reasons why they chose each answer. After each question is discussed, be sure to share the correct answer to the question. If any groups had the wrong answer, explain why their answer was wrong.

Answers

1. Make sure that the peanut butter product that you purchased is recalled. There are many different producers of peanut butter and not all are part of the recall. This information can be found on the TV and radio or on the internet at www.foodsafety.gov. If your product does contain the recalled peanut butter, throw away the product or return the product to the store. Do not eat the product because you may become sick with a foodborne illness. If you have already consumed the product and have symptoms of a foodborne illness contact your health care provider.
2. The jar of jelly should not be consumed. You do not know if it has been tampered with. Either throw the jar away or bring it back to the store of purchase and notify the manager about the jar. You should contact the local health department and the Food and Drug Administration (number in the booklet) to report a suspected case of food tampering.
3. It is important that you contact your health care provider if you think you have a foodborne illness. Foodborne illness is a serious illness and may lead to death if not properly taken care of. Also, the doctors will report the case to the health department so they can determine if there may be a product that needs to be recalled. You may be asked questions pertaining to what you ate the past couple of days so they can compare the foods you ate with others who are sick to determine a common food that may have been the problem.

Presentation

Slide 1 - Managing Food Recalls And Tampering



Today we will be learning about food recalls and tampering. Food recalls and tampering are a great concern to many in the food safety industry. While consumers may do everything correctly in the preparation and storage of foods, there are other outside factors that can lead to illness.

Food recalls occur when there is a discovery of a safety issue in food production. Upon discovery, the company recalls the unsafe product, preventing many from getting sick. Food recalls are announced on television and radio, in newspapers, and on the internet. If the consumer has a product that has been recalled, they should either return the product to the place of purchase or throw the product away. Most importantly, the recalled product should never be consumed.

Food tampering occurs when an individual or group contaminates food with the intention to cause harm. The food product can be contaminated during any part of the food supply chain. Consumers can look for signs of tampering, such as broken seals, popped safety buttons, unusual stains, unusual smell or odor, and damage to the package. If these signs are present, the food product should not be consumed. If a tampered product is discovered in the store, it is important that you contact the store manager so he/she can assess the situation. There are also different government agencies that can be contacted depending on the type of item that has been tampered.

Foodborne illness is a possible outcome for those who consume a product that has been tampered with or is part of a recall. It can also occur through a consumers improper handling of food. Signs of a foodborne illness include stomach cramps, fever, nausea, chills, diarrhea, and headache. A health care professional should be contacted if the diarrhea is bloody, diarrhea and vomiting have lasted more than three days, or symptoms of stiff neck, severe headache, and fever occur all at once.



Stop here and complete Activity 1 - Fact Or Fiction.
Instructions are in the Activities section on page 3.

Slide 2 - Food Recalls

Food Recalls

- A request to return a product, usually due to the discovery of safety issues.
- Announced on TV, radio, and in newspapers.
- On the internet at www.foodsafety.gov



- Food recalls are a request to return a product due to a safety issue discovered in its production. Some examples of food recalls you may remember are:
 - peanut butter – 2008 - Salmonella strains were found in *peanut butter* and *peanut*-containing products
 - canned beans – 2007 - potential *Clostridium botulinum* (*C. botulinum*) contamination of canned beans, nationwide recall of canned beans.

[You might want to look up some more recent examples of food recalls. This information can be found at www.foodsafety.gov]

- Food recalls are announced on television and radio, in the newspaper, or on the internet at www.foodsafety.gov.

Slide 3 - What You Should Do With A Recalled Product

What You Should Do With A Recalled Food Product

- Return the product to the store or place of purchase, or
- Throw the product away.



DO NOT EAT THE RECALLED PRODUCT

- If you have a product that has been recalled, you can either return the product to the store or place of purchase or throw the product away.
- Most importantly, **DO NOT EAT THE RECALLED PRODUCT.**

Slide 4 - Food Tampering



- Food tampering occurs when an individual or group contaminates food with the intention to cause harm. The food product can be contaminated during any part of the food supply chain.
- There are many different signs to look for indicating a food product has been tampered with.
 - Broken seals on packages should be checked for when purchasing an item or before consuming the item. Make sure the plastic seal around the outside of a container is intact.
 - Another anti-tampering device on packaging is a safety button. Make sure that the safety button on the lid of a jar is down.
 - Do not buy products that look unusual. For example, never purchase canned goods that are leaking or that bulge at the ends. Likewise for products that appear to have been thawed and then refrozen.
 - When opening a container, carefully inspect the product. Don't use products that are discolored, moldy, have an off odor, or that spurt liquid or foam when the container is opened.
 - Lastly, carefully examine all food product packaging. Be aware of the normal appearance of food containers. That way you'll be more likely to notice if an outer seal or wrapper is missing. Compare a suspect container with others on the shelf.
 - Don't purchase products if the packaging is open, torn, or damaged. This includes products on the shelf or in the refrigerator or freezer sections of the grocery store.
- Never eat food from products that are damaged or that look unusual.

Slide 5 - Who You Should Contact

Who You Should Contact

- Store where the item was found.
- Local Health Department
- Food and Drug Administration
- US Department of Agriculture



DO NOT EAT ANY FOOD THAT HAS BEEN TAMPERED WITH!

- If you have a product that has been tampered with contact:
 - The store manager, if you are still in the store.
 - Local Health Department, contact information can be found in the phone book or on the internet.
 - Food and Drug Administration, hotline number is 1-304-443-1240. The Food and Drug Administration should only be contacted for the following items Seafood, Fruit, Vegetables, Eggs, and other non-meat items.
 - US Department of Agriculture, hotline number is 1-800-535-4555. Contact the US Department of Agriculture for Meat and Poultry.
- It is important not to eat any food that you feel has been tampered.
- Also it is important to report any signs of food tampering. This helps to insure the safety of yourself and others.

Slide 6 - Foodborne Illness

Foodborne Illness


- Warning Signs
 - Stomach Cramps
 - Chills
 - Fever
 - Diarrhea
 - Nausea
 - Headache
- Contact your healthcare provider if:
 - Diarrhea is bloody.
 - Diarrhea and vomiting last more than 3 days.
 - Symptoms of stiff neck, severe headache, and fever occur all at once.



- Signs of foodborne illness or food poisoning may include one or all of the following.
 - Stomach Cramps
 - Fever
 - Nausea
 - Chills
 - Diarrhea
 - Headache
- You will want to contact your health care provider immediately if:
 - Diarrhea is bloody.
 - Diarrhea and vomiting last more than 3 days.
 - Symptoms of stiff neck, severe headache, and fever all occur at once.
- Foodborne illness should be taken seriously, and if you have any of these symptoms do not wait to contact your health care provider.
 - Death is a possible outcome of a foodborne illness.
 - Also, doctors will report the case to the health department, so they can determine if there are any product that may need to be recalled.

Slide 7 - Conclusion

Conclusion

- Food recalls are announced on the television and radio, in the newspaper, or on the internet.
- Never eat a recalled product.
- Signs of food tampering are broken seals, safety button popped, unusual stains, unusual smell or odor, or damage to the package.
- Report all signs of food tampering. 

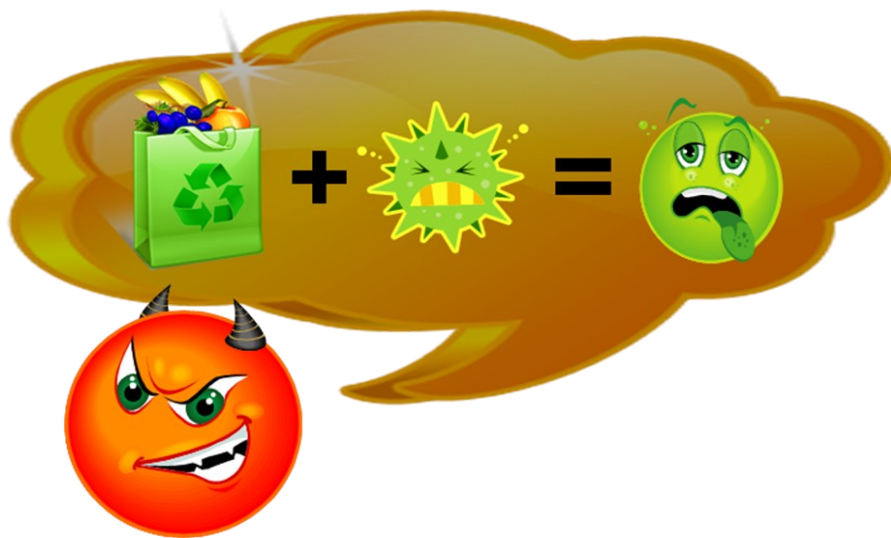
- Food recalls are a request to return a product and are announced on the television and radio, in the newspaper, or on the internet.
- Never eat a recalled product. You could become very sick.
- Some people may try to cause you harm by tampering with food products. Be sure to look out for broken seals, popped safety button, unusual stains, unusual smell or odor, or damage to the package.
- Report any signs of food tampering to the correct officials.



Stop here and complete Activity 2 - Get You Thinking.
Instructions are in the Activities section on page 4.

Lesson 7: Managing Food Recalls and Tampering

Handouts



Activity 1 - Food Tampering Fact Or Fiction



Can you determine if these **food tampering** stories are **fact** or **fiction**?
Mark next to the answer you feel is correct.

Story 1

The police department was investigating a food tampering case where three separate customers who purchased polish sausage from a local grocery store found needles embedded into the sausage.

_____ Fact or _____ Fiction

Story 2

An older couple are charged with pudding tampering after purchasing pudding powder mix from the grocery store, they would replace the contents with a mixture of sand and salt, reseal the package, and return the package to the grocery store for a refund. The grocery store would restock the shelves with the returned product.

_____ Fact or _____ Fiction

Story 3

Police arrested a man in a grocery store after two store employees noticed the man acting suspicious in the meat section of the grocery store. When police arrived to talk to the man he was piercing meat packages with a syringe. The tampered meat was immediately removed from the shelves and taken to a lab for further testing.

_____ Fact or _____ Fiction

Story 4

A supermarket employee caused 111 people to become sick after mixing insecticide into about 250 pounds of ground beef.

_____ Fact or _____ Fiction

Story 5

A middle school student was charged with food tampering after different students and teachers found straight pins in their food purchased from the schools cafeteria. Police say that the student dropped the straight pin into the food while waiting for his food on the serving line.

_____ Fact or _____ Fiction

Lesson 7 - Handout 1

Activity 2 - Get You Thinking

1. Recently peanut butter and products containing peanut butter were part of a food recall. What should you do if you have a product with peanut butter listed as an ingredient?

2. While you were grocery shopping you purchased a jar of jelly. When you got home and went to open the jar you noticed that the lid did not pop when you opened the jar. What should you do with the jar of jelly?

3. Why is it important to contact your health care provider if you believe that you have a foodborne illness?

Managing Food Recalls And Tampering Lesson Evaluation

Circle your answer below each question.

1. This program has changed my thinking about food recalls and food tampering.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

2. This program has shown me that I didn't know enough about the signs of food tampering.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

3. My knowledge about food recalls and food tampering has so improved that I could now protect my family from eating contaminated food.

Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

4. I agree with and see the importance in seeing a health care provider if there are serious signs of a foodborne illness.

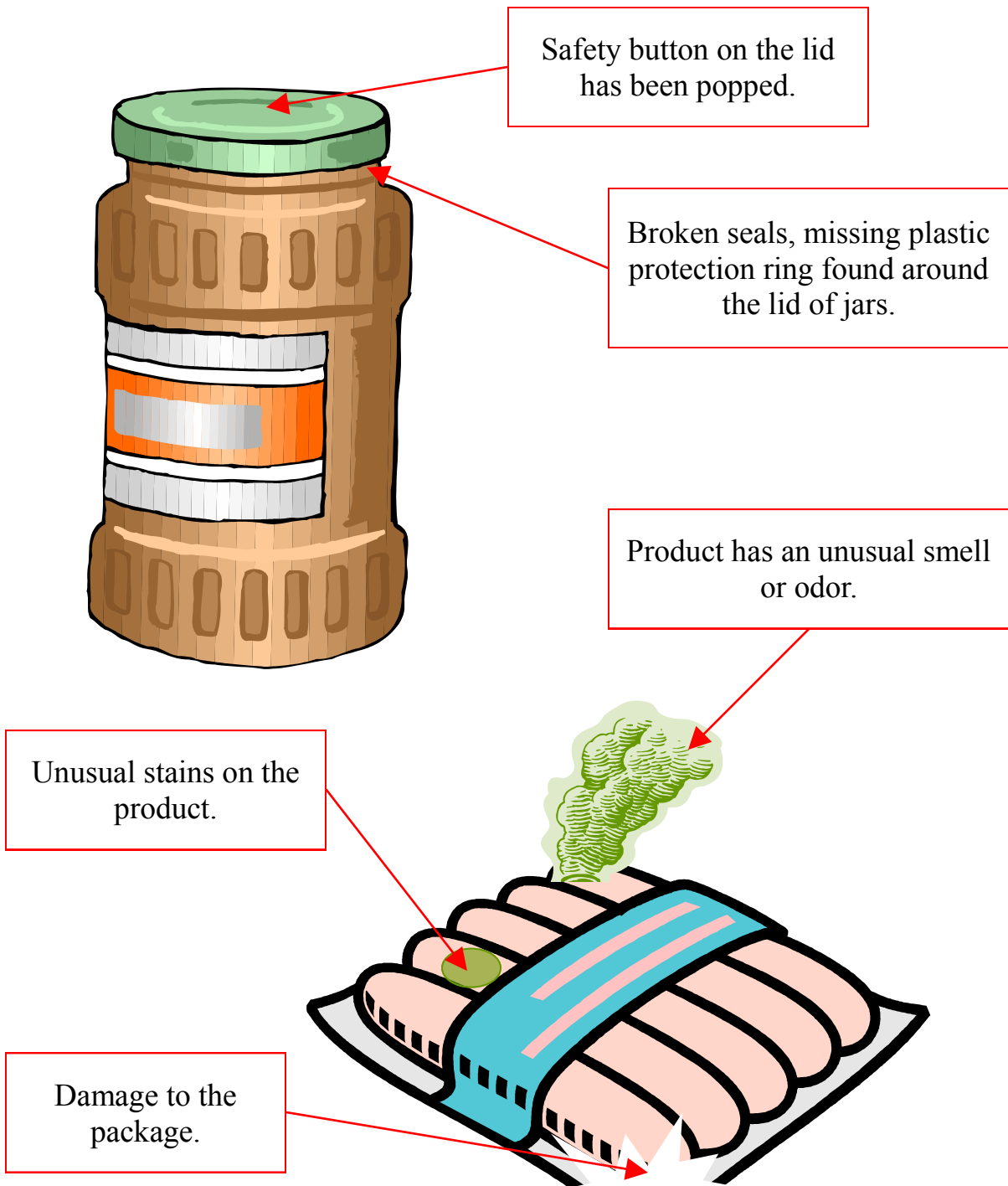
Strongly Agree Agree Neutral or No
Opinion Disagree Strongly
Disagree

5. I will throw away or return all recalled products.

Yes No I Will Think About It

Lesson 7 - Handout 3

Signs of Food Tampering



Lesson 7 - Take Home Handout 1

Food Recalls and Tampering Word Scramble



Fill in the blanks by unscrambling the letters below

1. What are the signs of food tampering?

_____ on or around the package.

knrboe lsaes _____

_____ on the jar lid has been popped.

tesfay tuotnb _____

_____ on the product.

uuslaun ntssia _____

Product has an unusual _____.

lslem _____

_____ to the package.

dmegaa _____

2. Warning signs of a foodborne illness or food poisoning.

mstohac prcmsa _____

rveef _____

unsaee _____

hsicll _____

eradirha _____

hdaaeec _____

Lesson 7 - Take Home Handout 2

- Answers
1. Broken Seals, Safety Button, Unusual Stains, Smell, Damage
 2. Stomach Cramps, Fever, Nausea, Chills, Diarrhea, Headache

Food Recalls And Food Tampering Take Home Messages

Food recalls are announced on TV and radio, in newspapers, and on the Internet at www.foodsafety.gov

- If You Have A Food Product That Has Been Recalled:
 - Return the product to the store or place of purchase, or
 - Throw the product away. Do not eat the recalled product.

- Signs Of Food Tampering
 - Broken seals on or around the package.
 - Safety button on the jar lid has been popped.
 - Unusual stains on the product—discoloration, mold, or liquid on products are signs that the product is not safe.
 - Product has an unusual smell or odor.
 - Damage to the package - To see if there is damage, compare the container to other containers on the shelf.

- If A Food Product Has Been Tampered With Contact:
 - Local Health Department: contact information can be found in the phone book or on the Internet.
 - Food and Drug Administration Hotline at: 1-301-443-1240 for Seafood, Fruit, Vegetables, Eggs, and other Non-meat Items.
 - US Department of Agriculture Hotline at: 1-800-535-4555 for Meat and Poultry.

- Signs of a Foodborne Illness include:
 - Stomach Cramps
 - Fever
 - Nausea
 - Vomiting
 - Chills
 - Diarrhea
 - Headache

Lesson 7 - Take Home Handout 3

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Managing Food Recalls and Tampering



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**I hope you found this
information helpful!**



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FOOD RECALLS AND FOOD TAMPERING

Food recalls are announced on TV and radio, in newspapers, and on the Internet at www.foodsafety.gov

If You Have A Food Product That Has Been Recalled:

- Return the product to the store or place of purchase, or
- Throw the product away. Do not eat the recalled product.

Signs Of Food Tampering

- Broken seals on or around the package.
- Safety button on the jar lid has been popped.
- Unusual stains on the product—discoloration, mold, or liquid on products are signs that the product is not safe.
- Product has an unusual smell or odor.
- Damage to the package - To see if there is damage, compare the container to other containers on the shelf.



If A Food Product Has Been Tampered With Contact:

- **Local Health Department:** contact information can be found in the phone book or on the Internet.
- **Food and Drug Administration Hotline at:** 1-301-443-1240 for Seafood, Fruit, Vegetables, Eggs, and other Non-meat Items.
- **US Department of Agriculture Hotline at:** 1-800-535-4555 for Meat and Poultry.

Signs of a Foodborne Illness include:

Stomach Cramps, Fever, Nausea, Vomiting, Chills, Diarrhea, and a Headache.

TIPS FOR SAFE CLEANUP AFTER A DISASTER

- Get a tetanus shot before attempting any cleanup.
 - Tetanus shots are good for 10 years.
 - It might be a good idea to get a tetanus booster shot, even if you have had one within 10 years.
- Be sure to always wear gloves when cleaning after a disaster.
 - Rubber gloves for cleaning and sterilizing.
 - Heavy duty leather gloves for debris removal.
- Wear a mask to prevent you from inhaling anything harmful.
- When removing debris be sure to wear safety glasses, long pants, and shoes (preferably work boots).
- Make a new bleach solution after each use.

The solution used to soak pots and pans should not be reused to clean counters.
- Be sure to wash your hands often with clean water and soap. If you do not have access to clean water you can use hand cleaners that contain alcohol.



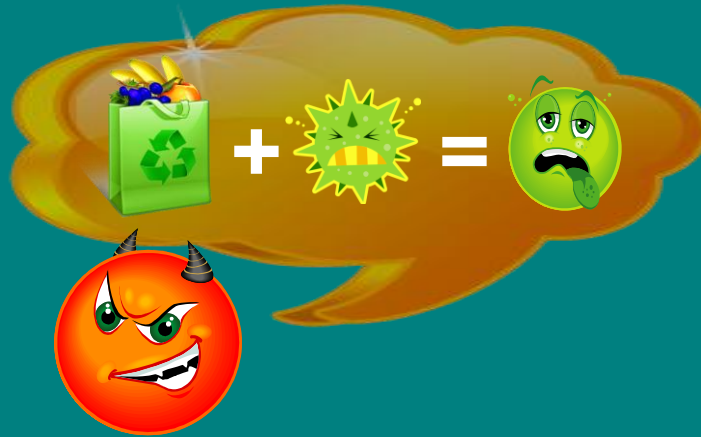
Hint: Make sure you apply soap and rub your hands together for 20 seconds before rinsing.



- Watch out for animals, especially poisonous snakes, that may be hiding in the debris. A long stick can be used to check the debris.

Hint: If you need help with your clean up, there are different organizations and churches you can contact.

Managing Food Recalls and Food Tampering



Food Recalls

- A request to return a product, usually due to the discovery of safety issues.
- Announced on TV, radio, and in newspapers.
- On the internet at www.foodsafety.gov



What You Should Do With A Recalled Food Product

- Return the product to the store or place of purchase, or
- Throw the product away.

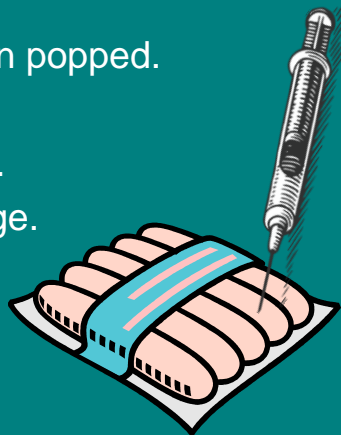


DO NOT EAT THE RECALLED PRODUCT



Food Tampering

- Signs of food tampering.
 - Broken seals.
 - Safety button has been popped.
 - Unusual stains.
 - Unusual smell or odor.
 - Damage to the package.



Who You Should Contact

- Store where the item was found.
- Local Health Department
- Food and Drug Administration
- US Department of Agriculture



**DO NOT EAT ANY FOOD THAT
HAS BEEN TAMPERED WITH!**



Foodborne Illness

- Warning Signs
 - Stomach Cramps
 - Chills
 - Fever
 - Diarrhea
 - Nausea
 - Headache
- Contact your healthcare provider if:
 - Diarrhea is bloody.
 - Diarrhea and vomiting last more than 3 days.
 - Symptoms of stiff neck, severe headache, and fever occur all at once.



Conclusion

- Food recalls are announced on the television and radio, in the newspaper, or on the internet.
- Never eat a recalled product.
- Signs of food tampering are broken seals, safety button popped, unusual stains, unusual smell or odor, or damage to the package.
- Report all signs of food tampering.



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES.

LESSON 8: STEPS TO PREVENTING A FOODBORNE ILLNESS



Steps To Preventing A Foodborne Illness

Brief Overview

Food safety is extremely important in preventing foodborne illness at home, even when there is not an emergency. Following the 4 simple steps of clean, separate, cook, and chill is essential for preventing bacterial growth or the contamination of food, greatly reducing the risk of contracting a foodborne illness.

Vocabulary

Ready to Eat Foods	Food products that are prepared in advance and can be eaten as sold.
Raw Foods	Uncooked foods that need to either be washed (fruits and vegetables) or cooked (meat, poultry, seafood, or eggs) before eating to remove or kill harmful bacteria.
Appliance Thermometer	A type of thermometer used to measure the temperature inside refrigerators and freezers.

Length: 1 hour

Desired Learning Outcomes

Participants will learn:

- The 4 steps in preventing a foodborne illness: clean, separate, cook, and chill

Lesson Outline

1. A clean environment is important in preventing a foodborne illness
2. Importance of separation in the kitchen
3. Always cook food to safe temperatures
4. Chill food in the refrigerator and freezer after cooking
5. Correct procedures for thawing frozen food

Resources and Materials

Items provided on the disk:

- Power point presentation
- Emergency booklet
- Handouts (6):
 - Lesson Pre-test
 - Activity 1
 - Lesson Post-test
 - Word Search
 - Safe Cooking Temperatures
 - Refrigerator and Freezer Storage Chart
 - Take Home Messages (optional)
 - Subsection of Booklet (optional)

Items needed to teach this lesson:

- Computer with LCD projector or handouts of power point
- Pens or pencils
- Copies of activity and take home handouts (listed above)
 - Activity 1 is a group activity and only requires one copy per group
 - All other handouts require one copy per person

Instructions For Educators

1. Be sure the power point titled Steps To Preventing A Foodborne Illness is ready. If you do not have access to a projector, you have the option to print copies of the sides or work out of the emergency booklet.
2. Welcome the participants to the Steps To Preventing A Foodborne Illness educational program. Before you introduce the presentation have the participants complete the lesson pre-test located in the handouts section (Lesson 8 - Handout 1).
3. After the pre-test is completed and collected, break the participants into groups of 3-4 people. They will continue to stay in these groups for the remainder of the session.
4. Introduce the lesson using slide 1 in the presentation section. After slide 1 continue on with the rest of the slides in the presentation section.
5. When the slide presentation is concluded, have the participants complete Activity 1 in the activities section (page 3).
6. Ask if there are any questions for you at the end of this lesson. Pass out the lesson post-test in the handouts section (Lesson 8 - Handout 3) for the participants to complete. After the post-test is collected, go over the correct answers with the participants. Give the participants a copy of Take Home Handouts 1, 2, 3, 4, and 5 [Take Home Handouts 4 and 5 are optional] before they leave.

Activities

Activity 1 - What Is Sandy Doing Wrong

- Distribute the What Is Sandy Doing Wrong Activity 1 Handout 2 to the groups, along with a pen or pencil. Each group will receive one handout.
- Let the groups read and discuss Sandy's attempt to cook a meatloaf.
- Have the groups underline what they think Sandy is doing to promote foodborne illness in the kitchen.
- After 10 minutes, have the groups share their answers along with suggestions for Sandy on how she can make her kitchen safer.

Activities

Answer Key

Sandy has just gotten back from the grocery store and is unloading all of her groceries. Since she is preparing meatloaf and a salad tonight, she put all of the refrigerated items (ground beef, onions, peppers, lettuce, carrots, and tomato) together on the top shelf in her refrigerator (Separate – Ready to eat foods need to be stored separately from raw meat). After taking her dogs for a walk, Sandy is now ready to prepare her meatloaf. She begins by rinsing her hands under water (Clean – Sandy did not wash hands with soap and water before during and after cooking) and then gathers all of her ingredients. The ground beef is mixed together with the chopped peppers and onions and placed into a baking pan. Sandy then adds salt and pepper to the top of the meat loaf (Clean – Sandy did not wash her hands after mixing the raw meat and is transferring the bacteria to her salt and pepper shakers). The oven is then preheated to 400 degrees and the meat loaf is placed into the oven. While the meatloaf cooks, Sandy prepares the salad. She rinses out the bowl she used to mix the meat loaf in and tosses the salad in that bowl (Clean – She did not wash the bowl with hot soapy water). After 1 hour Sandy removes the meatloaf from the oven (Cook – She did not use a food thermometer to make sure the meat loaf reached a safe temperature) and allows the meatloaf to cool before serving. While eating her salad and meatloaf she is watching a movie on TV. After the movie is over she cleans up her kitchen and puts the leftover meatloaf in the refrigerator (Chill – Refrigerate or freeze foods within one hour to keep bacteria from growing) for tomorrow's lunch.

Presentation

Slide 1 - Steps To Preventing A Foodborne Illness



Food safety is extremely important in preventing foodborne illness at home, even when there is not an emergency. Following the 4 simple steps of clean, separate, cook, and chill is the best method in preventing foodborne illness. Each of these steps is essential in preventing bacterial growth or contamination of food, and greatly reduces the risk of contracting a foodborne illness.

Slide 2 - Step 1: Clean

Step 1: Clean

- Wash the following in hot soapy water before, during and after each time you cook.
 - Cutting boards
 - Utensils
 - Knives
 - Countertops
- Wash hands often during food preparation.
- Wash your fruits and vegetables before you eat or cook them.

- Cooking in a clean environment will prevent bacteria from contaminating your food. Wash the following in hot soapy water before, during, and after each time you cook. Cutting boards, Utensils, Knives, and Countertops.
- Wash your hands often during the cooking process. This is especially important after handling raw products, such as meat, seafood, eggs, and poultry.
- When washing your hands be sure to scrub soap over all areas, including under finger nails and in between fingers. One way to ensure clean hands is to recite the alphabet while you lather your hands.
- All fruits and vegetables should be washed with cold, running tap water before eating or cooking. In addition to bacteria, produce can pick up dust and soil during harvesting, packaging, handling, and shipping. Produce may also have traces of chemicals on the surface. It is best to wash all these contaminants away before eating.

Slide 3 - Step 2: Separate

Step 2: Separate

- Separate ready to eat food from raw food.
 - Store cooked foods and raw foods in different areas of the refrigerator.
- Use different cutting boards.
 - One for fruits and vegetables.
 - One for raw meats, poultry, and seafood.
- Put cooked food on a clean plate.



- Before, during, and after the cooking process, raw foods need to be kept separate from cooked foods.
- Store cooked foods and raw foods in different areas of the refrigerator. Generally store the raw foods below the cooked foods; this prevents the transfer of bacteria.
- Use different cutting boards. One cutting board should be used only for raw fruits and vegetables and one for only raw meats, poultry, and seafood.
- Always use a clean plate; do not place a cooked product onto a plate that held a raw product. Bacteria will transfer from that plate to the cooked product.

Slide 4 - Step 3: Cook

Step 3: Cook

- Use a food thermometer to measure the internal temperature of the food.
 - Ensures your food is cooked to a safe temperature.
 - Safe temperatures can be found at <http://www.foodsafety.gov/keep/charts/mintemp.html>



- When cooking always use a food thermometer to measure the internal temperature of your food.
- Food that has not reached the proper temperature may still contain bacteria, which causes foodborne illness. Using a thermometer is the only way to make sure your food is safe to eat. A list of safe internal temperature can be found on the internet at <http://www.foodsafety.gov/keep/charts/mintemp.html>.

[A list of safe temperatures is also provided in the Take Home Handouts.]

Slide 5 - Step 4: Chill

Step 4: Chill

- Refrigerate or freeze foods within one hour.
- Use an appliance thermometer in your refrigerator and freezer.
 - Refrigerator – 40 degrees F or below.
 - Freezer – 0 degrees F or below.
- Thaw food correctly.
 - Overnight in the refrigerator.
 - Under cold running water.



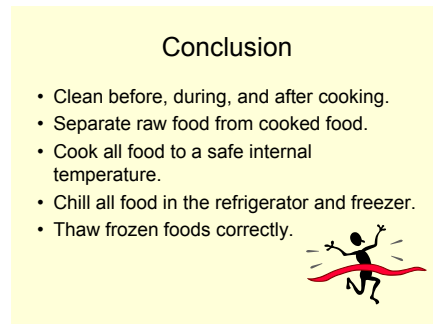
- Always refrigerate or freeze your foods within one hour after cooking. You can let your food sit out longer, if the food is held at a temperature of 140° F or higher. This temperature will not allow unsafe bacteria to grow.
- Use an appliance thermometer to measure the internal temperature of your refrigerator and freezer.
- Refrigerator should be at 40° F or below.
- Freezer should be at 0° F or below.
- Always correctly thaw your frozen foods. Thawing frozen items in the refrigerator is the safest method. The refrigerator allows for a safe and slow thawing. Smaller items usually will take one day to defrost, while larger items may need more time. Using cold water to thaw food is a faster method. Place the frozen food in a leak proof bag and submerge into cold tap water. Change the tap water every 30 minutes until the frozen product is thawed.
- DO NOT leave your food out on the counter to thaw.

Slide 6 - Always Keep Your Hot Foods Hot And Your Cold Foods Cold



- Most importantly, always keep your hot foods hot and your cold foods cold.

Slide 7 - Conclusion



- Be sure that you clean your kitchen and your hands before, during, and after cooking.
- Separate raw foods from cooked foods to prevent the spread of harmful bacteria.
- Use a food thermometer when cooking to make sure food is cooked to a proper internal temperature.
- Refrigerate or freeze all food within 1 hour of cooking.
- When thawing frozen foods be sure to use the correct procedure of thawing in the refrigerator, under cold running water, or in the microwave. Remember, never leave frozen food out at room temperature to thaw.



Stop here and complete Activity 1 - What Is Sandy Doing Wrong. Instructions are in the Activities section on page 3.

**Lesson 8:
Steps To Preventing A
Foodborne Illness**

Handouts



Steps to Preventing A Foodborne Illness Pre-test

Circle the Correct Answer

1. Food Safety is extremely important in preventing foodborne illness even at home.
a. Agree b. Disagree c. I do not know
2. The 4 simple steps to preventing foodborne illness are: clean, separate, cook, and chill.
a. Agree b. Disagree c. I do not know
3. Wash cutting boards, utensils, knives, and countertops with hot soapy water before, during, and after you cook.
a. Agree b. Disagree c. I do not know
4. Is it important to wash your fruits and vegetables before you eat or cook them.
a. Agree b. Disagree c. I do not know
5. You should always use a food thermometer to measure the internal temperature of your food.
a. Agree b. Disagree c. I do not know
6. It is important to keep your hot foods hot and your cold foods cold.
a. Agree b. Disagree c. I do not know
7. Having an appliance thermometer in your refrigerator is the only way to be sure that the temperature is correct.
a. Agree b. Disagree c. I do not know
8. You should refrigerate or freeze your food within one hour after cooking.
a. Agree b. Disagree c. I do not know
9. It is safe to thaw frozen ground beef by letting it sit on the counter until it is ready to be cooked.
a. Agree b. Disagree c. I do not know

Lesson 8 - Handout 1

Activity 1 - What Is Sandy Doing Wrong?



Read through Sandy's attempt to make meatloaf.
Underline everything that she is doing wrong.

Sandy has just gotten back from the grocery store and is unloading all of her groceries. Since she is preparing meatloaf tonight she put all of the refrigerated items (ground beef, onions, peppers) together on the top shelf in her refrigerator. After taking her dogs for a walk, Sandy is now ready to prepare her meatloaf. She begins by rinsing her hands under water and then gathers all of her ingredients. The ground beef is mixed together with the chopped peppers and onions and placed into a baking pan. Sandy then adds salt and pepper to the top of the meat loaf. The oven is then preheated to 400 degrees and the meat loaf is placed into the oven. While the meatloaf cooks, Sandy prepares a salad to eat first. She rinses out the bowl she used to mix the meat loaf in and tosses the salad in that bowl. After 1 hour Sandy removes the meatloaf from the oven and allows the meatloaf to cool before serving. While eating her salad and meatloaf she is watching a movie on TV. After the movie is over she cleans up her kitchen and puts the leftover meatloaf in the refrigerator for tomorrow's lunch.

Lesson 8 - Handout 2

Steps to Preventing A Foodborne Illness Post-test

Circle the Correct Answer

1. Food Safety is extremely important in preventing foodborne illness even at home.
a. Agree b. Disagree c. I do not know
2. The 4 simple steps to preventing foodborne illness are: clean, separate, cook, and chill.
a. Agree b. Disagree c. I do not know
3. Wash cutting boards, utensils, knives, and countertops with hot soapy water before, during, and after you cook.
a. Agree b. Disagree c. I do not know
4. Is it important to wash your fruits and vegetables before you eat or cook them.
a. Agree b. Disagree c. I do not know
5. You should always use a food thermometer to measure the internal temperature of your food.
a. Agree b. Disagree c. I do not know
6. It is important to keep your hot foods hot and your cold foods cold.
a. Agree b. Disagree c. I do not know
7. Having an appliance thermometer in your refrigerator is the only way to be sure that the temperature is correct.
a. Agree b. Disagree c. I do not know
8. You should refrigerate or freeze your food within one hour after cooking.
a. Agree b. Disagree c. I do not know
9. It is safe to thaw frozen ground beef by letting it sit on the counter until it is ready to be cooked.
a. Agree b. Disagree c. I do not know

Lesson 8 - Handout 3

Preventing Foodborne Illness Word Search

See how many words you can find in the disaster of letters below.



E S R D U T G H M T J A S O F E L W Z J
 I V U V F X V T T H J F M H T R Z B G J
 B B A N S C N M D G K F M A G E U X N X
 D J G W H T S O L I B N R C U T T I N G
 B J I I O Q D J A N T E M W K I S G T A
 O I L O R R K Q L R P R T K P J L X H S
 A L R B W C C D B E R K O H O J M D D T
 R G G Y P Q W I S V T O F W A I I E H I
 D D L H R H V X M O C Z E W X W O E D U
 C H Q J J Q J C S D H C I Q Z T R R L C
 N A E L C P E X E F Z T E B I M G B O B
 E E C U U H G J N D C Y T Z O D D G C C
 A C T A I G M M G X K E Y M S S K B V N
 U V G L Z O G E U P Z O E J A D T M W S
 A X I K Y E L M V R Z T D G M I N X Y T
 S E L B A T E G E V E C J L R H C A L I
 O V B K P W N J B R Z A O L D Y B L H U
 D I M K O K I A J B H K U Q K Y R O Y L
 D T E P H R L A Q B I L F S G F L P F Y
 W B U J J Q L T L P Y H C G F O O D G P

BOARD

CHILL

CLEAN

COLD

COOK

CUTTING

FOOD

FRUITS

HANDS

MICROWAVE

OVERNIGHT

SEPERATE

THAW

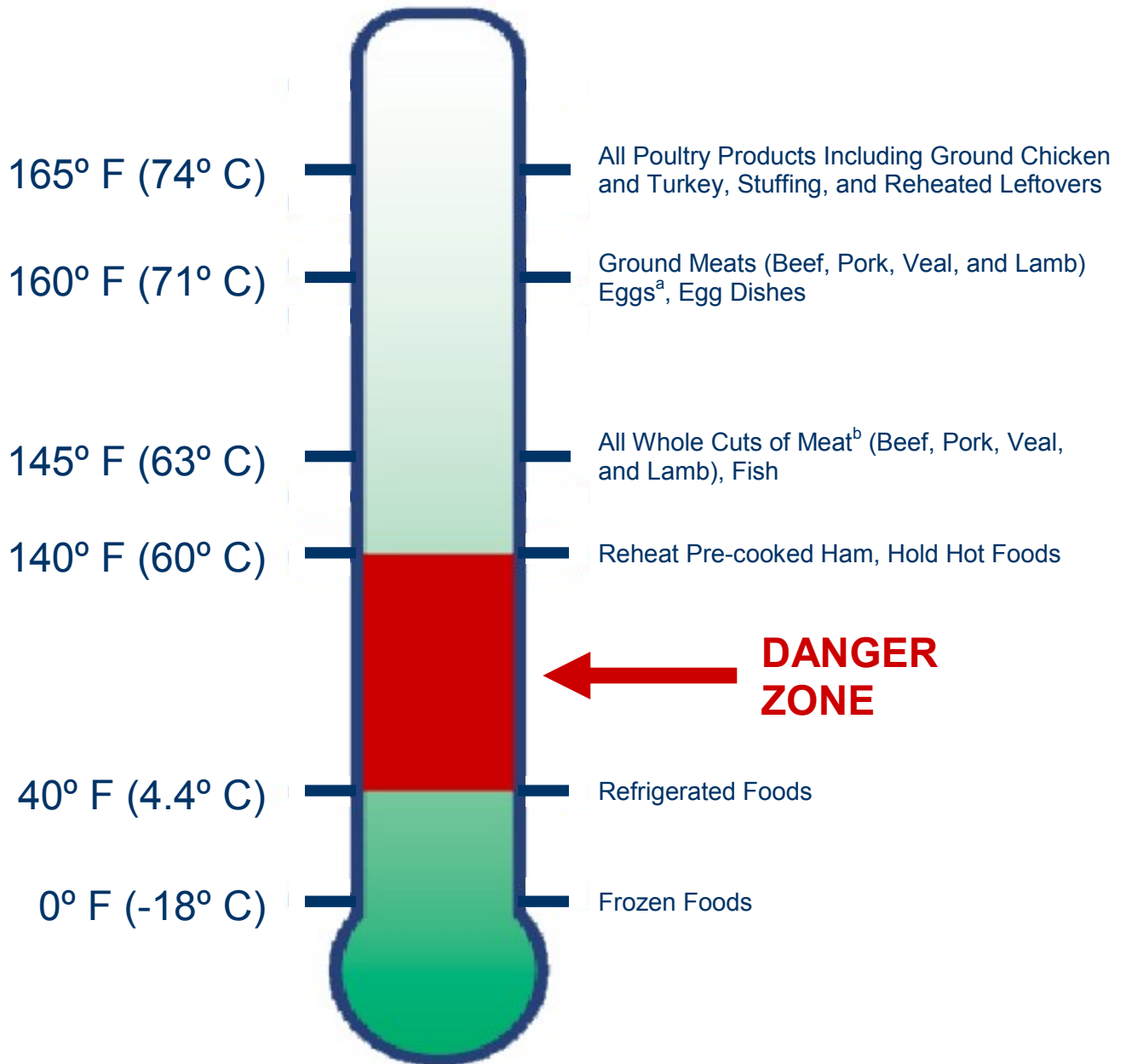
THERMOMETER

VEGETABLES

Lesson 8 - Take Home Handout 1

RECOMMENDED

Safe Internal Cooking and Storage Temperatures



^a Or until both the yolks and whites are firm

^b Whole cuts of meat include steaks, roasts, and chops

^b All whole cuts of meat need to rest for three minutes before carving

Lesson 8 - Take Home Handout 2

Refrigerator and Freezer Storage Chart

	Refrigerator (40° F, 4.4°C)	Freezer (0°F, -18°C)
<u>Eggs</u>		
Fresh, in shell	4-5 weeks	Don't freeze
Hard cooked	1 week	Doesn't freeze well
Egg substitutes, opened	3 days	Don't freeze
Egg substitutes, unopened	10 days	1 year
<u>Dairy Products</u>		
Milk	4-5 weeks	Don't freeze
Cottage cheese	1 week	Doesn't freeze well
Yogurt	3 days	Don't freeze
Commercial mayonnaise (refrigerate after opening)	10 days	1 year
<u>Vegetables</u>	<u>Raw</u>	<u>Blanched/cooked</u>
Beans, green or waxed	3-4 days	8 months
Carrots	2 weeks	10-12 months
Celery	1-2 weeks	10-12 months
Lettuce, leaf	3-7 days	Don't freeze
Lettuce, iceberg	1-2 weeks	Don't freeze
Spinach	1-2 days	10-12 months
Squash, summer	4-5 days	10-12 months
Squash, winter	2 weeks	10-12 months
Tomatoes	2-3 days	2 months
<u>Deli Foods</u>		
Entrees, cold or hot	3-4 days	2-3 months
Store-prepared or homemade salads	3-5 days	Don't freeze
<u>Hot dogs & Luncheon Meats</u>		
Hot dogs, opened package	1 week	
Hot dogs, unopened package	2 weeks	1-2 months in freezer wrap
Lunch meats, opened	3-5 days	1-2 months
Lunch meats, unopened	2 weeks	1-2 months
<u>TV Dinners/Frozen Casseroles</u>		
Keep frozen until ready to serve		3-4 months

	Refrigerator (40° F, 4.4°C)	Freezer (0°F, -18°C)
<u>Fresh Meats</u>		
Beef-steaks, roasts	3-5 days	6-12 months
Pork-chops, roasts	3-5 days	4-6 months
Lamb-chops, roasts	3-5 days	6-9 months
Veal-roast	3-5 days	4-6 months
<u>Fresh Poultry</u>		
Chicken or turkey, whole	1-2 days	1 year
Chicken or turkey pieces	1-2 days	9 months
<u>Fresh Fish</u>		
Lean fish (cod, flounder, etc.)	1-2 days	6 months
Fatty fish (salmon, etc.)	1-2 days	2-3 months
<u>Ham</u>		
Canned ham (label says "keep refrigerated")	6-9 months	Don't freeze
Ham, fully cooked (Half & slices)	3-5 days	1-2 months
<u>Bacon & Sausage</u>		
Bacon	1 week	1 month
Sausage, raw (pork, beef or turkey)	1-2 days	1-2 months
Pre-cooked smoked breakfast links/patties	1 week	1-2 months
<u>Leftovers</u>		
Cooked meat, meat dishes, egg dishes, soups, stews and vegetables	3-4 days	2-3 months
Gravy and meat broth	1-2 days	2-3 months
Cooked poultry and fish	3-4 days	4-6 months
<u>Fresh Produce</u>		
<ul style="list-style-type: none"> • The quality of certain perishable fresh fruits and vegetables (such as strawberries, lettuce, herbs and mushrooms) can be maintained best by storing in the refrigerator. If you are uncertain whether an item should be refrigerated to maintain quality, ask your grocer. • All produce purchased pre-cut or peeled should be refrigerated for safety as well as quality. • Produce cut or peeled at home should be refrigerated within two hours. 		

<http://www.foodsafety.gov/~fsg/f01chart.html>

Lesson 8 - Take Home Handout 3

Steps To Preventing A Foodborne Illness Take Home Messages

- Clean
 - Wash cutting boards, utensils, knives, and counter tops in hot soapy water before, during, and after each time you cook.
 - Wash hands often during food preparation, especially before cooking and after handling raw meat, poultry, eggs, or seafood.
 - Wash your fruits and vegetables before you eat or cook them.
- Separate
 - Separate the ready-to-eat foods from the raw foods. Store cooked foods and raw foods in different compartments in the refrigerator.
 - Use different cutting boards (one for fruits and vegetables and one for raw meats, poultry, and seafood).
 - Put cooked foods on a clean plate. Never use the same plate that held the raw food.
- Cook
 - Use a food thermometer to measure the internal temperature of the food. This is the only way to make sure that your food is cooked to a safe temperature. Safe temperatures can be found at: http://www.fsis.usda.gov/Fact_Sheets/Use_a_Food_thermometer/index.asp#chart
 - Always keep hot food hot and cold food cold.
- Chill
 - Refrigerate or Freeze foods within one hour to keep any bacteria from growing.
 - Use an appliance thermometer to make sure your refrigerator and freezer are at the proper temperatures.
 - Refrigerator - 40 degrees F (4.4 degrees C) or below
 - Freezer - 0 degrees F (-17.7 degrees C) or below
 - Correct ways to thaw foods
 - Overnight in the refrigerator (until ready to cook).
 - Under cold running water.
 - In microwave, then cook immediately.

Lesson 8 - Take Home Handout 4

WHAT WILL YOU DO WHEN A DISASTER STRIKES?

Steps to Preventing A Foodborne Illness



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This booklet has been prepared by the research staff in the School of Agriculture and Consumer Sciences at Tennessee State University, in collaboration with RTI International and Jackson State Community College. Funding was provided by the National Integrated Food Safety Initiative, National Institute of Food and Agriculture, US Department of Agriculture under project number TENX-2007-01846.

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**I hope you found this
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PREVENTING FOODBORNE ILLNESS AT HOME EVEN WHEN THERE IS NOT AN EMERGENCY



- **Wash** cutting boards, utensils, knives, and counter tops in hot soapy water **before, during, and after** each time you cook.
- **Wash hands** often during food preparation, especially before cooking and after handling raw meat, poultry, eggs, or seafood.
- **Wash** your fruits and vegetables before you eat or cook them.



- **Separate the ready-to-eat foods from the raw foods.** Store cooked foods and raw foods in different compartments in the refrigerator.
- **Use different cutting boards** (one for fruits and vegetables and one for raw meats, poultry, and seafood).
- **Put cooked foods on a clean plate.** Never use the same plate that held the raw food.



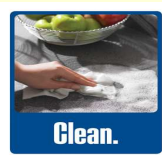
- **Use a food thermometer** to measure the internal temperature of the food. This is the only way to make sure that your food is cooked to a safe temperature. Safe temperatures can be found at: http://www.fsis.usda.gov/Fact_Sheets/Use_a_Food_thermometer/index.asp#chart

Always Keep Hot Foods Hot And Cold Foods Cold!



- **Refrigerate or Freeze** foods within one hour to keep any bacteria from growing.
 - **Use an appliance thermometer** to make sure your refrigerator and freezer are at the proper temperatures.
 - Refrigerator - 40 degrees F (4.4 degrees C) or below
 - Freezer - 0 degrees F (-17.7 degrees C) or below
 - **Correct ways to thaw foods**
 - **Overnight in the refrigerator** (until ready to cook).
 - **Under cold running water.**
 - **In microwave, then cook**
- <http://www.fsis.org>

Steps To Preventing A Foodborne Illness



Step 1: Clean

- Wash the following in hot soapy water before, during and after each time you cook.
 - Cutting boards
 - Utensils
 - Knives
 - Countertops
- Wash hands often during food preparation.
- Wash your fruits and vegetables before you eat or cook them.



Step 2: Separate

- Separate ready to eat food from raw food.
 - Store cooked foods and raw foods in different areas of the refrigerator.
- Use different cutting boards.
 - One for fruits and vegetables.
 - One for raw meats, poultry, and seafood.
- Put cooked food on a clean plate.



Step 3: Cook

- Use a food thermometer to measure the internal temperature of the food.
 - Ensures your food is cooked to a safe temperature.
 - Safe temperatures can be found at <http://www.foodsafety.gov/keep/charts/mintemp.html>



Step 4: Chill

- Refrigerate or freeze foods within one hour.
- Use an appliance thermometer in your refrigerator and freezer.
 - Refrigerator – 40 degrees F or below.
 - Freezer – 0 degrees F or below.
- Thaw food correctly.
 - Overnight in the refrigerator.
 - Under cold running water.



**Always Keep Your Hot
Foods Hot And Your
Cold Foods Cold!**



Conclusion

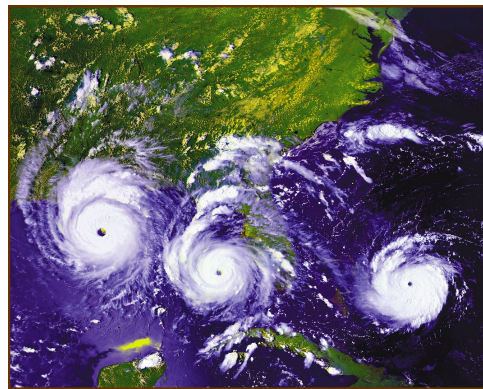
- Clean before, during, and after cooking.
- Separate raw food from cooked food.
- Cook all food to a safe internal temperature.
- Chill all food in the refrigerator and freezer.
- Thaw frozen foods correctly.



WHAT WILL YOU DO WHEN A DISASTER STRIKES?

PLANNING FOR EMERGENCIES

APPENDIX



References

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U.S. Food and Drug Administration: *What consumers need to know*

about food and water safety during hurricanes, power outages,

and floods. Available at: <http://www.fda.gov/Food/>

[ResourcesForYou/Consumers/ucm076881.htm](http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm076881.htm). Accessed July 28,

2011.

Additional Reading Materials

Lesson 1 - Developing A Communication Plan

- <http://www.ready.gov/america/makeaplan/index.html>
- http://www.homesafetycouncil.org/safetyguide/sg_disaster_w001.asp

Lesson 2 - Preparing An Emergency Food Kit

- <http://www.ready.gov/america/getakit/index.html>
- <http://www.redcross.org/preparedness/FinRecovery/FinPlan/dplan.html>

Lesson 3 - Keeping Food Safe When The Lights Go Out

- <http://www.bt.cdc.gov/disasters/poweroutage/needtoknow.asp>
- http://www.foodsafety.gov/keep/charts/refridg_food.html

Lesson 4 - Water Is High And The Food Is Not Dry

- http://www.in.gov/isdh/files/Floods_Food.pdf
- <http://www.fda.gov/food/resourcesforyou/consumers/ucm076881.htm>

Lesson 5 - Making Water Safe To Drink

- http://www.cdc.gov/healthywater/pdf/emergency/09_202278-B_Make_Water_Safe_Flyer_508.pdf

Lesson 6 - Precautions With Airborne Toxins And Fires

- <http://nirc.cas.psu.edu/pdf/tornado.pdf>
- http://www.fsis.usda.gov/factsheets/Fires_and_Food_Safety/index.asp

Lesson 7 - Managing Food Recalls And Tampering

- <http://www.recalls.gov/food.html>
- <http://www.fda.gov/downloads/Food/ResourcesForYou/Consumers/ucm079231.pdf>

Lesson 8 - Steps to Preventing A Foodborne Illness

- <http://www.fightbac.org/safe-food-handling>

Evaluation Answer Keys

Lesson 3 - Power Outage Evaluation

- **Q4 - a, b, and d are the correct answers (pages 6, 7, 10 of lesson plan).**
- **Q5 - b. disagree is the correct answer (page 9 of lesson plan).**
- **Q6 - a. agree is the correct answer (page 8 of lesson plan).**
- **Q7 - a. agree is the correct answer (page 11 of lesson plan).**
- **Q8 - a. agree is the correct answer (page 11 of lesson plan).**
- **Q9 - a. agree is the correct answer (page 11 of lesson plan).**
- **Q10 - b. disagree is the correct answer (page 12 of lesson plan).**

Lesson 4 - Floods Pre-Test And Post-Test

- **Q1 - I agree is the correct answer (page 7 of lesson plan).**
 - **Q2 - I agree is the correct answer (page 12 of lesson plan).**
 - **Q3 - I agree is the correct answer (page 10 of lesson plan).**
 - **Q4 - I disagree is the correct answer (page 10 of lesson plan).**
 - **Q5 - I disagree is the correct answer (page 13 of lesson plan).**
 - **Q6 - I disagree is the correct answer (page 12 of lesson plan).**
 - **Q7 - I agree is the correct answer (page 9 of lesson plan).**
- [The answers for both the Pre-Test and the Post-Test are the same.]**

Lesson 5 - Making Water Safe To Drink Lesson Evaluation

- **Q4 - True is the correct answer (page 7 of lesson plan).**
- **Q5 - True is the correct answer (page 7 of lesson plan).**

Lesson 6 - Airborne Toxins And Fires Pre-Test And Post-Test

- **Q1 - I agree is the correct answer (page 6 of lesson plan).**
 - **Q2 - I agree is the correct answer (page 7 of lesson plan).**
 - **Q3 - I agree is the correct answer (page 8 of lesson plan).**
 - **Q4 - I disagree is the correct answer (page 7 of lesson plan).**
 - **Q5 - I disagree is the correct answer (page 10 of lesson plan).**
 - **Q6 - I disagree is the correct answer (page 8 of lesson plan).**
 - **Q7 - I agree is the correct answer (page 10 of lesson plan).**
- [The answers for both the Pre-Test and the Post-Test are the same.]**

Evaluation Answer Keys

Lesson 8 - Steps To Preventing A Foodborne Illness Pre-Test And Post-Test

- **Q2 - a. Agree is the correct answer (page 5 of lesson plan).**
 - **Q3 - a. Agree is the correct answer (page 5 of lesson plan).**
 - **Q4 - a. Agree is the correct answer (page 5 of lesson plan).**
 - **Q5 - a. Agree is the correct answer (page 6 of lesson plan).**
 - **Q6 - a. Agree is the correct answer (page 8 of lesson plan).**
 - **Q7 - a. Agree is the correct answer (page 7 of lesson plan).**
 - **Q8 - a. Agree is the correct answer (page 7 of lesson plan).**
 - **Q9 - b. Disagree is the correct answer (page 7 of lesson plan).**
- [The answers for both the Pre-Test and the Post-Test are the same.]**

Activity Learning Outcomes

Lesson 1 - Developing A Communication Plan

- **Activity 1 - Scenarios**
 - **Generates ideas for participants in developing their own communication plans.**
- **Communication Plan Crossword**
 - **Reinforces the information taught in this lesson.**

Lesson 2 - Preparing An Emergency Food Kit

- **Activity 1 - Emergency Food Kit Grocery List**
 - **Demonstrates the participants understanding of the information taught in the lesson.**
- **Emergency Food Kit Word Search**
 - **Emphasizes important items that belong in an emergency food kit.**

Lesson 3 - Keeping Food Safe When The Lights Go Out

- **Activity 1 - Group Discussion**
 - **Allows participants to compare their experiences and creates an excitement leading into the lesson.**
- **Activity 2 - Food Safety Timeline**
 - **Calls attention to the information taught in the lesson by placing the participants into a potential situation.**
- **Power Outage Word Scramble**
 - **Reinforces the information taught in this lesson.**

Lesson 4 - Water is High And The Food Is Not Dry

- **Activity 1 - Contaminated Jars**
 - **Emphasizes the point that not all contaminants can be seen in flood waters.**
- **Activity 2 - Contaminated Can Cleaning**
 - **Allows participants to practice cleaning a contaminated can.**
- **Canned Damage And Salvage Word Search**
 - **Emphasizes how a can may be damaged, making it unsafe for salvaging.**

Activity Learning Outcomes

Lesson 5 - Making Water Safe To Drink

- **Activity 1 - Water Purification With Bleach**
 - **Enables participants to experience water purification first hand, reducing any doubts in their ability to perform this procedure.**

Lesson 6 - Precautions With Airborne Toxins And Fires

- **Activity 1 - Airborne Toxins Demonstration**
 - **Demonstrates the winds ability to carry airborne toxins causing the contamination of items in the kitchen.**
- **Activity 2 - Questions To Consider**
 - **Demonstrates an understanding of the lesson materials by allowing the participants to discuss and write out their answers.**
- **Airborne Toxins And Fires Word Search**
 - **Emphasizes important vocabulary taught in the lesson.**

Lesson 7 - Managing Food Recalls And Tampering

- **Activity 1 - Fact Or Fiction**
 - **Calls attention to the realism of food tampering, creating an interesting lead into the lesson.**
- **Activity 2 - Get You Thinking**
 - **Demonstrates an understanding of the lesson materials by allowing the participants to discuss and write out their answers.**
- **Food Recalls And Tampering Word Scramble**
 - **Reinforces the information taught in this lesson.**

Lesson 8 - Steps To Preventing A Foodborne Illness

- **Activity 1 - What Is Sandy Doing Wrong**
 - **Tests the participants' ability to recognize common errors in the kitchen taught in this lesson.**
- **Preventing Foodborne Illness Word Search**
 - **Emphasizes important vocabulary taught in the lesson.**

Glo-Germ

Glo Germ™ is a product sold both in liquid and powder form that contains proven safe ingredients formulated to be the same size as bacteria, basically 5 microns in size. When used in either the powder or liquid-based form, with the use of an ultra-violet light, it simulates the spread of germs, teaching how quickly and broadly germs can be spread in a short period of time.

For ordering information as well as instructions for its use go to the web site <http://www.glogerm.com>.



Source: <http://www.glogerm.com>

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WHAT WILL YOU DO WHEN A DISASTER STRIKES?

A QUICK REFERENCE GUIDE TO HELP
KEEP YOU AND YOUR FOOD SAFE



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Why You Should Read This Book

- Bacteria exist everywhere in nature, even in the food that you eat.
- Most bacteria do not make you sick, but some can cause foodborne illness.
- Most cases of foodborne illness can be prevented through proper cooking or processing of food, which kill the bacteria.
- When a disaster strikes, there is an increased risk of getting a foodborne illness. Power outages make it hard to keep food cold enough and make it difficult to properly heat. Flood waters or environmental substances may contaminate food in your home making it harmful to eat.



This booklet will explain how to prepare for a possible disaster, with a special emphasis on keeping your food safe during and after a disaster.

Cover photo courtesy of FEMA/David Fine



- **Use a food thermometer** to measure the internal temperature of the food. This is the only way to make sure that your food is cooked to a safe temperature. Safe temperatures can be found at: http://www.fsis.usda.gov/Fact_Sheets/Use_a_Food_thermometer/index.asp#chart

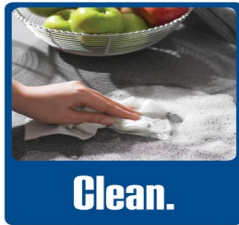
Always Keep Hot Foods Hot And Cold Foods Cold!



- **Refrigerate or Freeze** foods within one hour to keep any bacteria from growing.
- **Use an appliance thermometer** to make sure your refrigerator and freezer are at the proper temperatures.
 - Refrigerator - 40 degrees F (4.4 degrees C) or below
 - Freezer - 0 degrees F (-17.7 degrees C) or below
- **Correct ways to thaw foods**
 - **Overnight in the refrigerator** (until ready to cook).
 - **Under cold running water.**
 - **In microwave**, then cook immediately.

<http://www.fsis.org>

PREVENTING FOODBORNE ILLNESS AT HOME EVEN WHEN THERE IS NOT AN EMERGENCY



- **Wash** cutting boards, utensils, knives, and counter tops in hot soapy water **before**, **during**, and **after** each time you cook.
- **Wash hands** often during food preparation, especially before cooking and after handling raw meat, poultry, eggs, or seafood.
- **Wash** your fruits and vegetables before you eat or cook them.



- **Separate the ready-to-eat foods from the raw foods.** Store cooked foods and raw foods in different compartments in the refrigerator.
- **Use different cutting boards** (one for fruits and vegetables and one for raw meats, poultry, and seafood).
- **Put cooked foods on a clean plate.** Never use the same plate that held the raw food.

Hi! I'm C-LES. I'm here to help keep your food safe during a disaster. I hope you will read this booklet.



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DEVELOPING A COMMUNICATION PLAN

Be ready to take action!
Keep an **emergency plan** with your **emergency food kit!** If disaster strikes, you and your family will be prepared.



Family Communication Plan - As a family, make a plan before a disaster strikes.

- **Know how** to contact each other if you are not together when a disaster strikes.
- **Designate** a safe meeting place where the family will gather if separated.
- **Be sure** everyone knows the location of the emergency food kit.
- **Keep-up-to-date** identification and medical information on all family members in your emergency food kit.

Hint: Complete the contact information sheet found at the end of this section. It is a good idea to post a copy of this sheet in a place where everyone can find it easily.

FOOD RECALLS AND FOOD TAMPERING

Food recalls are announced on TV and radio, in newspapers, and on the Internet at www.foodsafety.gov

If You Have A Food Product That Has Been Recalled:

- **Return the product** to the store or place of purchase, or
- **Throw the product away.** Do not eat the recalled product.

Signs Of Food Tampering

- **Broken seals** on or around the package.
- **Safety button** on the jar lid has been popped.
- **Unusual stains** on the product—discoloration, mold, or liquid on products are signs that the product is not safe.
- **Product has an unusual smell or odor.**
- **Damage to the package** - To see if there is damage, compare the container to other containers on the shelf.



If A Food Product Has Been Tampered With Contact:

- **Local Health Department:** contact information can be found in the phone book or on the Internet.
- **Food and Drug Administration Hotline at:**
1-301-443-1240 for Seafood, Fruit, Vegetables, Eggs, and other Non-meat Items.
- **US Department of Agriculture Hotline at:**
1-800-535-4555 for Meat and Poultry.

Signs of a Foodborne Illness include:

Stomach Cramps, Fever, Nausea, Vomiting, Chills, Diarrhea, and a Headache.

TIPS FOR SAFE CLEANUP AFTER A DISASTER

- Get a tetanus shot before attempting any cleanup.
 - Tetanus shots are good for 10 years.
 - It might be a good idea to get a tetanus booster shot, even if you have had one within 10 years.
- Be sure to always wear gloves when cleaning after a disaster.
 - Rubber gloves for cleaning and sterilizing.
 - Heavy duty leather gloves for debris removal.
- Wear a mask to prevent you from inhaling anything harmful.
- When removing debris be sure to wear safety glasses, long pants, and shoes (preferably work boots).
- Make a new bleach solution after each use. The solution used to soak pots and pans should not be reused to clean counters.
- Be sure to wash your hands often with clean water and soap. If you do not have access to clean water you can use hand cleaners that contain alcohol.



Hint: Make sure you apply soap and rub your hands together for 20 seconds before rinsing.



- Watch out for animals, especially poisonous snakes, that may be hiding in the debris. A long stick can be used to check the debris.

Hint: If you need help with your clean up, there are different organizations and churches you can contact.

Shelter

- **Know** the locations of emergency shelters in your area.
- **Know** different routes to the shelter in case roads have been damaged or blocked off.
- **Identify** pet-friendly shelters where you can go if you have pets.

Work Together

- **Find out** what steps schools and your place of employment have taken to ensure everyone's safety during an emergency.
- **Work with** your neighbors to create a safe environment for everyone if disaster strikes.
- **Ask** community officials to hold an emergency drill in your area.



Follow All Instructions Provided on the TV and Radio or in the Newspaper.

Remember, Your Safety is Top Priority During Any Disaster.

Emergency Contact Information

Police _____

Fire Department _____

Hospital _____

Red Cross _____

FEMA _____

Health Department _____

Work _____

Relatives _____

Where we will meet _____

AIRBORNE TOXINS AND FIRES

You may not realize it, but when a natural disaster, such as an earthquake or tornado, strikes airborne toxins may be released. These may come from dangerous gases, ashes, broken glass, asbestos, and pesticides. Depending on the wind, the toxins can be carried for many miles and affect you and your food.



Food exposed to fires can be made unsafe to eat by excess heat, smoke, and toxic fumes released from burning materials, and chemicals used to fight fires.

What Should You Do With Food And Cookware That May Be Contaminated?

- **Discard all food items** that have been near a fire or exposed to airborne toxins. This includes:
 - Foods stored outside the refrigerator, such as bread, fruits, and vegetables.
 - Raw food or food in permeable packaging, for example cardboard, plastic wrap, etc.
 - All foods in cans, bottles, and jars. While they may appear to be okay, the heat from the fire can damage the containers and can activate food spoilage bacteria, and
 - Foods stored in refrigerators or freezers. Refrigerator seals are not airtight, and fumes can get inside.
- **Sanitize cookware** exposed to firefighting chemicals by washing in soap and hot water. Submerge for 15 minutes in the bleach sanitizing solution (solution recipe on page 13).

IMPORTANT!

Chemicals and toxic fumes cannot be washed off food.
The food must be thrown in the garbage.

PURIFYING WATER

What would you do if you ran out of safe drinking water in an emergency? Some water sources can be purified to kill bacteria that could cause illness, making water safe to drink.

If you need to find water outside your home to drink or use for cooking, you may be able to use rainwater or water from streams or rivers. Before performing any of these purification methods, let any particles settle to the bottom of the container and strain the water through a clean cloth or paper towels.

Disinfecting By Boiling

- Put water in a clean pot.
- Bring to a rolling boil and boil for at least 3 minutes.
- Cool the water before using unless it is being used for cooking.



Disinfecting With Bleach

- Place one gallon of water in a clean container.
- Add $\frac{1}{4}$ (one fourth) teaspoon of unscented household bleach (5.25% Sodium Hypochlorite).
- Stir.
- Wait 30 minutes.
- There should be a faint odor of bleach remaining. If there is not a faint odor of bleach, repeat the procedure.

QUICK NOTE

The amount of bleach used to purify water is different than the amount of bleach used to make a sanitizing solution. Refer back to page 13 for the sanitizing solution.

PREPARING AN EMERGENCY FOOD KIT

Every family should have an **emergency food kit**. An **emergency food kit** contains enough water and food for each household member for at least 3 days and is kept in a waterproof case or carrying bag. Store the kit in a cool, dry place that is easy to access or in your emergency shelter (if you have one).

What You Should Include

Water for Three Days

- At least one gallon of clean water per person per day for drinking and hygiene.

Hint: Clean and sterilize all containers before filling.

Food for Three Days

- **Dried Foods**
 - Fruit, Crackers, Ready-to-eat Cereals, Powdered Milk, Beef Jerky
- **Canned Foods**
 - Meats and Fish, such as Tuna and Chicken
 - Vienna Sausages, Beans, Fruit, Fruit Juices, Vegetables, Soups
- **High Energy Foods**
 - Peanut Butter, Jelly, Nuts, Trail Mix, Granola Bars, Protein Bars, Breakfast Bars, Cookies
 - Baby Formula and Baby Food, if needed



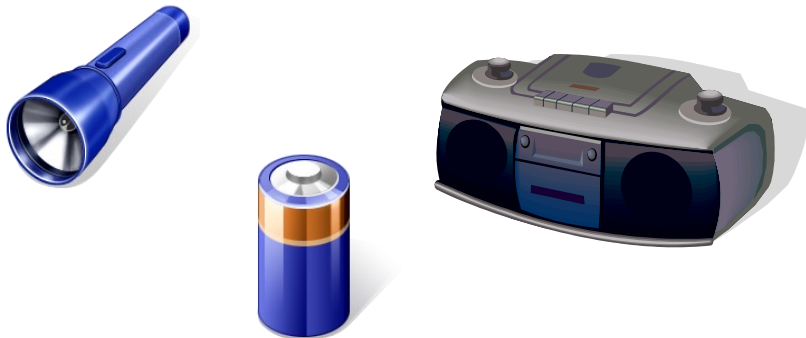
Hint: Even if you are breast feeding, stress may keep you from producing milk.

Other Items You May Want To Include In Your Emergency Food Kit

- Prescription Drugs
- Copies of Important Family Documents
- Medical Supplies, such as a First Aid Kit and Instruction Booklet

Hint: Put the items listed above in a waterproof bag

- Flashlight or Battery Operated Lamps
- Waterproof Matches
- Paper Plates and Plastic Utensils
- Moist Towelettes and Hand Sanitizer
- Portable Radio
- Manual or Battery Operated Can Opener
- Extra Batteries



REMEMBER!

- Check the expiration dates on food every 6 months.
- Replace foods that are old.
- Include some comfort items if you have room.

Fill me with all the food damaged by flood water.



Cleaning Kitchen Items After A Flood

- **Clean** and **sanitize** all counter tops and surfaces in the kitchen with the bleach solution.
- **Wash and sanitize** any undamaged cans or retort packages before opening.
- **Wash** all metal pots, pans, ceramic dishes, and utensils in hot soapy water. **Rinse**, then **soak** for 15 minutes in a bleach solution.



DO NOT EAT OR DRINK ANYTHING THAT HAS COME INTO CONTACT WITH FLOOD WATERS.
WHEN IN DOUBT, THROW IT OUT!!

FLOODS

Flood waters are dangerous and may contain sewage or other harmful substances. It is important to take proper measures before and after a flood to ensure the safety of you and your food.

Preparing For A Flood

- **Move** canned goods and cooking equipment to a place out of the reach of flood waters.



What Needs To Be Thrown Out After A Flood

- All foods that have come in contact with flood waters if they are not in a waterproof containers

Hint: Food containers that are not waterproof include: containers with screw caps, snap lids, pop tops, crimped bottle caps, cardboard cartons, and boxes.

- Cutting boards, plastic utensils, baby bottle nipples, and pacifiers; there is no way to safely clean these items after they have come in contact with flood waters.
- Canned items that have damage or rust on the outside.
- Retort packages with damaged seams.
- **Refrigerators or freezers** that were under flood water. Be sure to remove the doors so children or animals cannot be trapped inside.

Hint: Damage to cans may be swelling, leakage, punctures, holes, fractures, extensive deep rusting, or crushing/denting which would not allow you to stack or open the cans with a manual can opener.

POWER OUTAGES

Electricity plays an extremely important role in keeping food safe. It powers the refrigerator, range, and lights. Taking the proper actions before, during, and after a power outage will help keep you and your food safe.

Preparing For A Possible Power Outage

- **Keep** an appliance thermometer in your refrigerator and freezer.
- **Freeze** water in thoroughly washed or new plastic containers. These can be used to keep food cold in the refrigerator, freezer, or cooler. As the water thaws, it can be used for drinking.
- **Purchase** a generator if possible.
- **Have a cooler** on hand. Put ice packs in the freezer.
- **Freeze** refrigerated items, such as meat, milk and leftovers, that are not going to be used immediately.



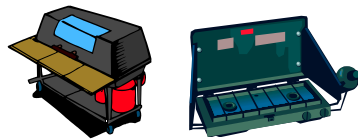
What To Do During A Power Outage

- **Keep** refrigerator and freezer doors closed as much as possible.
- **Place foods** in a cooler with frozen ice or gel packs if the freezer is already full.



Hint: Do not place food outside to keep it cold. Outside temperatures can vary, and animals or bugs might get to the food you are trying to keep safe.

- **Fill empty containers** with water and place them outside to freeze if it is cold enough. Use the frozen containers in the refrigerator, freezer or cooler. Snow and ice can also be used but must be sealed in a separate container before putting in the refrigerator or freezer.
- **Keep foods** close together in the freezer, which helps the freezer keep its temperature longer.
- When preparing food, heat **outdoors** over camp stoves, grills, or contained fires. A fireplace can also be used if properly ventilated.



Hint: Always use camp stoves or grills outside. Both are a potential fire hazard and pose a risk of exposure to the toxic gases they release.

What About After A Power Outage?

- **Discard refrigerated perishable foods** such as milk, meat, and dairy products after 4 hours without power.
- **Check the temperature** of the food in the freezer. Food that is still below 40 degrees F (4.4 degrees C) should be safe to eat. Foods that have defrosted completely and are not below 40 degrees F should be thrown out.



Appliance thermometers should be placed in your refrigerator and freezer so you know the inside temperature during and after a power outage.



Cooking thermometers should be used to measure the temperature of foods that have defrosted, making sure they are still below 40 degrees F.

- **Check for ice crystals** on the food in the freezer. If there are ice crystals on the food in the freezer, it can be refrozen or cooked.
- **Throw out** any food that has an unusual texture, color, or odor.

Never taste food to see if it is safe. Throwing the food out may save you discomfort, doctor bills, or even a hospital stay later.

