

Design Document: Food Safety

<i>Business Purpose</i>	When natural and/or human caused disasters occur, volunteers from charitable organizations, community and church organizations gather to provide relief and aid. Food is served by volunteers who may not have food safety knowledge and skills needed to provide food safely. The consequences of foodborne illness can negatively impact consumer health, trust, and waste resources. The U.S. Centers for Disease Control and Prevention estimates that each year roughly one out of six Americans (that's 48 million people) get sick, 128,000 are hospitalized, and 3,000 die from foodborne diseases. Non-profit organization Z consists of volunteers providing disaster relief and aid across the United States. Non-profit organization Z's goal is for learners to feed people with 0 occurrences of foodborne illness by preventing contamination by food hazards.
<i>Target Audience</i>	Charitable feeding and disaster relief volunteers (older teens to mature adults) prior to providing food service
<i>Training Time</i>	30 minutes for completion of eLearning module
<i>Training Recommendation</i>	• Volunteers should complete 1 eLearning module prior to beginning food service. This mode of training best supports the high number of learners in varied geographic locations and time zones, ensuring consistent delivery of information. The eLearning module includes a handwashing video to demonstrate the action steps and amount of time recommended for proper hygiene. • Reference tool of the 5 Steps of Handwashing posted near handwashing station • Reference tool in the form of a pdf identifying Minimum Internal Temperature for Food Safety posted near preparation and cooking station

<i>Deliverables</i>	• 1 storyboard outlining eLearning module • 1 eLearning module developed in Articulate Storyline with voiceover narration, includes 1 handwashing video • 1 PDF job aid: Handwashing 5 Steps • 1 PDF job aid: Minimum Internal Temperature for Food Safety Chart
<i>Learning Objectives</i>	By the end of this training, learners will be able to: • describe methods of good hygiene when handling food • identify ways to prevent temperature abuse • order steps to prevent surface contamination
<i>Training Outline</i>	Introduction • Welcome: purpose and intended audience • Navigation: all Articulate Storyline player features • Scenario • Objectives Topic: Food Safety • Flow of Food ○ Steps from food growth to meal and how to prevent contamination at each step ■ Harvesting: wash produce to remove fertilizers, pesticides, insects, and soil before they are cut, combined with other ingredients, cooked, or served. ■ Processing: • take measures to control temperature • clean and sanitize equipment. ■ Packaging: • take measures to control temperature • damaged or damp packaging can indicate temperature abuse or cross contamination. ■ Transporting: • Raw foods, allergenic foods, or chemicals must be kept separate from other foods. • Refrigerated vehicles should keep food at 41 degrees Fahrenheit (5 degrees Celsius) or below during transport. • If temperature control is not available, Time and Temperature Control for Safety food should be labeled

“Process Immediately” and delivered within 30 minutes.

■ Receiving:

- Only accept food donations from approved sources.
- Hot Time and Temperature Control for Safety foods need to be received at 135 degrees Fahrenheit (57 degrees Celsius) or higher.
- Cold Time and Temperature Control for Safety foods need to be received at 41 degrees Fahrenheit (5 degrees Celsius) or lower.
- Frozen foods need to be received frozen.
- Reject them if there are fluids or frozen liquids at the bottom of the case, or ice crystals in the packaging or product. These are indicators of thawing.

■ Storing:

- Cover stored food
- If storing outside of its original packaging, label the containers with the common name of the food, unless it is easily recognizable.
 - Ex: cooking oils, flour, herbs, and salt, could be mistaken for something they aren't, so they must be labeled.
- Mark open food containers and leftovers with a “use-by” date.
 - seven days or less from when the food was first thawed, opened, or prepared.
- Throw away any food that isn't eaten by its use-by date.

■ Preparing:

- The safest and most common way to thaw frozen food is in the refrigerator.
- Requires one day of thawing for every five pounds of food.
- Can thaw food during the cooking process, which is common for ground meats.
- Can also thaw food in the microwave as long as the food will be cooked immediately afterward. This is a good method for smaller portions of frozen food.
- No part of the food should stay above 41 degrees for longer than four hours because foodborne bacteria can multiply to dangerous levels.
- You should clean and sanitize anytime you think a surface has been contaminated.

● Food Hazards

- Identifying 3 types of food hazards and examples of each

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- Physical- any item in food that can choke, gag, cut, or otherwise injure someone. For example, hair, glass, plastic, or metal objects.
 - Chemical- when chemicals get into food. For example, pesticides, food additives and cleaning products.
 - Biological- or pathogens, are the main cause of foodborne illness. Pathogens are organisms that can make people sick, like some bacteria and viruses.
 - Temperature Zones
 - Bacteria grow at different rates, but foods that have a high water content, such as meats, poultry, and fish, are prime places for bacteria to multiply rapidly. To keep Time and Temperature Control for Safety foods safe for use, keep them at or below 41 degrees or at or above 135 degrees – in other words, out of the temperature danger zone. Time and Temperature Control for Safety food cannot stay in the temperature danger zone for more than four hours or it must be discarded.
 - Explaining how time and temperature leads to bacteria growth with previously mentioned 6 food categories
 - Freezer zone-
 - Can safely store food the longest in a freezer as long as the temperature is maintained at zero degrees Fahrenheit or below.
 - You must seal your food properly to prevent freezer burn. Freezer burn happens when food loses moisture at these temperatures and begins to look discolored or shriveled. The surface may be covered in ice crystals. Food that has freezer burn is safe to eat, but the taste and texture may disappoint.
 - Refrigerator zone-
 - At 41 degrees Fahrenheit, most bacteria are too cold to multiply quickly.
 - Mark open food containers and leftovers with a “use by” date that is seven days or less from when the food was first thawed, opened, or prepared.
 - Throw away any food that isn’t eaten by its use by date.
 - A good way to avoid throwing away food is to use First-In, First-Out which means to store all food items in order of their use by dates, with the earliest dates in front.
 - Danger zone- Bacteria multiply most rapidly in what we call the “temperature danger zone,” which begins above 41 degrees Fahrenheit (or 5 degrees Celsius).

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- Holding temperature for cooked food zone- At 135 degrees and above, most bacteria either begin to die or become too hot to multiply. If Time and Temperature Control for Safety food will not be eaten immediately, it needs to be kept – or held – at 135 degrees Fahrenheit or hotter (above the temperature danger zone). Only use equipment designed for holding food because it will be able to sustain even temperatures for long periods of time.
 - Minimum internal temperatures for food safety
 - Use a thermometer to ensure that meats are cooked to safe internal temperatures.
 - 165 degrees Fahrenheit for poultry
 - 160 degrees Fahrenheit for egg dishes and ground meat
 - 145 degrees Fahrenheit for beef, pork, lamb, veal, roasts, steaks, chops and full cooked ham.
 - When reheating food, ensure its internal temperature reaches 165 degrees Fahrenheit, regardless of the food's original cooking temperature.
 - Knowledge Check: learner is provided 2 food items (with time and temperature) and must correctly decide to serve or discard
 - Handwashing 5 Steps (video with text and voice over narration)
 - Wet hands in warm running water.
 - Apply soap to hands and lower arms.
 - Scrub hands and lower arms for 20 seconds.
 - Rinse the soap away.
 - Dry hands with a disposable paper towel. Use paper towel or elbow to turn off water.
 - Using Gloves
 - Gloves never replace handwashing.
 - Wash hands before putting on new gloves.
 - Single-use
 - Disposable
 - Wear for up to 4 hours at a time while working on 1 task
 - Knowledge Check: Learner must correctly select instances when gloves should be changed.
 - Steps to Prevent Surface Contamination
 - Cleaning removes food, grease, and other grime with soap and water.
 - Sanitizing is done with chemicals or very hot water, either of which will kill bacteria.
 - Disinfectant is the best way to kill viruses.
 - Clean surfaces before sanitizing and/or disinfecting.
 - Knowledge Check: Learner must correctly order steps to prevent surface contamination.

	• Summary- restate learning objectives • Quiz- introduce parameters of quiz format, pass rate • Conclusion- thank learner for participating
<i>Assessment Plan</i>	• Three knowledge checks within course, ungraded, two attempts before moving forward in course. ○ Knowledge Check 1 assesses Learning Objective 2: Learner must correctly select to serve or discard 2 food items (when given description of amount of time at temperature) ○ Knowledge Check 2 assesses Learning Objective 1: Learner must correctly select instances when gloves should be changed ○ Knowledge Check 3 assesses Learning Objective 3: Learner must correctly order steps to prevent surface contamination 80% passing score on untimed eLearning module quiz of 5 graded questions: 3 multiple choice, 2 true/ false. Learner is given 1 attempt at each question with the ability to review after it has been graded. Learner can retry quiz unlimited times to achieve passing score. Question 1 assesses Learning Objective 1, identify minimum amount of time to wash hands Question 2 assesses Learning Objective 1, given a scenario, learner selects best method of good hygiene Question 3 assesses Learning Objective 2, given a scenario, learner selects how to avoid serving food within temperature danger zone Question 4 assesses Learning Objective 2, identify length of time foods can safely remain within temperature danger zone Question 5 assesses Learning Objective 3, given a scenario, learner orders steps to prevent surface contamination Non-profit organization Z will be collecting data on frequency of occurrences of foodborne illness at each of their food relief events over a 12 month period and percentage of volunteers present who had completed this food safety training.