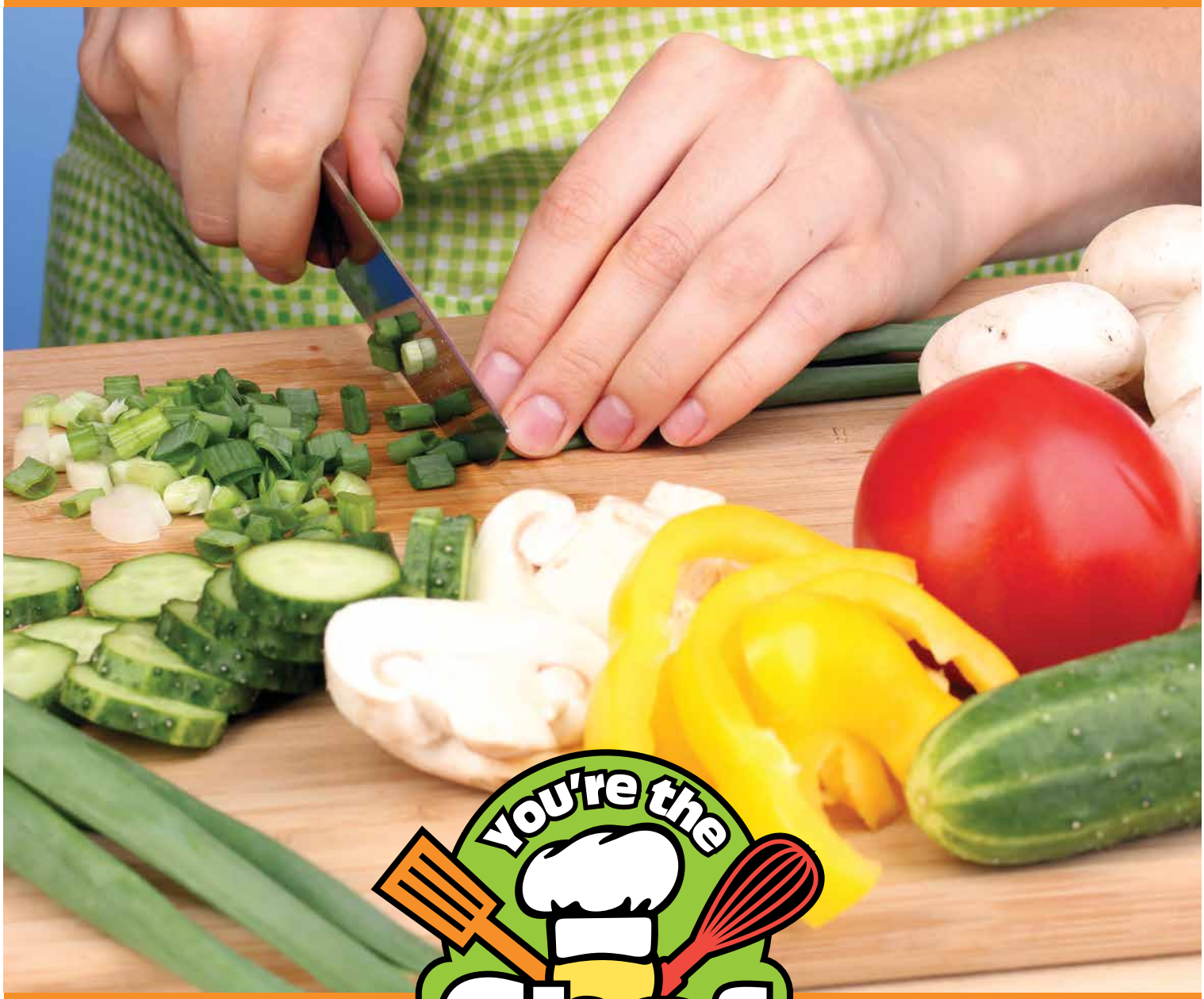
FOOD SAFETY



You're the Chef

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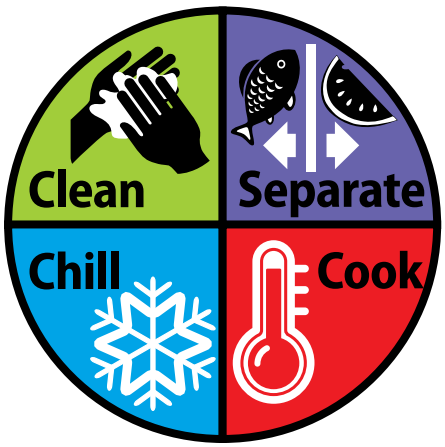
Foodborne illness

Foodborne illness is caused by eating contaminated food. Food can become contaminated by microorganisms (such as bacteria, viruses, parasites and moulds; some of these produce toxins), as well as chemicals or physical objects. These microorganisms (also called germs) can only be seen under a microscope. Allergens found in food (e.g. peanuts) can also make some people very sick.

Common symptoms of foodborne illness include nausea, vomiting, abdominal cramps, diarrhea, fever/chills, and headache/muscle aches. You can begin feeling sick within hours to weeks after the food has been eaten.

To reduce the risk of foodborne illness, follow these four steps to safely handle and prepare your food:

1. Clean
2. Separate
3. Cook
4. Chill



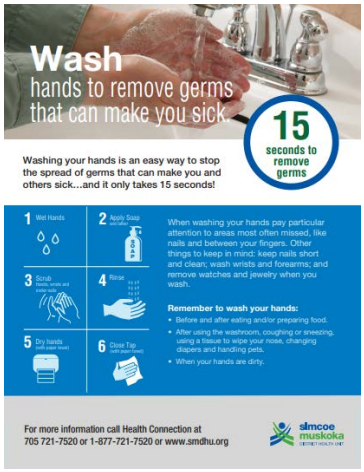
Step 1: Clean

Personal hygiene:

Hands

Keeping hands clean while cooking is very important. Everyone must wash their hands before starting food preparation and during preparation as needed (such as after coughing or touching money or using the washroom) to prevent the cross-contamination of surfaces. Wash hands after switching from one task to another.

Demonstrate the steps of handwashing using the SMDHU Handwashing Tip Sheet and demonstration activity.



Hair

Long hair should be properly tied back to avoid getting hair into the food. A hair net can also be worn.

Kitchen equipment/dishes and surfaces

Make sure all equipment, cooking surfaces and counters are cleaned and sanitized before cooking.

If bleach is allowed in your organization, make a sanitizing solution in a spray bottle by mixing 1 litre (4 cups) of water with 2 ml (½ tsp) of bleach. Spray the bleach solution on countertops, cooking surfaces and cutting boards and allow to air dry for at least 45 seconds. This will allow the bleach solution to remain in contact with the surfaces long enough to sanitize them. If bleach is not allowed, use the food-safe sanitizer used in the school or agency. This may be a solution such as a quaternary ammonium compound (quats) which can be purchased from local restaurant supply companies.

Utensils can transfer germs, so they need to be properly washed and sanitized after each use. To clean and sanitize kitchen equipment (e.g. cutting boards, tongs, knives, spoons) follow these steps:

- Wash with hot, soapy water, and then rinse with clean water
- Mix the sanitizing solution (according to the instructions on the label) and soak equipment for at least 45 seconds
- Let air dry.

Food contact surfaces

Food contact surfaces (e.g. cutting boards, work counters) can also transfer germs. They must be cleaned and sanitized after each use.

To clean surfaces, follow these steps:

- Mix the sanitizing solution (according to the instructions on the label)
- Pour the solution into a spray bottle and label it 'sanitizing solution'
- Spray the solution on the surfaces, wait at least 45 seconds or what is provided in the instructions
- Let air dry
- Make a fresh solution daily.

Disposable wipes are not the same as a sanitizing solution. You must use a sanitizing solution that is approved for use with foods instead of using disposable wipes. The sanitizer should include 100 ppm chlorine, 200 ppm quats.

Food

- Wash fresh produce under running water to remove dirt and residue
- Scrub vegetables and fruits that have firm surfaces such as oranges, melons, potatoes and carrots with a produce brush.

Step 2: Separate

It is important to separate food to prevent cross-contamination. Cross-contamination is the transfer of pathogens (germs) from any food, surface or person to a ready-to-eat food. There are three ways for cross-contamination to occur:

People to food: This may include unwashed hands touching ready-to-eat food or coughing or sneezing on food.

Equipment to food: A cutting board used to chop raw chicken can spread germs to vegetables which are being chopped on it. It is important to take apart equipment (e.g. blender) to clean and sanitize equipment between uses.

Food to food: Juices from raw chicken stored on an upper shelf in the fridge can drip onto food stored below (e.g. vegetables or fruit). Raw foods should not be stored above ready-to-eat foods.

To prevent cross-contamination

- Wash hands thoroughly using the six step method
- Use separate cutting boards for different foods: one for raw meats, one for fish, one for poultry and one for produce. Cutting boards and knives can be colour-coded for these different foods.
- Wash, rinse and sanitize cutting boards, utensils and food probe thermometers before re-using them
- Do not place cooked foods on plates, cutting boards or surfaces used for raw food preparation
- Store raw foods below ready-to eat products in the fridge
- Properly cover all food in the fridge.

Step 3: Cook

Foods need to be cooked to a high enough temperature for a long enough time to prevent the growth of harmful bacteria. The way to be sure that a food has reached a high enough temperature during cooking is to use a probe thermometer.

Probe thermometers are inserted into a cooked food to check the internal temperature. You will need to follow the instructions for using the probe thermometer on the package. You cannot tell if a food is cooked thoroughly by looking at it, touching it or tasting it.

Final internal cooking temperatures

(Using a probe thermometer)
Temperatures must be maintained for a minimum of 15 seconds.

Whole poultry Individual pieces	82° C 74° C	180° F 165° F
Mixtures containing poultry, egg, meat or fish	74° C	165° F
Ground beef and veal Deboned and rolled roasts	71° C	160° F
All pork products	71° C	160° F
Lamb Ground, deboned and rolled roasts	71° C	160° F
All fish products	70° C	158° F
Egg dishes	74° C	165° F

After cooking, keep hot food at 60° C (140° F) or hotter until the food is served. Also:

- Use a probe thermometer to measure the internal temperature of cooked foods to ensure the food is cooked to a high enough temperature
- Make sure food is purchased from a safe and reliable source
- Stir the food as needed for even cooking. This will help to avoid cold spots in the food. Check the food's internal temperature in more than one spot.

It is important to keep hot foods hot. This will keep food out of the temperature danger zone which is between 4° C (40° F) and 60° C (140° F); this is where bacteria quickly grow.

Safely sampling and testing food

When cooking at home, some people put a finger in the food to test it, or use a spoon to taste and then put the used spoon in the food again. This is not an acceptable practice when cooking with others. All participants in YTC need to use clean utensils each time they taste-test a recipe.

Step 4: Chill

It is also important to keep cold foods cold to help slow the growth of germs in foods. Perishable food items include cooked or uncooked meat, poultry, fish, shellfish, dairy products, cooked vegetables and cooked grain products like rice or pasta. These items must be stored either in the refrigerator or freezer. The temperature inside your refrigerator must be 4° C (40° F) and the freezer temperature must be -18° C (0° F). Also:

- Store any hazardous foods (e.g. eggs, meats, poultry) in the main body of the refrigerator since this is a colder temperature than the fridge door.
- Put perishable food products into the fridge as soon as possible after purchase or preparation.
- Do not over-pack the fridge. Allow cool air to circulate around the food to keep it safe.
- After cooking, put hot foods into small, shallow containers before putting them into the fridge. This allows food to cool faster through the temperature danger zone.

Thawing

Freezing prevents the growth of micro-organisms in foods but does not destroy all of them. There are three ways to safely thaw foods:

1. Thaw food in the refrigerator.
2. Thaw food under cold running water.
3. Thaw food in the microwave then immediately cook it.

Do not thaw foods on the kitchen counter as the slow change in temperature will allow for bacteria to grow in high numbers.

Leftovers

You cannot tell if a food is unsafe by smelling or looking at it. When in doubt, throw it out. Bacteria in food grow very quickly in the danger zone (between 4° C and 60° C), so keep hot foods hot during cooking and serving, and keep cold foods cold. Leftovers should only be re-heated once and should be used up by the next day. Place leftovers into containers and put them in the refrigerator as soon as possible. Return cold foods like milk, eggs, cheese and yogurt to the refrigerator as soon as possible to keep them out of the danger zone.

The temperature danger zone is from 4° C – 60° C (40° F – 140° F).

Food prepared in an YTC program is intended for use by registered YTC participants only. It is not appropriate to donate or serve leftovers to other programs within the school, or to donate to a charitable organization.