

Controlling Time and Temperature



Concepts You Will Learn

- Food most likely to become unsafe
- How to measure the temperature of food
- Holding and storing TCS food
- How to label food for storage

Food Most Likely to Become Unsafe

Any type of food can be contaminated. But some types allow more pathogen growth. The best way to control pathogen growth in these items is to control time and temperature. So these food items are known as food that needs time and temperature control for safety, or TCS food for short. Here are the most common types of TCS food.



- Milk and dairy products



- Eggs



- Meat: beef, pork, and lamb



- Poultry



- Fish



- Shellfish and crustaceans



- Baked potatoes



- Heat-treated plant food, such as cooked rice, beans, and vegetables



- Tofu or other soy protein
- Synthetic ingredients, such as textured soy protein in meat alternatives



- Sliced melons
- Cut tomatoes



- Sprouts and sprout seeds



- Untreated garlic-and-oil mixtures

Apply Your Knowledge

What to Control

Circle each food item that needs time and temperature control to keep it safe.



For answers, please turn to page 48.

How to Measure the Temperature of Food

To control the temperature of food, you must first know how to check it. A thermometer is the most important tool for doing this. Follow the guidelines below to do it right.



1 Use the right thermometer for the job you are doing.

- Check with your manager about the right thermometer to use.



2 Make sure the thermometer is ready to be used.

- It must be washed, rinsed, and sanitized. Do this before using it.
- It must be adjusted so it will read temperatures correctly. This is called calibration.



3 Check temperatures the right way.

- Stick the thermometer into the thickest part of the food. This is usually the center.
- Wait until the thermometer reading stays steady before writing down a temperature.
- Take another reading in a different spot.



4 Clean and sanitize the thermometer.

- Wash, rinse, sanitize, and air-dry the thermometer after using it.
- Keep its storage case clean.

Apply Your Knowledge

Taking Its Temperature

① Write a ✓ next to where you should check the temperature of food.

- _____ A On the top surface
 _____ B On the bottom surface
 _____ C In the thickest part
 _____ D In the thinnest part

② Write a ✓ next to what you should do after using a thermometer.

- _____ A Wash it well and then let it dry.
 _____ B Wipe it off and put it back in its case.
 _____ C Let it air-dry.
 _____ D Wash, rinse, sanitize, and air-dry it.

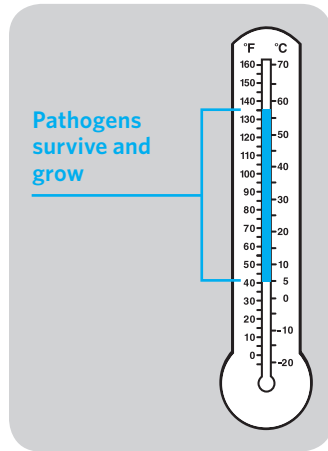
For answers, please turn to page 48.

Holding and Storing TCS Food

When you hold or store TCS food the wrong way, pathogens have a chance to grow. To keep food safe during these tasks, follow the guidelines below.

Temperature Danger Zone

To keep TCS food safe, you must keep it out of the temperature danger zone.



- Pathogens grow well in the temperature range from 41°F to 135°F (5°C to 57°C). This range is called the temperature danger zone.
- TCS food must be kept out of this range.

Holding TCS Food Safely

To keep TCS food safe during holding, follow these guidelines.



- Keep hot food at 135°F (57°C) or higher.
- Keep cold food at 41°F (5°C) or lower.
- Keep frozen food frozen.
- Check the food's temperature at least every four hours.
- If food is not being held at the right temperature, tell your manager.

Storing TCS Food Safely

TCS food must be stored the right way.



- Do **NOT** overload coolers or freezers.
- Return prepped food to coolers as quickly as possible.
- Plan ahead so you don't have to open cooler doors more than necessary.

Apply Your Knowledge

Holding and Storing Safely

- Write a ✓ next to the temperature that cooked hamburger patties being hot-held (waiting to be served) should be kept at before service.
 - _____ A 41°F (5°C) or lower
 - _____ B 94°F (34°C) or lower
 - _____ C 125°F (52°C) or higher
 - _____ D 135°F (57°C) or higher
- At 10:30 a.m., John removed four cases of hamburger patties from the cooler for the lunch rush. After lunch, he noticed that the uncooked patties were at room temperature. Write a ✓ next to what he should do.
 - _____ A Nothing, the patties are okay to cook.
 - _____ B Return them to the cooler immediately.
 - _____ C Cook them immediately.
 - _____ D Ask his manager.
- When Greta went into the freezer to get more fish sticks, she found that they were thawed. Write a ✓ next to what she should do.
 - _____ A Take the fish sticks and cook them.
 - _____ B Leave the fish sticks there to freeze.
 - _____ C Throw away all the thawed fish sticks.
 - _____ D Ask her manager.

For answers, please turn to page 48.

How to Label Food for Storage

Food can be stored only for so long to keep it safe. To control storage time, you must be able to tell when food was stored and by what date it must be used. This means always labeling food as it is stored.



All ready-to-eat food that is prepped in-house must have a label that includes the following information.

- Name of the food
- Use-by or expiration date—ask your manager what date to use



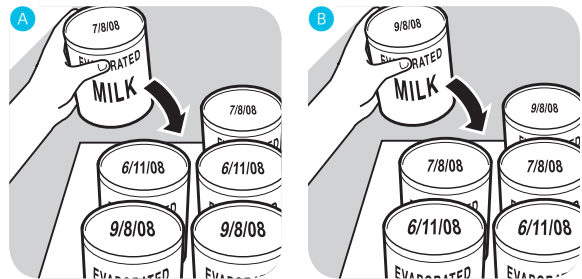
When storing food:

- 1 Check the expiration date.
- 2 Store food in first in, first out (FIFO) order. This means storing food that will expire first in front of items that will expire later.
- 3 Use the food in front first, because it will expire first.

Apply Your Knowledge

Using Stored Food Safely

- ① Circle the storage shelf that has the cans stored correctly.



- ② Write a ✓ next to the items that must be included on the label for a pan of meat sauce prepped in-house.

- _____ A Name of food; use-by date
- _____ B Name of food; ingredients used
- _____ C Name of food; purchase date
- _____ D Name of food; allergens it contains

For answers, please turn to page 48.