

CORRECT USE OF THERMOMETERS

OBJECTIVE: Participant will understand the use of different food thermometers.

A. The importance of a thermometer:

1. To assure that foods are cooked, served and stored at correct temperatures.
2. To help prevent food-borne illness related to ability to check temperatures with the thermometer.





B. Use thermometers correctly:





1. Reading is correct if thermometer is placed properly.
2. Follow manufacturer's guidelines.
3. Insert thermometer in thickest part of the food, away from gristle, fat and bone.
4. Manufacturer's guidelines will state how far to insert the thermometer, where the indentation (sensing device) is located and how long to leave in the product.

C. Various types of thermometers:

See following 3 pages.

Food Thermometers

Digital Thermometers			
Types	Speed	Placement	Usage Considerations
Thermocouple 	2-5 seconds	¼" or deeper in the food, as needed	<ul style="list-style-type: none"> • Gives fastest reading • Good for measuring temperatures of thick and thin foods • Not designed to remain in food while it's cooking • Check internal temperature of food near the end of cooking time • Can be calibrated • More costly; may be difficult for consumers to find in stores
Thermistor 	10 seconds	At least ½" deep in the food	<ul style="list-style-type: none"> • Gives fast reading • Can measure temperature in thin and thick foods • Not designed to remain in food while it's cooking • Check internal temperature of food near the end of cooking time • Some models can be calibrated; check manufacturer's instructions • Available in "kitchen" stores
Oven Cord Thermometer 	10 seconds	At least ½" deep in the food	<ul style="list-style-type: none"> • Can be used in most foods • Can also be used outside the oven • Designed to remain in the food while it is cooking in oven or in covered pot • Base unit sits on stovetop or counter • Cannot be calibrated
Thermometer Fork Combination 	2-10 seconds	At least ¼" in the thickest part of the food	<ul style="list-style-type: none"> • Can be used in most foods • Not designed to remain in food while it is cooking • Sensor in tine of fork must be fully inserted • Check internal temperature of food near the end of cooking time • Cannot be calibrated • Convenient for grilling

Types	Speed	Placement	Usage Considerations
<p>Oven-Safe, Bimetal</p> 	1-2 minutes	2 - 2 ½" deep in the thickest part of the food	<ul style="list-style-type: none"> • Can be used in roasts, casseroles, and soups • Not appropriate for thin foods • Can remain in food while it's cooking • Heat conduction of metal stem can cause false high reading • Some models can be calibrated; check manufacturer's instructions
<p>Instant-Read, Bimetal</p> 	15-20 seconds	2 - 2 ½" deep in the thickest part of the food	<ul style="list-style-type: none"> • Can be used in roasts, casseroles, and soups • Temperature is averaged along probe, from tip to 2-3" up the stem • Cannot measure thin foods unless inserted sideways • Not designed to remain in food while it is cooking • Use to check the internal temperature of a food at the end of cooking time • Some models can be calibrated; check manufacturer's instructions • Readily available in stores.
<p>Single-Use Temperature Indicators</p> 	5-10 seconds	Approx. ½" deep (follow manufacturer's directions)	<ul style="list-style-type: none"> • Designed to be used only once • Designed for specific temperature ranges • Should only be used with food for which they are intended • Temperature-sensitive material changes color when the desired temperature is reached
<p>Liquid-Filled (glass or metal stem)</p> 	1-2 minutes	At least 2" deep in the thickest part of the food	<ul style="list-style-type: none"> • Used in roasts, casseroles, and soups • Can remain in food while it's cooking • Cannot measure thin foods • Some can be calibrated; check manufacturer's instructions • Possible breakage of glass stem while in food • Heat conduction of metal stem can cause false high reading

D. Recommended internal temperatures:

1. Meat should be cooked according to the minimum cooking food temperatures outlined by the current FDA Food Code. To ensure that meats are completely cooked, following are suggested guidelines for internal temperatures:

Ground Meats	Including beef, pork, and other meats or fish	155°F for 15 seconds
Poultry	Including chicken, turkey or duck (whole, pieces or ground)	165°F for 15 seconds
Beef, Lamb, Pork, Veal	Chops, Cutlets, Ribs, Steaks	145°F for 15 seconds
	Roasts	145°F for 4 minutes
Fish		145°F for 15 seconds
Injected Meats	Including brined ham and flavor injected roasts	155°F for 15 seconds
Other	Including stuffed fish, meat, pasta, or poultry	165°F for 15 seconds

E. Where to place the food thermometer:

1. Meat: place thermometer midway in the roast, avoiding the bone. When cooking hamburgers, steaks or chops, and if using a dial bimetal thermometer, insert in the side of the food so that the entire sensing area (usually 2-3 inches) is positioned through the center of the food.
2. Poultry: place thermometer into the thickest part of the thigh, avoiding the bone.
3. Thin foods (i.e., hamburger patty, pork chop, or chicken breast): use a Thermistor or thermocouple food thermometer if possible. If a bimetallic-coil food thermometer is used, the probe must be inserted in the side of the food so that the entire sensing area (usually 2-3 inches) is positioned through the center of the food.
4. Combination dishes: place the thermometer into the thickest portion of the food or the center of the dish. Check egg dishes, dishes containing ground meat and poultry in several places.

F. Care of thermometers:

1. Wash with hot soapy water.
2. Do not immerse in water, but wash by hand.
3. Sanitize by using alcohol swabs or use three-compartment sink to wash, rinse and sanitize. Do not immerse in water.

G. Note "How to Calibrate a Thermometer" in the Crandall *Inservices and Policies and Procedures Manuals*.