



Introduction to Electronics & Home appliances

Understanding the basic equipment in the foods lab and your kitchen.

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Common Kitchen Appliances

- Range
- Microwave
- Blender
- Standmixer
- Hand Mixer
- Food Processor
- Electric & Stovetop Wok
- Electric Rice Cooker



Ranges (a.k.a. stoves)- Cooking Features

- Bake Systems
 - Conventional cooking
 - Convection cooking
- Heat Source
 - Gas burners
 - Electric heating elements

What is the right choice for you?

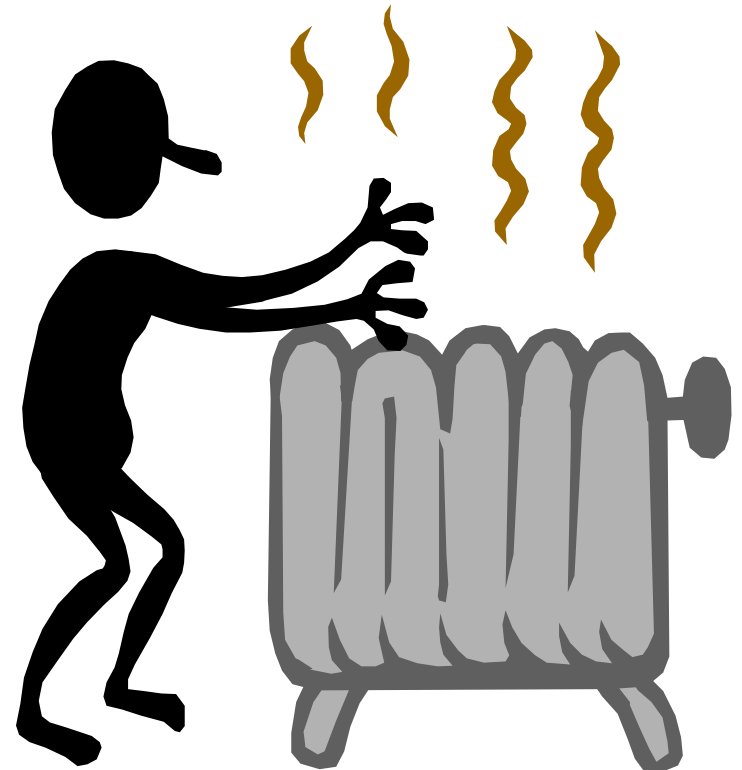


Bake Systems – Conventional cooking

- Uses heated air to cook food
- Hot air rises in the oven leading to hotter area in parts of oven
- Also known as “standard” or “thermal” stoves

Weakness:

- Can be difficult for air to circulate and cook food evenly
- Over crowding does not allow heated air to cook food evenly



Bake Systems – Convection cooking

- Utilizes a fan that circulates the heated air.
- Quicker and more even distribution of heat
 - Food cooks faster
 - More food can be cooked at once
 - Quicker cooking allows food to retain more nutrients
- Available in both gas and electric ovens.



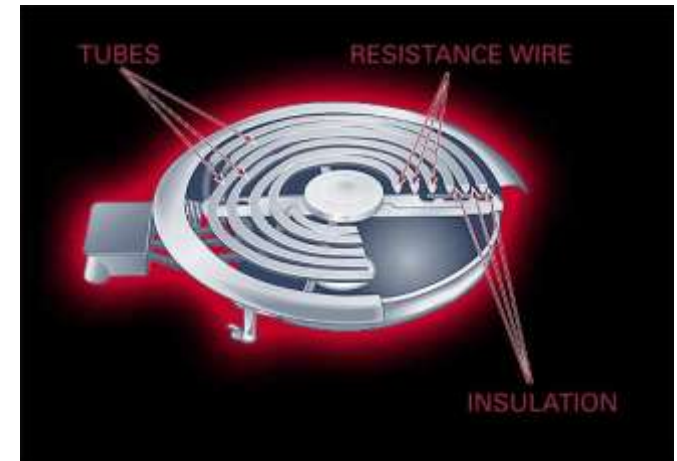
Gas Heat

- Affords extreme control of heat levels
 - Visible flame allows greater control
 - Heat extinguished instantly upon shut-off
- Available in sealed or conventional burners
- Pilot or electronic-ignition system



Electric Elements

- Coil – least expensive heating system.
 - Reliable & easy to replace
 - Slow to cool down
- Radiant elements – most common in smooth tops
 - Elements installed beneath glass-ceramic surface
 - Indicator lights – hot surface
 - Easy to clean up



“Ranges” - Types

- Freestanding Range
- Slide-In Range
- Drop-In Range
- Cooktops
- Wall (or Built-In) Ovens



Freestanding Range

- Includes a cooktop and oven
- Size: 20-40 inches wide (30 inches most common)
- Comes in gas and electric power sources
- Least expensive and most popular styles.



Slide-In Range

- Includes a cooktop and oven
- Generally has a storage drawer at bottom
- Provides a more custom look.
- Designed to fit 30 inch openings between cabinets.
- Eliminates the back console.
- Meets the countertop



Drop-In Range

- Includes cooktop and oven
- Rests atop cabinetry, so no storage drawer.
- Otherwise similar to the slide-in range.



Cooktop

- Convenient for any kitchen design
 - Can be installed in island or countertop
- Available in all heat sources.
- Size: 20 to 42 inches
- From 2 to 6 burners or cooking elements
- Cooking modules available
 - Allows you to interchange burners or accessories.



Wall (or Built-In) Ovens

- Uses gas or electric heat
- Include one or more ovens in a single appliance
- Does not include a cooktop
- Can include combination of thermal and convection heat
- Can be installed in walls or kitchen cabinets



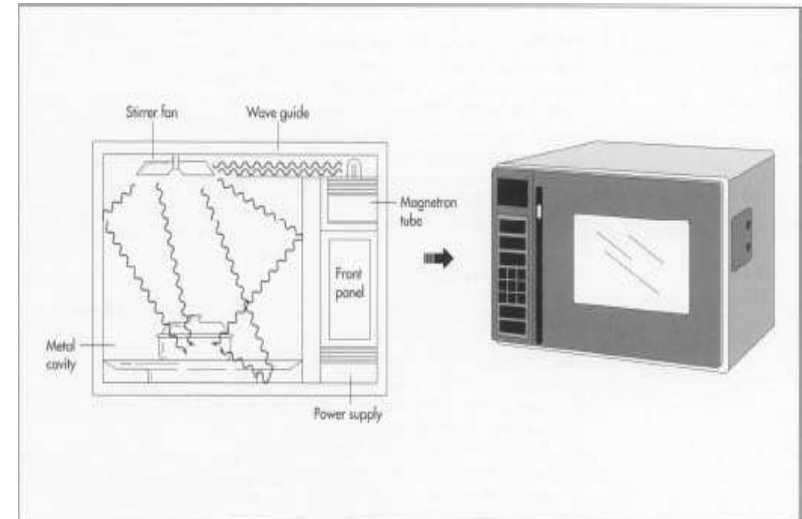
Using our RANGES

- Setting the Oven Temperature
 1. Press Bake
 2. Press arrow up/down to desired temperature
 3. Oven preheated when preheat light turns off
- Using the stove top
 1. Turn dial to desired temp (low/med/high)
 2. Use burner that fits pan size
 3. Turn burners **OFF** when done!
- Using the timer
 - Timer only keeps track of the time
 1. Press timer, arrow up until desired time shows.
 2. Press end time when done.
- Using the bake time
 - Bake time turns oven off at the end of the time, if food needs more time oven is OFF.
 - Do not use this function!



About MICROWAVE OVENS

- Very energy efficient.
 - it takes **18 times as much energy** to bake a potato in a regular oven as in a microwave.
- Cook food faster
 - heat the food, not the oven or the containers.
- Heat food through friction
 1. Microwaves bounce off food molecules.
 2. Food molecules vibrate from the impact.
 3. The rapid vibrations create friction, which produces heat.
 4. The heat cooks the food.



Using the MICROWAVE OVENS

- Press cook then time desired

Safety

- Always allow air to escape
 - Put a hole in plastic,
 - Set tops on loosely or ajar
- Never put metal in a microwave!



About FOOD PROCESSORS

- A versatile kitchen appliance that can quickly and easily
 - chop,
 - slice,
 - shred,
 - grind, and
 - puree almost any food.



Using FOOD PROCESSORS

- Place workbowl on motor base, lock securely
- Place blade or other tool in bowl
- Place workbowl lid on top, and lock securely
 - Will not turn on if not securely locked
- Plug in and turn on
 - Add ingredients before or after turned on based on task
- Turn off and unplug before cleaning.

Go to this website & watch video

http://www.cooking.com/products/shp_rodde.asp?SKU=167054



About BLENDERS

- Electric mixing appliance with whirling blades
 - Chops
 - Mixes
 - Liquefies food
- Ideal for mixing liquids
 - Chopping ice
 - Making smoothies/shakes
 - Purees foods



Using BLENDERS

- Place food items in glass jar
- Place lid securely on top
- Place glass jar on motor base
- Plug in
- Turn on (with toggle switch or buttons)



About STAND MIXERS

A heavy-duty appliance used to whip, mix, beat, or knead ingredients

- Whip egg whites for a chocolate soufflé,
- mix butter and sugar for shortbread cookies,
- beat together the ingredients for banana bread, or
- knead dough for a garlic-and-rosemary focaccia.



Using a STAND MIXERS

***Go to this website &
watch the stand
mixer demo video***

**[http://www.cuisinartstand
dmixer.com/video/](http://www.cuisinartstandmixer.com/video/)**



HAND MIXERS

- A smaller appliance that will mix, whip, beat, and blend like a stand mixer,
- Less power, but can usually handle a stiff batter like oatmeal-raisin cookie dough without slowing up or stalling.
- Allow you to bring the power to the place where you need it.
- Smaller, so saves counter space.
- Less expensive, so if you only bake occasionally, a hand mixer makes more sense than a stand mixer.



ELECTRIC RICE COOKERS

- A rice cooker's cycle should produce finished rice in about the same time it takes to prepare on the stove.
- Cooked rice is sticky, so a nonstick interior pan is best.
- Measurement markings on the pan should indicate how much water to add

Go to the web & watch this video (optional)

- <http://video.yahoo.com/video/play?vid=5834>



ELECTRIC WOK

- They have non-stick coating for easy cleaning
- Electric temperature control for a range of cooking temperatures

Safety:

- Unplug from wall before unplugging from wok
- Do not submerge electrical parts in water, wash areas with wet cloth.

