



Culinary Institute  
of America

# Dry-Heat Cooking without Fats & Oils, Soups



# Learning Objectives

- Define and execute grilling, broiling, roasting, and baking techniques.
- Identify appropriate tools/equipment and ingredients that may be used for each method.
- Describe pre-preparation techniques.
- List and apply various methods of checking doneness.
- Explain the purpose of allowing cooked meat and poultry items to rest.
- Identify various sauces that may accompany these items.
- Discuss the major categories of soups and state key characteristics of each.

# Grilling & Broiling

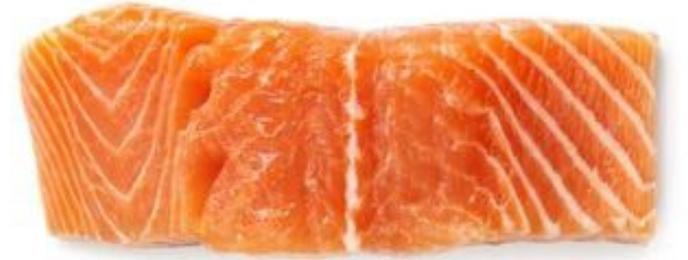
- Uses direct radiant heat for a lightly charred exterior, moist interior, slightly smoky flavor

## **Ideal items:**

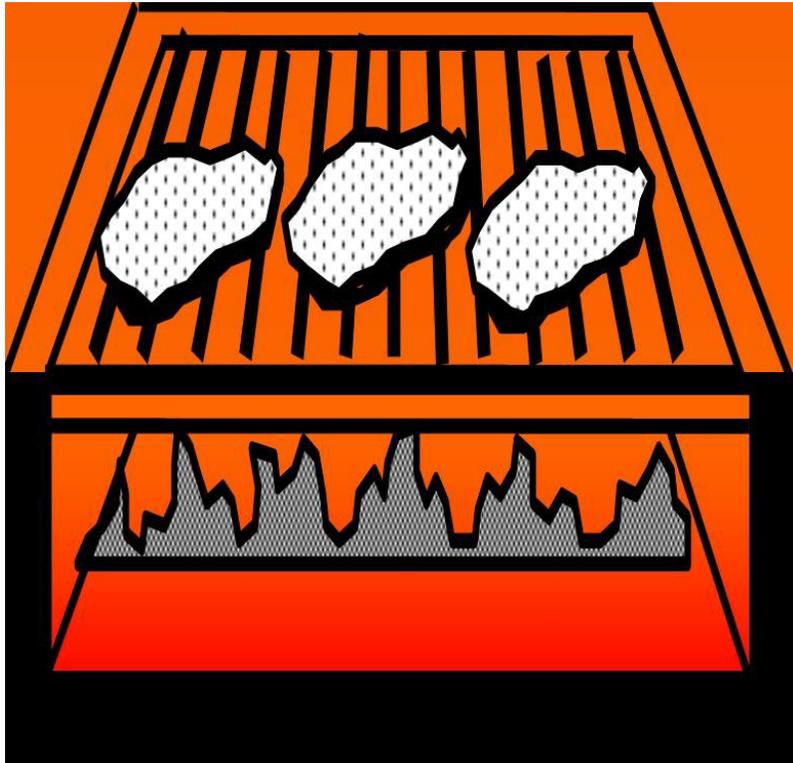
- Tender cuts with intramuscular fat content
- Evenly portioned and uniformly thick cuts
- Meats, vegetables (high moisture content), seafood

## **Sauces/seasoning additions:**

- Made separately
- Applied before, during, or after cooking

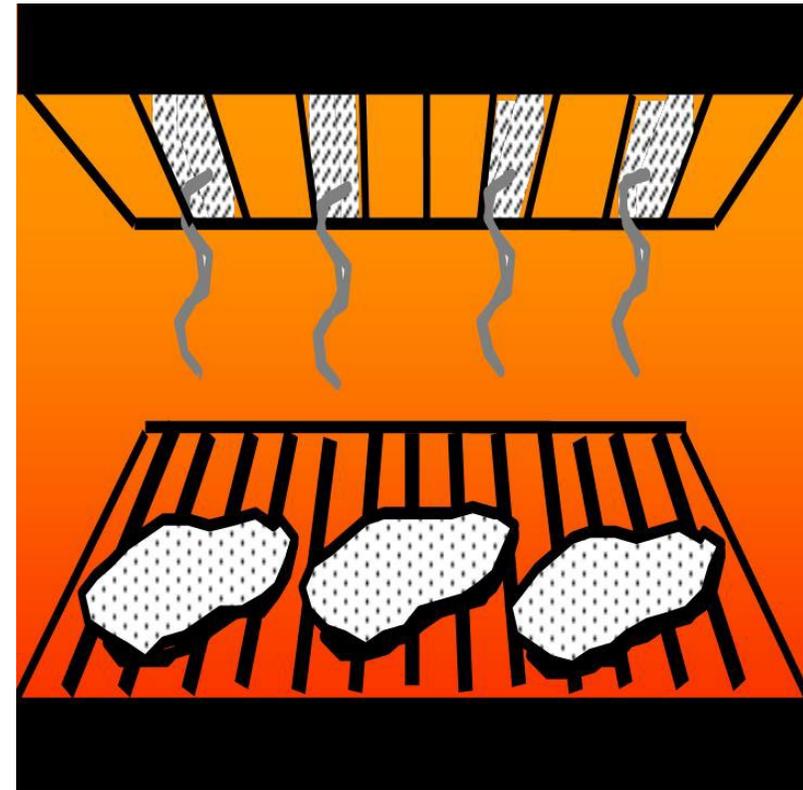


# What's the Difference?



**Grilling:**  
heat source *below* the food

**Broiling:**  
heat source *above* the food



# Grilling/Broiling Techniques & Tips

- Preheat equipment fully
- Lightly oil grill and food to avoid sticking
- Limit flipping; sear on one side before turning
- Let proteins rest after cooking to retain juices



# Flavor Additions

## Brines:

- Use before cooking
- Adds moisture to naturally dry meats
- Comprised of water (100%), salt (3-6%), sugar (3-6%), and aromatics

## Rubs:

- Use before cooking
- **Dry:** Mixture of salt, sugar, herbs, spices
- **Wet:** Dry rub mixed with a little oil, vinegar, wine, citrus juice, etc. to form a paste



# Flavor Additions

## Marinades:

- Use before cooking
- Liquid containing oils, acids, and aromatics
- Enhances flavor, moisture, color

## Glaze:

- Thick, sweet sauce brushed on during last few minutes
- Adds shine sweet-savory flavor

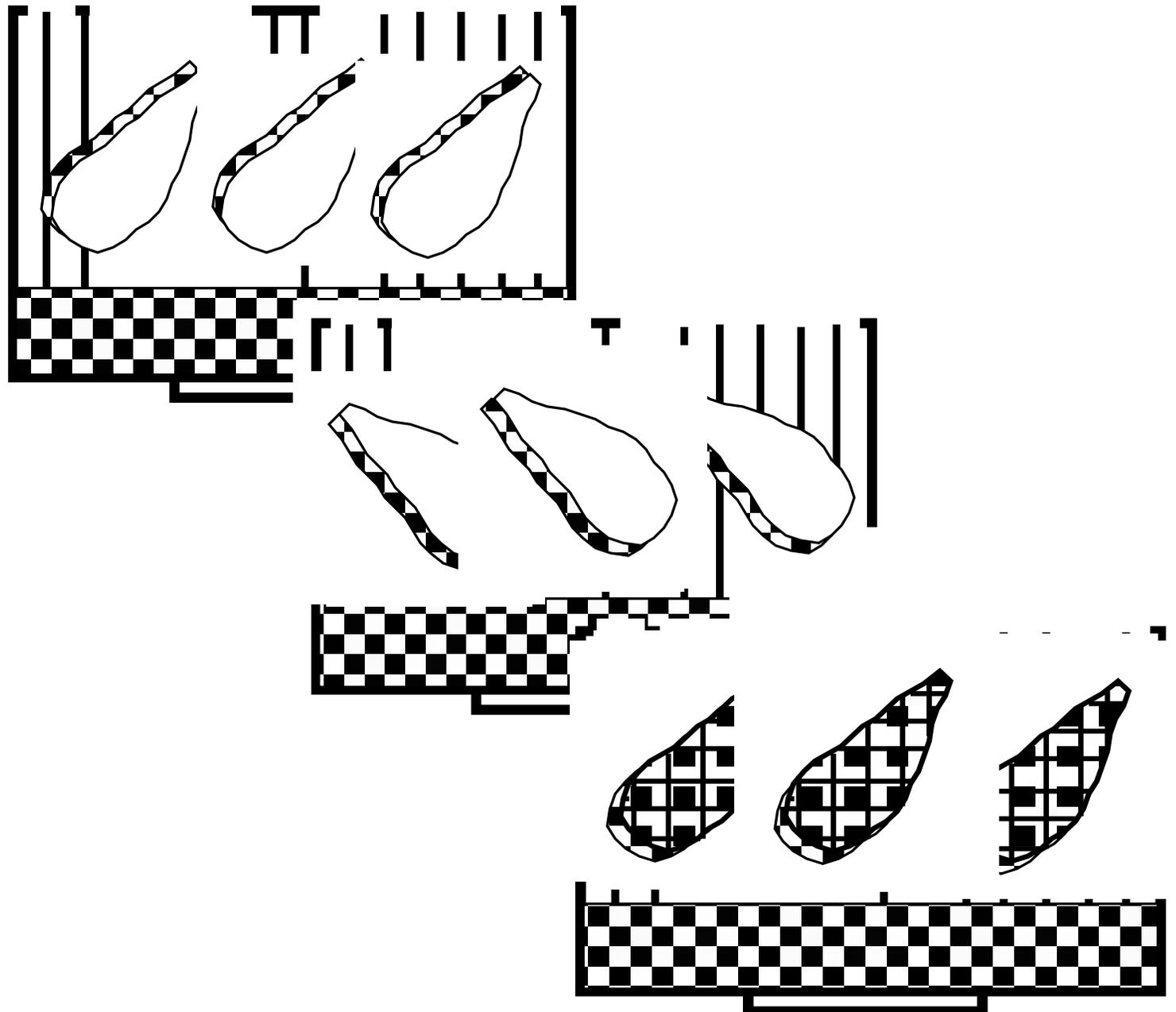
## Finishing sauce:

- Prepared sauce added after cooking
- Enhances flavor and presentation
- Examples: chimichurri, BBQ



# Marking an Item

1. Place the item on the grids of preheated broiler or grill
2. Cook until grill marks are well defined
3. Turn item at a 45° angle
4. Cook until grill marks are well defined
5. Turn the item over
6. Continue to cook to guest's specifications



# Roasting

- Uses dry, heated air, typically above 400°F
- Commonly used for solid foods that already have structure, such as large portion meats, vegetables, and firm fruits

## Texture:

- Moist, tender interior
- Crisp, browned exterior due to the **Maillard reaction**
  - Chemical reaction between amino acids and reducing sugars at high heat
  - Creates complex flavors, aromas, browning



# Roasting Techniques & Tips

- Roasting is typically done in an uncovered pan to encourage browning
- Searing before roasting enhances color and depth of flavor
- Fat (oil or butter) is often applied to the outside to promote browning
- Pan drippings can be used to make sauces or gravies



# Determining Doneness

## Internal Temperatures

- **Fish:** 145°F
- **Poultry:** 165°F
- **Duck:** 165°F
- **Pork:** 145°F
- **Veal:** 140°F
- **Beef:** 120°-140°F



# Determining Doneness

## Other Methods

- **Time:** estimated cooking duration based on recipe or product knowledge
- **Experience:** visual cues, sounds, and intuitive understanding from practice
- **Finger pressure:** Gently pressing to assess firmness or resistance (common for meats and baked goods)



# Baking

- Dry-heat cooking method that uses heated air, typically below 375°F
- Ideal for foods that begin soft or unset (like batters and doughs) and solidify during the baking process
- Heat causes leavening, moisture loss, and structure formation
- Fat is incorporated into the ingredients not added on the surface
- Can be done in covered or uncovered pans depending on texture goals



# Baking Techniques & Tips

- **Measure accurately:** precision matters
- **Use correct leavening:** baking soda, powder, or yeast
- **Mix properly:** avoid over- or undermixing
- **Preheat the oven:** for even results
- **Keep the door closed:** prevents heat loss
- **Choose the right pan:**
  - Metal: crisp edges
  - Glass/ceramic: even heat
- **Test doneness:** toothpick should come out clean
- **Cool on racks:** prevents soggy bottoms



# Sauces & Gravies

## Au jus

- Strained natural juices from roasting
- Not thickened: thin, flavorful
- Served with roasted meats



## Jus lié

- Lightly nappé au jus
- Uses a small amount of slurry
- Thin, glossy texture; more body than au jus



## Pan gravy

- Flour, stock, fat (often pan drippings)
- Often includes mirepoix, aromatics
- Thickened with roux for rich flavor, texture



# Thickeners for Sauces & Gravies

## Slurry:

- 1:1 ratio of cold liquid mixed with starch
- Whisked in very small additions at the end of cooking
- Produces a smooth, glossy finish

## Prepared roux:

- 2:3 ratio of fat to flour
- Cooked separately, then added to sauce or stock
- Used for consistent thickening and control



# Thickeners for Sauces & Gravies

## Pan roux (Gravy roux):

- Uses the **Singer method**:
  - Flour is sprinkled into fat that already contains cooked mirepoix and/or aromatics
  - The roux is made in the same cooking vessel and cooked amongst these other ingredients
- Forms base for classic gravies and pan sauces
- Builds flavor from caramelized bits at the bottom of the pan (*fond*)



# Determining Amounts for Thickening

## You must have the answers to the following questions:

- How much liquid am I thickening (yield of sauce/soup)?
- How much roux do I need to thicken that amount of liquid?
- How much flour do I need to make that amount of roux?



# Roux to Liquid Thickening Guide

## White & Pale (Blond)

Per gallon of liquid, combine with:

- **Light consistency:** 12-14 wt. oz.
- **Medium consistency:** 16 wt. oz.
- **Heavy Consistency:** 18 wt. oz.

## Brown

Per gallon of liquid, combine with:

- **Light consistency:** 16 wt. oz.
- **Medium consistency:** 18 wt. oz.
- **Heavy consistency:** 20 wt. oz.



# What is a Soup?

A soup can be any combination of vegetables, grains, meat, or fish simmered in a liquid

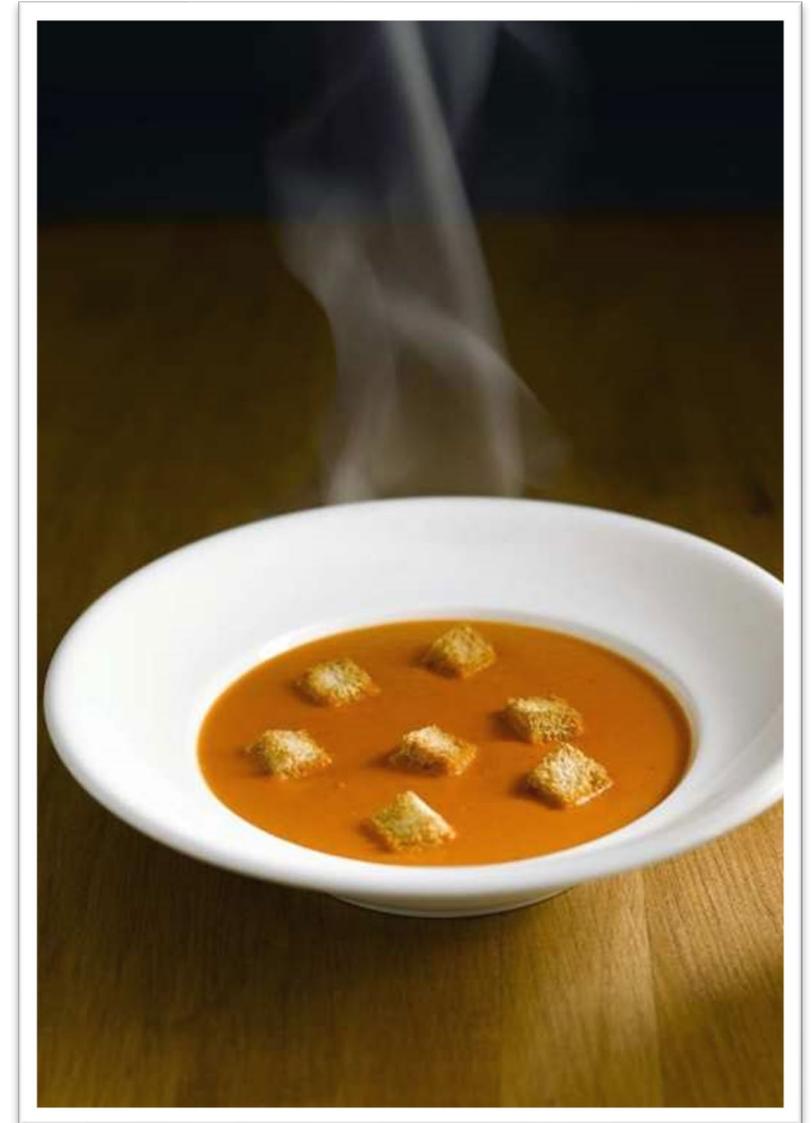
## **Varies in:**

- Texture: smooth, chunky, brothy, or creamy
- Flavor: light, rich, spicy, savory, or sweet
- Consistency: thin and delicate to thick and hearty

**Common uses:** Appetizer, main course, or palate cleanser

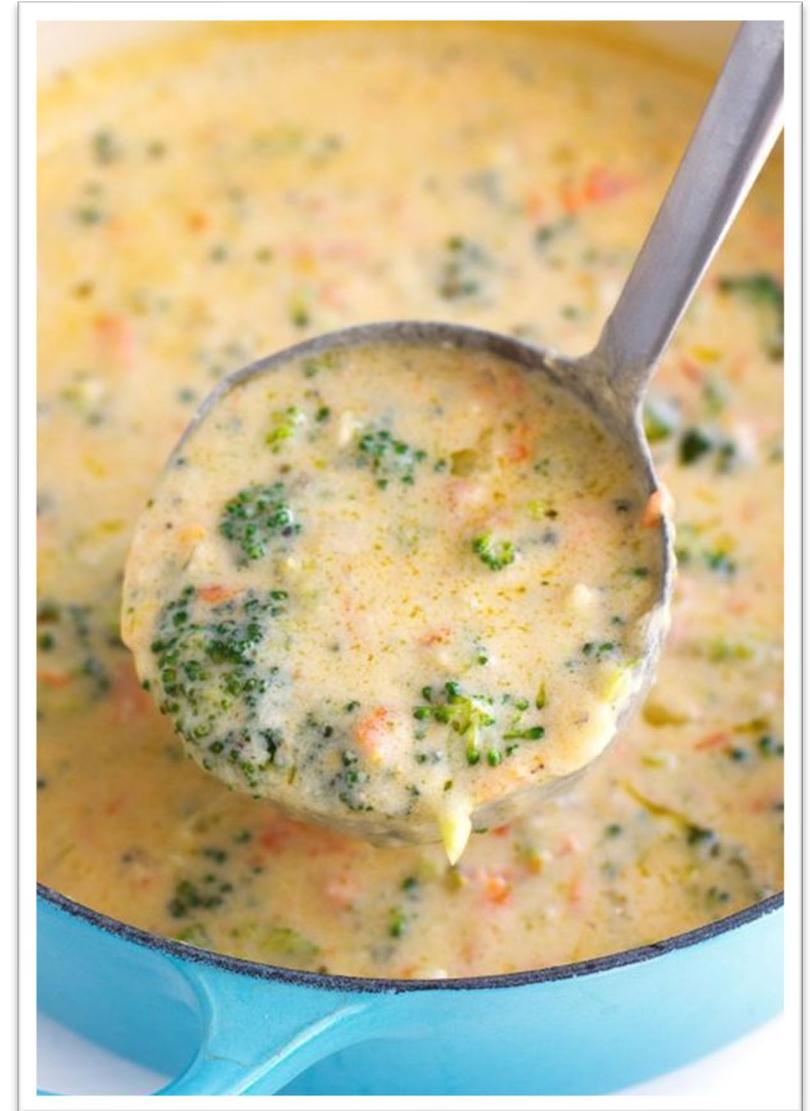
## **There are 4 main categories:**

- Thick, clear, specialty, cold



# Thick Soups

- Soups with a dense consistency, created by blending, puréeing, or adding thickeners
- Thickened using ingredients like roux, cream, puréed vegetables, or starches
- Have a rich, hearty texture and more body than clear soups
- Typically smooth but can also contain chunks of ingredients
- **Common types:** cream, purée, bisque, chowder



# Clear Soups

- Light, transparent soups made without thickeners
- **Base:** stock or broth
- Ingredients can be simmered for flavor and strained out
- After straining, garnish may be cooked in soup or cooked separately and added
  - Should be soft, bite-sized, evenly dispersed
- Many global variations
- **Flavor:** delicate, light body, flavorful
- **Texture:** thin, watery, light mouthfeel
- **Common types:** broth, consommé, clear vegetable



# Cold Soups

- Often prepared with fresh or lightly cooked ingredients
- Can be savory or sweet
- Designed to be refreshing and flavorful

## Key Characteristics

- Served cold (never reheated)
- Often blended, strained, or well-puréed
- Emphasize freshness and seasonal ingredients
- Texture may be smooth or lightly chunky
- Often enhanced using infusions and essences for layered flavor



# Specialty Soups

- Soups that are deeply rooted in global/regional tradition, cultural identity, or ceremonial use
- Often feature unique ingredients, preparation methods, or symbolic meaning



**Miso Soup**



**Tom Yum**



**Pozole**



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Any Questions?