



Culinary Institute
of America

Soups, Stocks, and Sauces

Day 1: Mise en Place, Knife
Skills, Stocks, Roux



Learning Objectives

- Demonstrate effective workstation set up and mise en place.
- Safely hold and handle a knife.
- Select a knife appropriate for its intended use.
- List, identify, and execute commonly used knife cuts.
- Discuss the major categories and key characteristics of stocks.
- Identify differences between brown and white stocks.
- Describe roux and its variations.
- Prepare and evaluate the quality of stocks.

Key Terms

- Aromatics
- Bouquet Garni
- Broth
- Brown Stock
- Deglaze
- Degraisser
- Depouillage
- Fumet
- Infusion
- Mirepoix Mise en Place
- Oignon Brûlé
- Onion Piqué
- Pincé
- Remouillage
- Roux
- Sachet d'épices
- Stock
- White Stock

Mise en Place

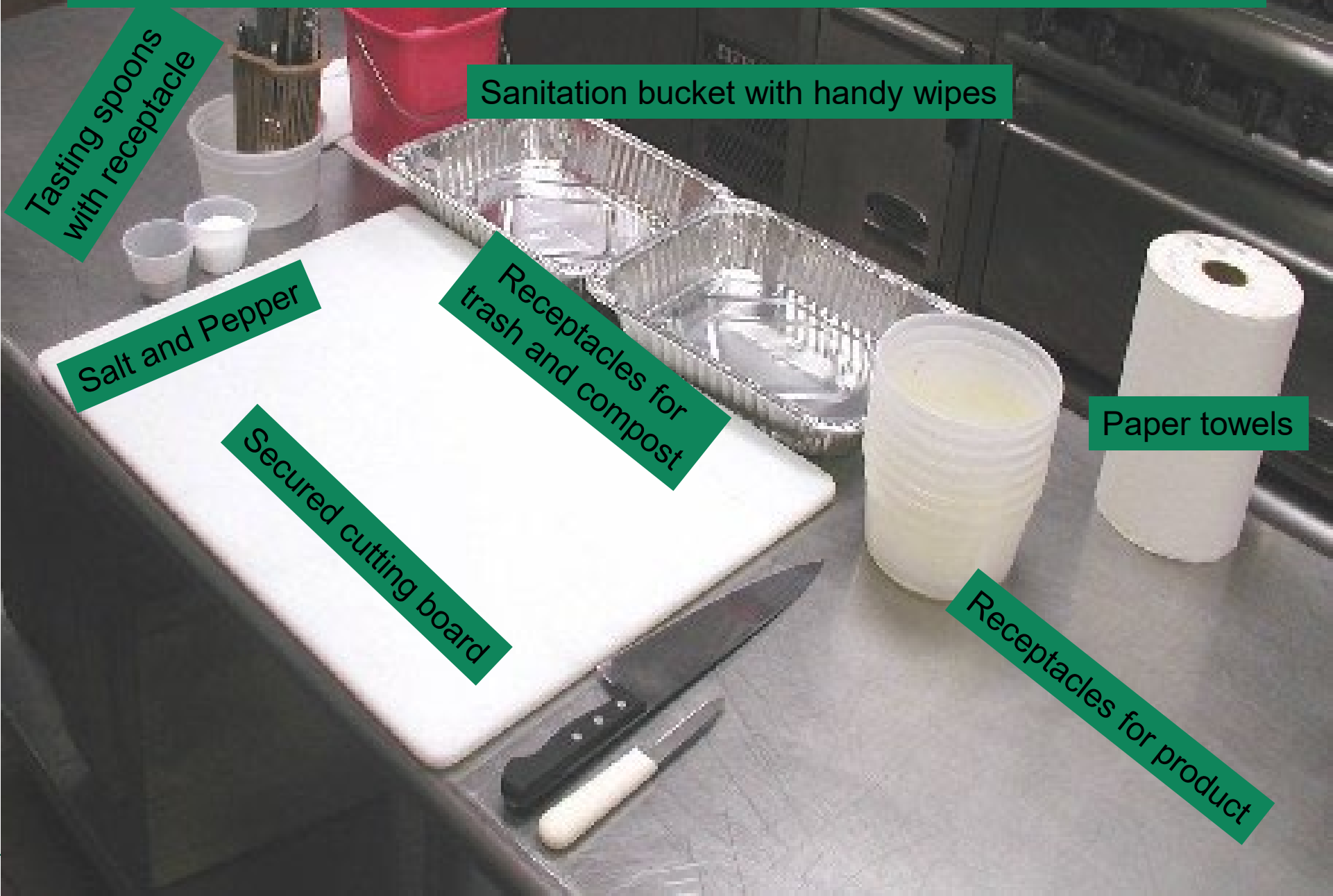
French term for “everything in its place”

What does this mean?

- A clean, organized workstation
- Recipe mise en place (MEP)
- Reading through the **entire** recipe
- Prep time vs. service
- Physically ready to cook
- Mentally prepared to cook – proper state of mind!



Mise En Place Starts at the Workstation



Mise en Place

Organization and Workflow

- Set table and cutting board at correct height
- Use bain-maries with hot water for tools
- Set cutting board on sheet pan for messy jobs
- Have a written daily plan - start with the **end** in mind
- Use standardized recipes
- Consolidate tasks (have one person cut all the onions, garlic, etc.)
- Use timers and thermometers (when necessary)
- Use the right equipment for the job!



Recipe Mise en Place

It is important to:

- Read entire recipe before starting
- Understand all terms - ask questions!
- Check yield, temperature, and cooking times
- Gather ingredients needed
- Complete necessary pre-steps
- Accurately measure/ weigh ingredients
- Follow steps in order
- Time cooking periods accurately
- Remember: recipes are only guidelines!

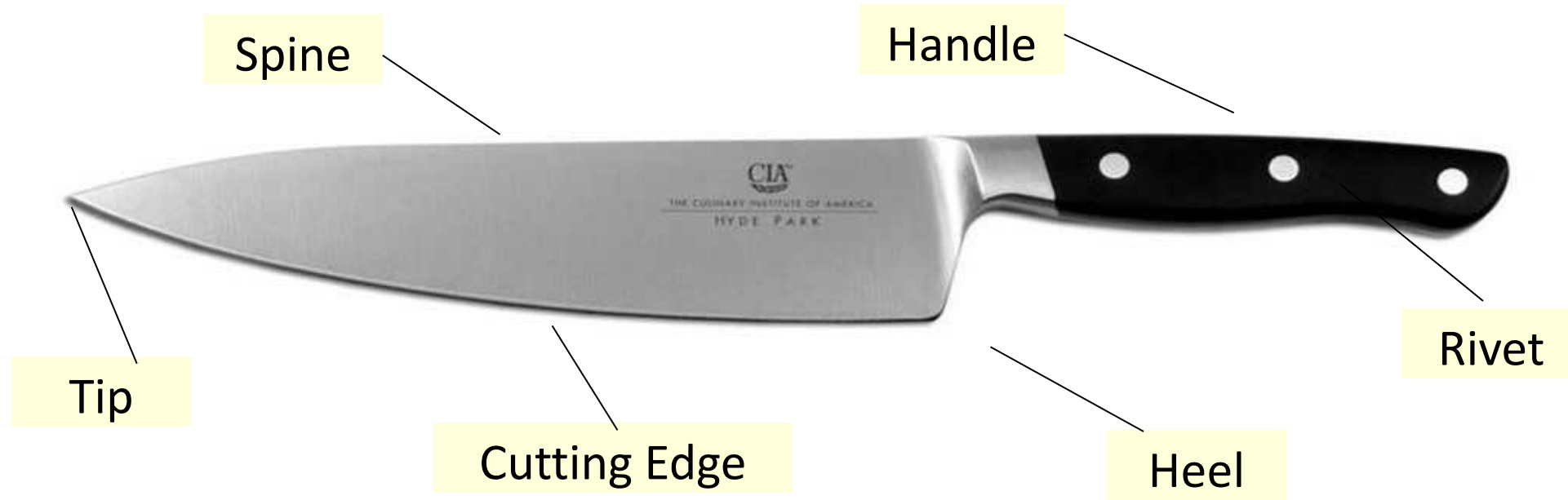


Knife Safety

- Always use a sharp knife!
- Hold the knife firmly in your hand and cut away from your body
- Always use a cutting board
- Always place knives on flat surfaces away from the edge of the table with the blade facing away from you
- Keep knives in clear sight – never covered
- Do not grab blindly for a knife
- Pass a knife using the handle, never the blade
- Carry knives with the point down



Anatomy of a Knife



Knife Selection

Use the RIGHT knife for the job!!

French Knife



chopping, slicing, dicing,
mashing

Paring Knife



peeling, trimming, and shaping
fruits and vegetables

Boning Knife



cutting meat away from bones

Knife Selection

Slicer



slicing cooked meats and poultry

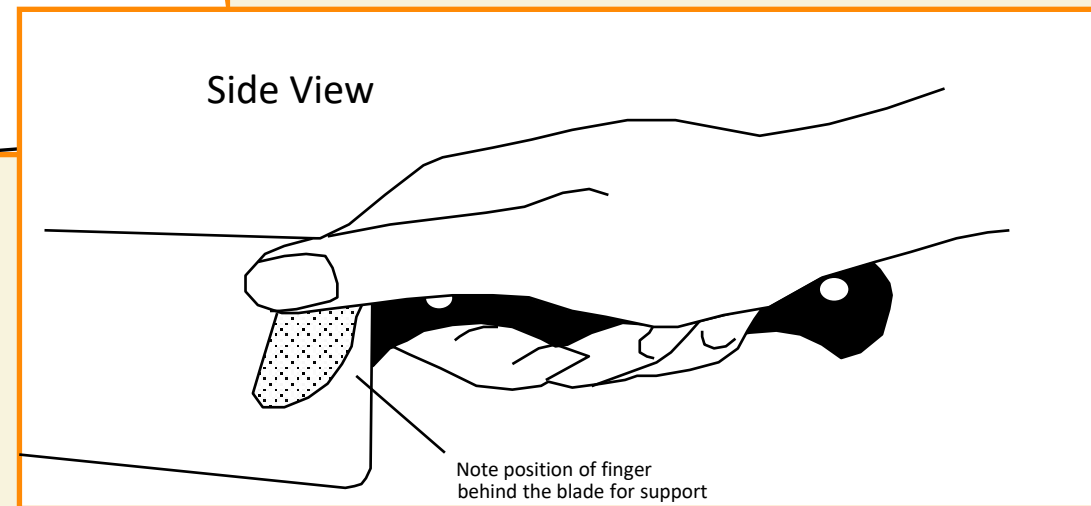
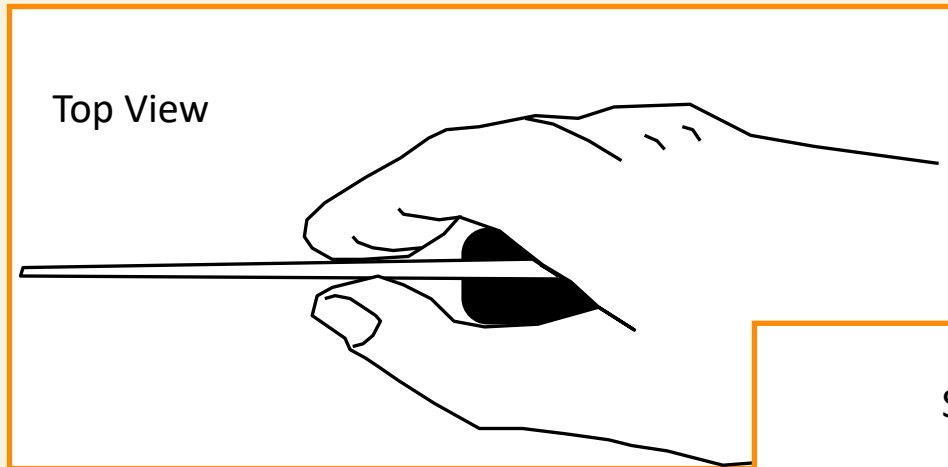
Serrated Knife



slicing through the crusts of bread

Holding a Knife

Grasp the knife by the handle, allowing your thumb and index finger to rest on the blade for support.



How To Julienne and Dice

1. Square off the ends and sides.
2. Slice into even slabs of the same thickness.
3. Stack the slabs and slice into even sticks.
4. Gather the sticks and cut into even cubes.



Julienne Sizes

Fine Julienne

$1/16 \times 1/16 \times 1 - 2$
in.



Julienne/Allumette

$1/8 \times 1/8 \times 1 - 2$ in.



Batonnet

$1/4 \times 1/4 \times 2 - 2\frac{1}{2}$ in.



Dice Sizes

Small Dice

$\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ in.



Medium Dice

$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ in.



Large Dice

$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ in.



Brunoise Sizes

Fine Brunoise

$\frac{1}{16} \times \frac{1}{16} \times \frac{1}{16}$ in.



Brunoise

$\frac{1}{8} \times \frac{1}{8} \times \frac{1}{8}$ in.



Other Classic Vegetable Cuts

Tourné

2-in. long with 7 faces



Oblique

Uniform pieces with
2 angled cuts



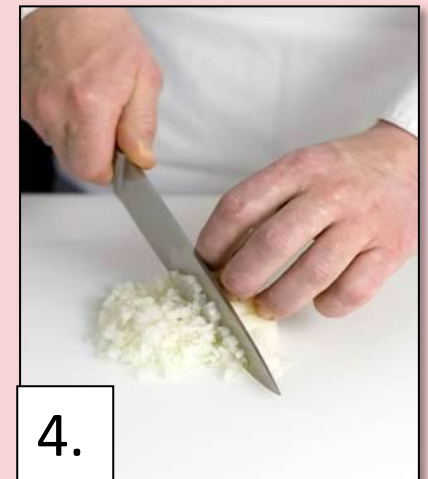
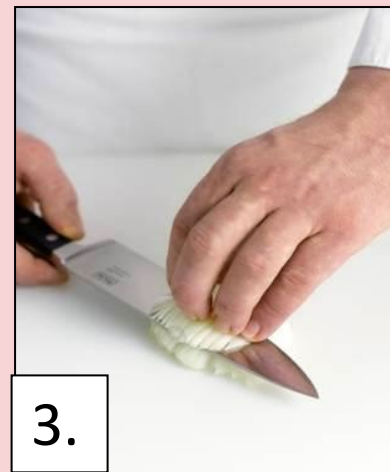
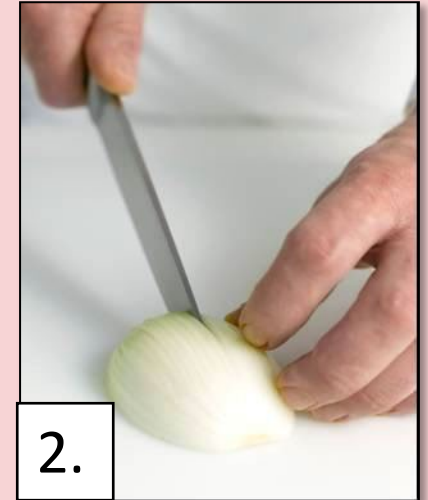
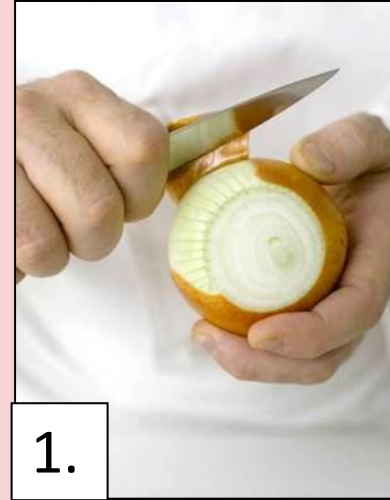
Rondelle

$\frac{1}{2}$ - $\frac{1}{8}$ -in. thick rounds



Dice/Mince Onions & Shallots

1. Cut off tip end, peel, and cut through root to tip.
2. Make several evenly spaced parallel cuts, without cutting the root.
3. Make two to three horizontal cuts, without cutting the root.
4. Make even crosswise cuts working from tip to root.



Chop/ Mince Herbs



1. Wash, dry, and remove leaves from stems; roll into a tight ball and chop roughly.
2. Move hand to front of knife and chop using a rocking motion.
3. Continue cutting to desired fineness.

Chiffonade Herbs

1. Remove the leaves.
2. Stack the leaves, placing smaller leaves on top of larger leaves.
3. Roll into a cylinder.
4. Make fine parallel cuts across the cylinder.



Basic Culinary Preparations

- Sachet d'épices
- Bouquet garni
- Mirepoix
- Oignon brûlé
- Onion piqué
- Remouillage
- Infusion



Stocks

A flavorful liquid produced by simmering meaty bones, poultry, seafood, and/ or vegetables with aromatics in water until their flavor is extracted.

-The Professional Chef



Stocks



“These culinary preparations define the basic fundamentals and the requisite ingredients without which nothing of importance can be attempted.”

-Auguste Escoffier






Stocks

Basic Ratio

8 pounds meaty bones

6 quarts water

1 pound mirepoix

Simmering Times	
	Beef: 8 hours
	Veal: 6 hours
	Poultry: 3-4 hours
	Vegetables: 30-60 minutes
	Fish: 30-40 minutes

Uses for Stocks

- Soups
- Sauces
- Braises/ Stews
- Roasts
- Vegetables/ Pastas/ Starches
- Many other culinary preparations

General Stock Components

- Water
- Bones
- Mirepoix
- Aromatics
- Tomato products
(Brown stock only)
- Mushrooms, white wine
(Fish stock or fish fumet)

A stock is only as good as the quality of ingredients used and the care it is given during production.

General Stock Method

Combine bones and water



Skim and simmer



Add mirepoix



Add sachet



Strain



Cool



White Stocks



- ✓ Meaty Bones
- ✓ Water
- ✓ Aromatics
- ✓ Mirepoix
- ✓ Long, Gentle Simmer

White Stocks

Used to Flavor:

- Light-colored Soups
- Light-colored Sauces
- Vegetable Cookery
- Pasta Cookery
- Stews/ Braises



White Stock: Ingredient Ratio

Bones:	8 lb.
Cold Water:	1 gal.
Mirepoix:	1 lb.
Sachet d'épices:	1 ea.



White Stock: Method

1. Blanch bones - start in cold water
2. Skim scum, drain water, and rinse bones
3. Refill pot with measured amount of cold water
4. Bring stock to a simmer
5. Simmer several hours depending on bone type. Skim as needed.
6. Add raw mirepoix and sachet during final hour of cooking
7. Strain, Degrease, Cool, Bag/Label, Store

Brown Stocks



- ✓ Roasted bones
- ✓ Water
- ✓ Aromatics
- ✓ Browned tomato
- ✓ Mirepoix
- ✓ Long, gentle simmer

Brown Stocks

Used to Flavor:

- Brown Sauces
- Brown Gravies
- Stews/ Braises
- Some Ethnic Soups



Brown Stock: Ingredient Ratio

Bones:	8 lb.
Cold Water:	1 gal.
Mirepoix:	1 lb.
Sachet d'épices:	1 ea.
Tomato paste	4–6 oz.



Brown Stock: Method

1. Roast bones until mahogany brown in color.
2. Transfer bones to stockpot.
3. Add measured cold water to bones.
4. Bring stock to a simmer.
5. Brown mirepoix and tomato product (*pincé*).
6. Deglaze mirepoix and reserve.
7. Simmer several hours depending on bone type. Skim as needed.
8. Add mirepoix and sachet during final hour of cooking.
9. Strain, degrease, cool, bag/ label, and store.

Brown vs. White Stock

Brown Stock

- Color from roasted bones and aromatics
- Stronger flavor
- Used for brown-colored sauces, soups, etc.

White Stock

- No roasting of bones or aromatics
- More delicate flavor
- Used for light-colored sauces, soups, etc.

Fish Stock/ Fumet: Ingredient Ratio

Fish Bones:	11 lb.
Cold Water:	1 gal.
White Mirepoix:	1 lb.
Sachet d'épices:	1 ea.



Fish Stock/ Fumet: Method

Fish Stock

(Swimming Method)

1. Combine bones with cold water
2. Add aromatics
3. Simmer gently for 40 minutes - skim as needed
4. Strain, degrease, cool, bag, label, and store.

Fish Fumet

(Sweating Method)

1. Heat oil in stockpot.
2. Sweat bones and mirepoix.
3. Add water and aromatics.
4. Simmer gently 40-60 minutes. Skim as needed.
5. Strain, degrease, cool, bag, label, and store.

Fish Stock vs. Fish Fumet

Fish Stock	Fish Fumet
Bones/ mirepoix not sweated	Bones/ mirepoix sweated in fat
Water added	Water added
Simmered briefly	Simmered briefly
No wine	Wine added
Less flavorful	More flavorful
More clear	Less clear

Vegetable Stock: Ingredient Ratio

Non-starchy Vegetables:	3 lb.
Cold Water:	1 gal.
Mirepoix:	3 lb.
Sachet d'épices:	1 ea.



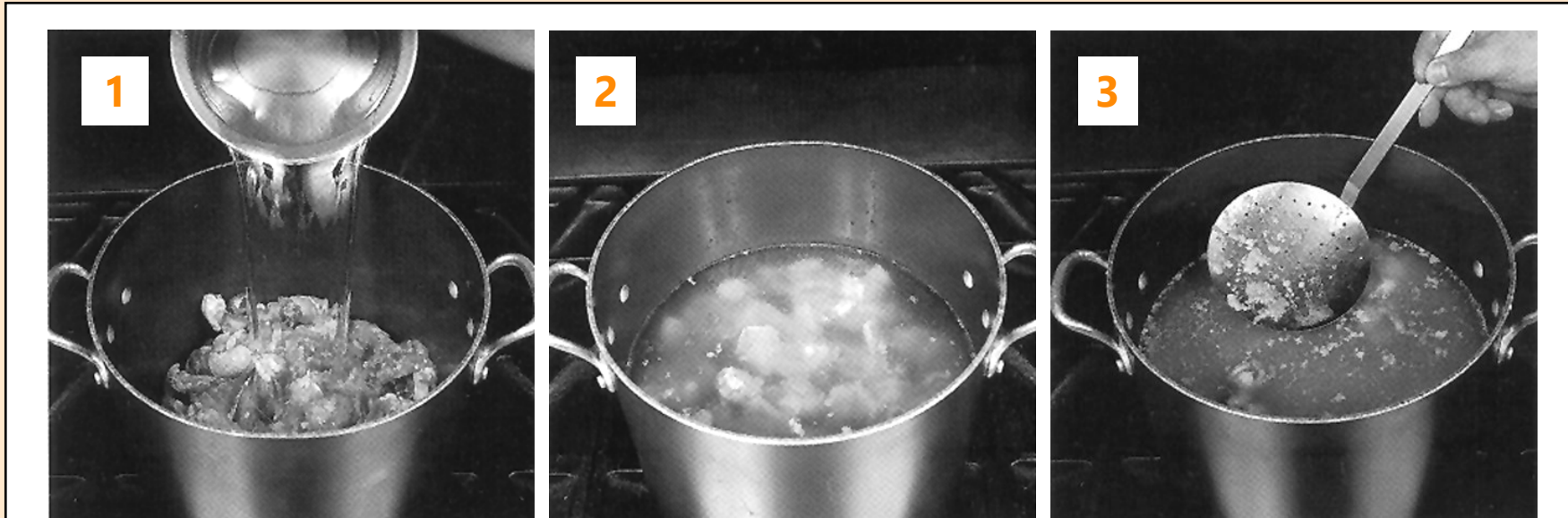
Vegetable Stock: Method

1. Heat oil in stockpot.
2. Sweat mirepoix and vegetables.
3. Add water.
4. Simmer gently 30-40 minutes. Skim as needed.
5. Strain, degrease, cool, bag/ label, and store.

Stock Components

	Water	Bones	Mirepoix	Aromatics	Tomato	Mushroom Trimmings	White Wine
Brown	✓	✓ browned	✓ caramelized	✓	✓ caramelized		
White	✓	✓ not browned	✓ not browned	✓			
Fish	✓	✓	✓ white only	✓		✓	✓

Stock Production



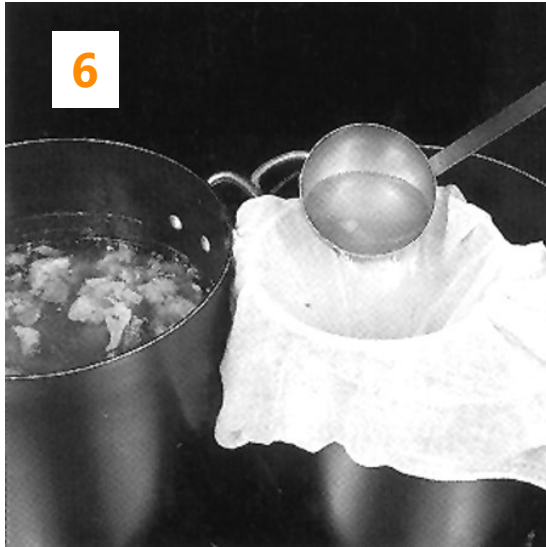
1. Prepare the bones. Add cold water.
2. The water should cover the bones. Bring slowly to a simmer.
3. Skim frequently.

Stock Production



4. Add prepared mirepoix.
5. Simmer until full flavor develops.

Stock Production



6. Strain.
7. Cool to 40°F.
8. Store covered, labeled, and dated.

Skimming and Degreasing

Depouillage / Depouiller

To skim accumulated scum from the surface of the stock during simmering

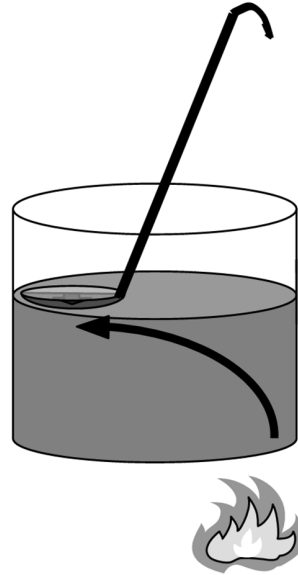
Convection Simmer

To place a simmering pot off center on the burner, causing liquid inside to roll to the other side, making skimming and degreasing easier

Degraisser

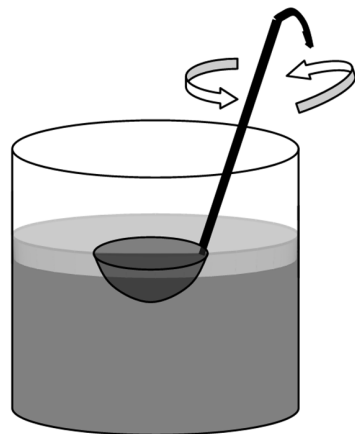
To degrease, removing accumulated fat from the surface of the stock

How to Skim and Degrease



Skimming

Impurities will rise to the surface and collect along the edge of the pot away from the heat. A skimmer is used to remove the impurities.



Degreasing

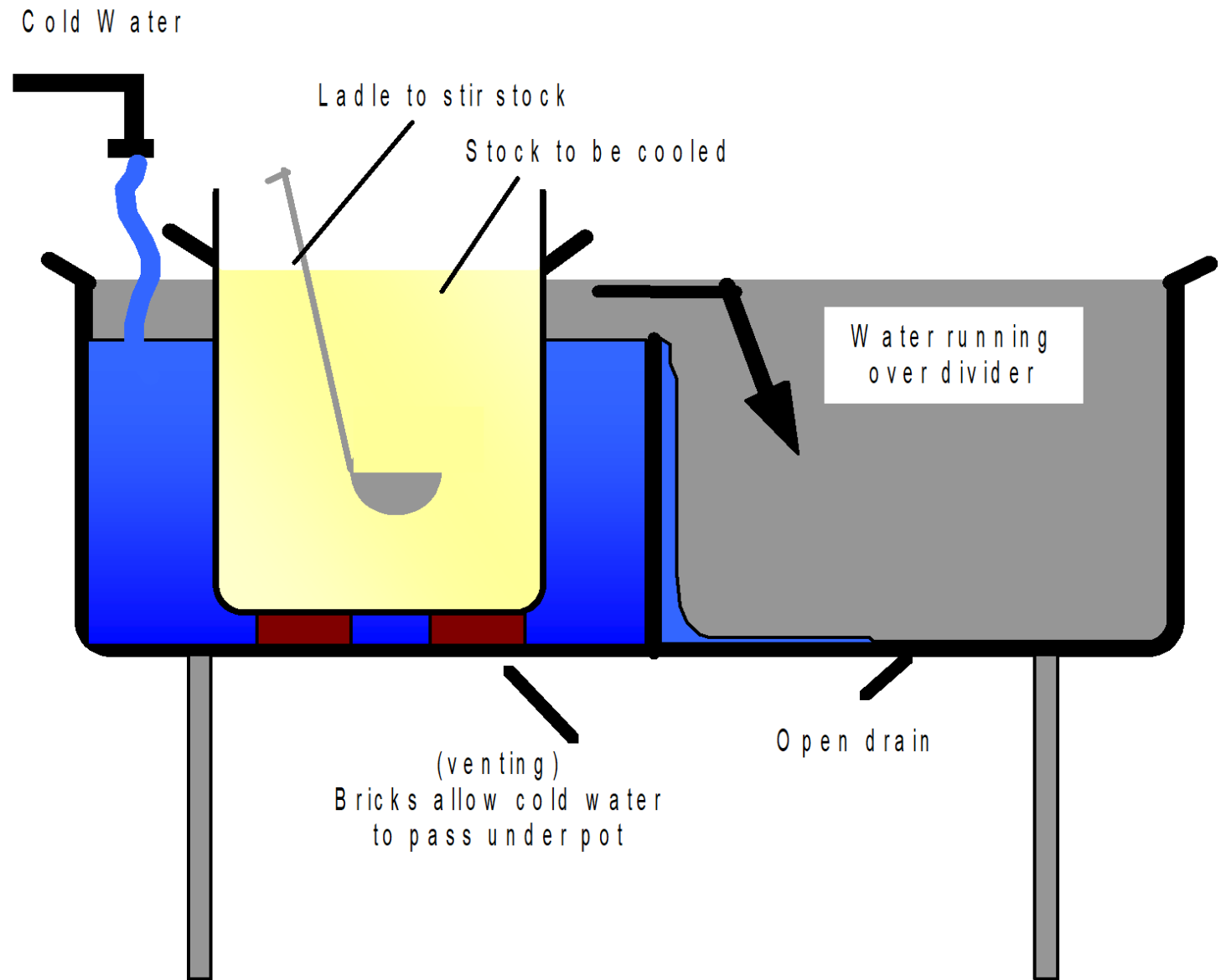
Using a ladle in a circular motion, start in center and move towards the outside of the pot. As the fat collects along the edge, it can be ladled from the top of the stock.

Stock Cooling

- Use clean equipment and vessels for cooling and storage.
- 4 hours total time:
 - 2 hours to bring liquid to $<70^{\circ}$ F
 - 2 hours to bring liquid to $<40^{\circ}$ F
- Discard any product not cooled according to these guidelines.

Cooling Stock

All stocks must be cooled to 45°F within 2 hours.



Broth

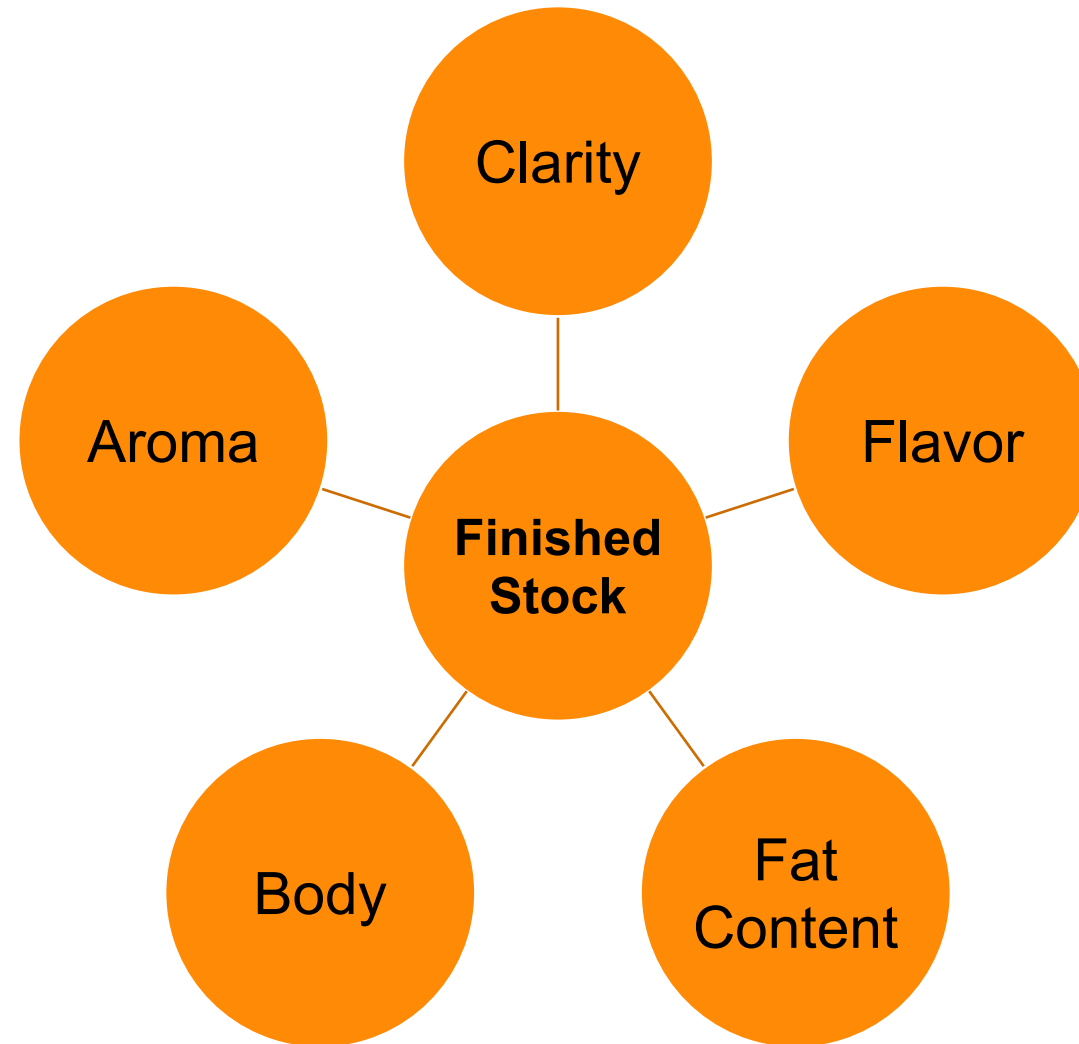
- Also known as bouillon
- Similar to stocks except:
 - Meatier bones
 - Often entire cut of meat
- Richer in flavor
- May be served “as is”



Broth: Method

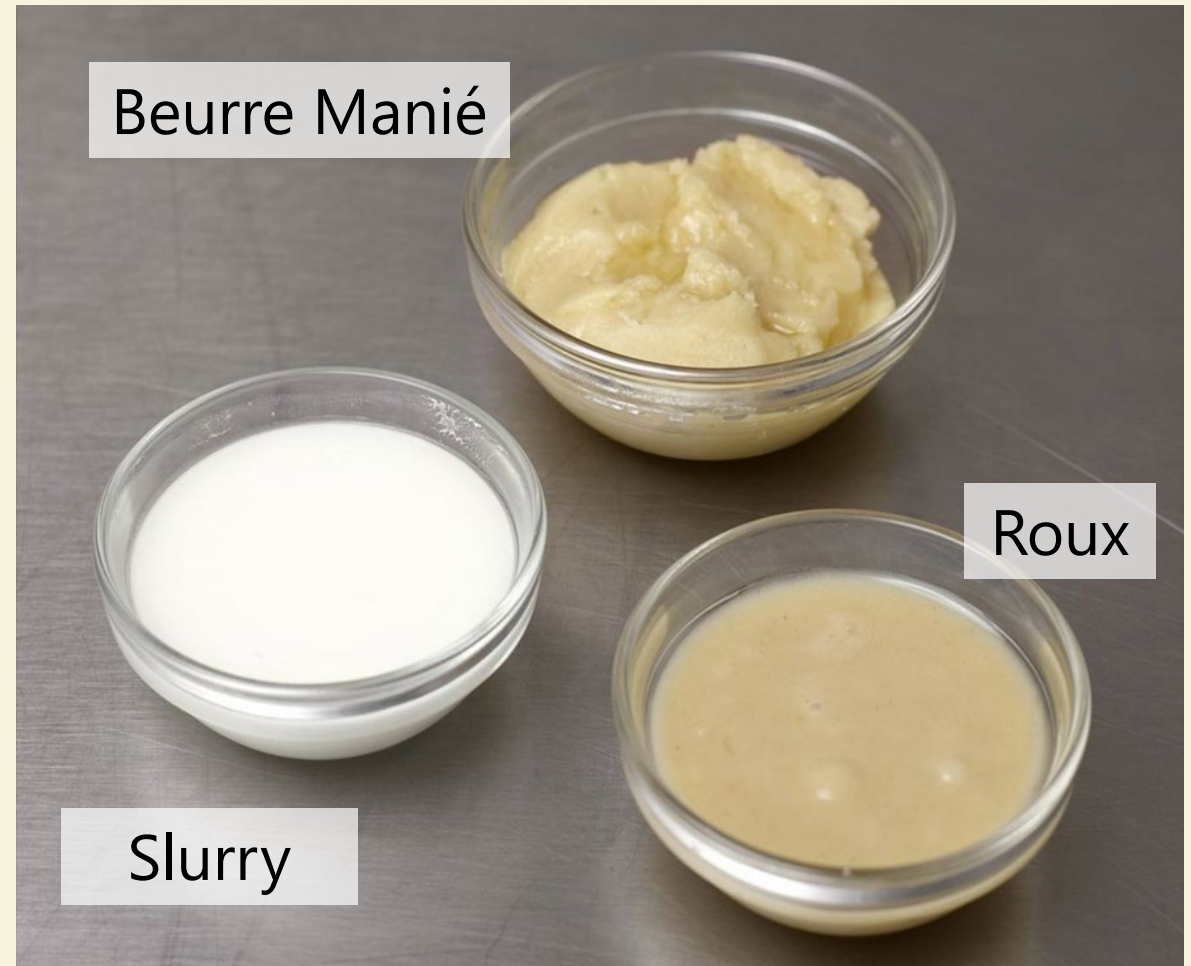
1. Main ingredient may be seared, roasted, or blanched before simmering.
2. Add cold stock or water to main ingredient.
3. Bring broth to a simmer. Simmer several hours depending on type.
4. Skim as needed.
5. Add raw mirepoix and sachet during final hour of cooking.
6. When main ingredient is tender, strain. Reserve main ingredient and bouquet garni for garnish.
7. Degrease.
8. Season to taste.
9. Cool, bag, label, and store.

Stocks and Broths: Quality Criteria



Thickening Agents

- Beurre Manié
- Pure starches (cornstarch, arrowroot)
- Liaisons
- Grains
- Vegetables



Thickening Agents



- Additional body
- Type impacts final product:
 - Appearance
 - Flavor
 - Texture
 - Color

Thickening Agents: Roux

- A roux ("roo") is cooked fat + flour
- Base for sauces and soups that works as a thickening agent when heated.
- Added at beginning of cooking.
- Develops a darker color, deeper flavor as it cooks.
- More flavorful and smoother than a slurry.
- 4 oz. roux thickens 1 qt. liquid (medium consistency)

Roux



Method for Making Roux

1. Heat fat.
2. Add flour to hot fat.
3. Cook over moderate heat until appropriate color is achieved.

Roux Ratio:
6 parts flour
4 parts clear fat



Combining Roux with Liquid



1. Combine the roux and liquid.
2. Return to a boil while whisking.
3. Reduce the heat and simmer for 20 minutes.

Combining Roux with Liquid

- Add **room temperature roux** into **hot liquid**, stirring vigorously.
- Add **cold liquid** into **hot roux**, stirring vigorously.
- Hot roux + hot liquid = lumps
- Cold roux + cold liquid = lumps



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Any Questions?