



Culinary Institute of America

RIALTO UNIFIED SCHOOL DISTRICT CULINARY TRAINING PROGRAM



The Culinary Institute of America, Hyde Park, NY



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The Culinary Institute of America

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Welcome to the CIA!

Education is a gift. And those of us in the foodservice industry have a chance to “pay it forward” by sharing our gifts with others. For over 70 years, The Culinary Institute of America has provided students with unparalleled training, setting the gold standard for culinary excellence.

Whether you are here to learn new skills and techniques, develop an appreciation for a global cuisine, or are in pursuit of ProChef Certification, our continuing education courses provide the training you need to achieve your personal and professional development goals.

While on campus, we want you to have the best experience possible. If you have any questions along the way, please ask your chef-instructor or anyone on the Continuing Education staff. Once your training is complete, please feel free to stay in touch - we always enjoy hearing your success stories.

And, because so many of our students ask how they can keep in touch with each other after class is over, we’ve made it easy to do through our Facebook page. Just log in and search for “CIA ProChef.”

Wishing you all the best,

A handwritten signature in blue ink that reads "David Kamen".

David Kamen '88 MBA PC^{III}
Director CIA Consulting
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P.S. Did you know that the CIA is an independent, not-for-profit college? As such, your tuition supports our core mission of providing the world’s best professional culinary education. If you’d like to further support the future of food with the gift of education, please visit www.ciagiving.org.

EXPECTATIONS FOR PARTICIPANTS

- ☑ Silence and put away phones during class.
- ☑ Actively participate.
- ☑ Return promptly from breaks.
- ☑ Remain in attendance for the class duration.
- ☑ Complete the course evaluation.
- ☑ Follow all established health and safety regulations.
 - In addition to the precautions necessary to guard against food-borne illness, care must also be taken to avoid accidents. The following safety measures should be practiced.
 - Wash hands before beginning work in the kitchen.
 - Keep all perishable items refrigerated until needed.
 - NYS law – when handling “ready-to-eat” food items, if you don’t cook it, glove it!
 - Wash hands, cutting boards, knives, etc. when switching between meats and vegetables.
- ☑ Maintain CIA uniform standards.
- ☑ Act within the guidelines of the CIA’s policy on harassment.
 - The Culinary Institute of America (CIA) is committed to providing a working and learning environment free from harassment. Members of the CIA community, guests, and visitors have the right to be free from any form of harassment (which includes sexual misconduct and sexual harassment) or discrimination; all are expected to conduct themselves in a manner that does not infringe upon the rights of others.

CIA UNIFORM POLICY

To foster a professional working environment and to maintain the highest standards of safety and sanitation, the CIA has adopted the following uniform code. Each item has been designed with a practical function in mind. These items must be worn in all production classes unless otherwise stated.

- ☑ Chef's jacket
 - Double-breasted structure creates a two-layer cloth barrier to help prevent steam burns, splashes, and spills
 - Can be re-buttoned on the opposite side to cover spills
 - Sleeves are long to cover as much arm as possible to reduce burns
- ☑ Pants
 - Hounds-tooth helps camouflage stains
 - Best without cuffs, which can trap hot liquids and debris
- ☑ Shoes and Socks
 - Shoes
 - Should be made of hard leather, with low heels, slip-resistant soles, and no open toes
 - Prevent slips and falls in the kitchen
 - Offer support
 - Protect feet from falling pots
 - Socks
 - Must be worn for hygienic purposes and to prevent burns
- ☑ Neckerchief (optional)
 - Helps to absorb sweat
- ☑ Toque (provided in class)
 - Contains hair
 - Absorbs sweat
- ☑ Apron (provided in class)
 - Protects jacket and pants from excessive staining
- ☑ Side towel (provided in class)
 - Protects hands when working with hot pans, dishes, and equipment
- ☑ Jewelry
 - Not permitted except for one plain ring to minimize exposure to potential hazards
- ☑ Hair
 - Should be neatly maintained, clean, and under control at all times

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FOOD AND KITCHEN SAFETY

The importance of food and kitchen safety cannot be overemphasized. The Center for Disease Control estimates that 48 million people get sick, 128,000 are hospitalized, and 3,000 die from foodborne diseases each year in the United States. In addition to providing a sanitary atmosphere and adhering to procedures for safe food handling, it is also important to ensure a safe working environment. According to the U.S. Bureau of Labor Statistics, private industry workers in full-service restaurants incur nearly 100,000 nonfatal injuries and illnesses per year. About one-third of these cases required at least one day away from work.

WHY BOTHER WITH SANITATION?

- **Responsibility to Customers:** A well-designed food safety program protects employees and customers from serious illness and even death.
- **Avoid Litigation:** Under federal law, customers can bring lawsuits to obtain compensation for injuries resulting from food-borne illnesses. If successful, damages may be awarded to compensate the plaintiff for lost work and wages and medical bills as well as punitive damages if the establishment did not take reasonable precautions to serve safe food and prevent illness.
- **Avoid Loss of Reputation:** Few things are as detrimental to a foodservice establishment's reputation as an officially noted outbreak of food-borne illness caused by poor sanitary practices.
- **Food Quality:** Handling food safely helps preserve its appearance, flavor, texture, consistency, nutritional value, and chemical properties. Food that is stored, prepared, and served properly is more likely to keep its fresh quality.
- **Profitability:** National Restaurant Association figures show that an outbreak of foodborne illness can cost your operation more than \$75,000 in legal fees, medical

claims, employees' lost wages, cleaning and sanitizing costs, loss of food supplies, bad publicity, and shutdowns. Cases involving death and serious injury can cost much more.

WHAT IS GOOD SANITATION?

Sanitation is the creation and maintenance of healthful, or hygienic, conditions. Sanitation comes from the Latin word *sanitas*, meaning health. In a foodservice context, sanitation means wholesome food, handled and prepared so that the food is not contaminated with disease-causing agents. In other words, sanitation is what helps food stay safe.

Note that "sanitary" doesn't simply mean "clean." That which appears to be clean may not always be sanitary. **Clean** means free of visible soil. **Sanitary** means free of harmful levels of disease-causing micro-organisms and other harmful contaminants. Clean refers to aesthetics and concerns outward appearance—a face without a smudge, a glass that sparkles, a shelf wiped clear of dust. However, although clean on the surface, objects can harbor invisible disease-causing agents or harmful chemicals. Baby bottles boiled in water for ten minutes may be splotted and water-marked. They may not look clean on the surface, but they are free of disease-causing agents and can accurately be referred to as sanitary.

FOOD-BORNE ILLNESS

Foods can serve as carriers for many different illnesses. The most common symptoms of food-borne illnesses include abdominal cramps, nausea, and diarrhea, possibly accompanied by fever. These symptoms may appear within a few hours after consumption of the affected food or may take several days before onset. To be declared an official outbreak, it must involve two or more people who have eaten the same food, and health officials must confirm it.

Food-borne illnesses are caused by adulterated foods—foods unfit for human consumption. The severity of the illness depends on the amount of adulterated food ingested and, to a great extent, the individual’s susceptibility. Children, the elderly, and anyone whose immune system is compromised, generally have more difficulty combating a food-borne illness.

Sources of Food-Borne Illness

- **Chemical:** Insecticides and cleaning compounds are examples of chemical contaminants that may accidentally find their way into foods.
- **Physical:** Bits of glass, rodent hairs, paint chips, earrings, and plastic bandages are examples of physical contaminants that can fall into food through careless food handling.
- **Biological:** Food-borne illnesses caused by biological contaminants fall into two categories: **intoxication** and **infection**.
 - Naturally occurring **toxins** are found in certain wild mushrooms, green potatoes, rhubarb leaves, and other plants. Intoxication occurs when a person consumes food containing toxins from bacteria, molds, or certain plants and animals. Once in the body, these toxins act as poison. Botulism is an example of an intoxication.
 - 95% of all food-borne illnesses are caused by microorganisms called **pathogens**. Microorganisms of many kinds are everywhere, and most are helpful or harmless, if not essential; only 1% are actually pathogenic. In a case of infection, the food eaten by an individual contains large numbers of living pathogens. These multiply in the body and attack the gastrointestinal lining. Salmonellosis is an example of an infection.
 - Some agents of food-borne illnesses, such as E. coli, have characteristics of both an intoxication and an infection.

TYPES OF FOOD PATHOGENS

Fungi, which include molds and yeast, are more adaptable than other microorganisms and have a high tolerance for acidic conditions. They are more often responsible for food spoilage than for food-borne illness. Beneficial fungi are important to the food industry in the production of cheese, bread, wine, and beer.

Viruses do not actually multiply in food, but if through poor sanitation practice a virus contaminates food, consumption of that food may result in illness. Infectious hepatitis A, caused by eating shellfish harvested from polluted waters or poor hand-washing practices after using the restroom, is an example. Once in the body, a virus invades a host cell and reprograms it to produce copies of the virus. The copies leave the dead host cell and invade more cells.

Parasites are pathogens that feed on and take shelter in another organism, called a host. The host receives no benefit from the parasite and suffers harm and possibly death as a result. Amoebas and various worms such as *Trichinella spiralis*, which is associated with pork, are among the parasites that contaminate foods. Different parasites reproduce in different ways. One example is the parasitic worm that exists in larval stage in muscle meats. Once consumed, and the larvae reach adult stage, the fertilized females release more eggs, which hatch and travel to the muscle tissue of the host, and the life cycle continues.

Bacteria are responsible for a significant percentage of biologically caused food-borne illnesses. To better protect food during storage, preparation, and service, it is important to understand the classifications and patterns of bacterial growth. One classification convention relevant for chefs is their effects on people. Bacteria can be classified as pathogenic, undesirable, beneficial, and benign. Another important classification is their requirement for oxygen:

Aerobic bacteria: require the presence of oxygen to grow

Anaerobic bacteria: do not require oxygen and may die when exposed to it

Facultative bacteria: can function with or without oxygen

Bacteria is also classified according to their spore-forming abilities. Certain bacteria can form endospores, which serve as a means of protection against adverse circumstances such as high temperature or dehydration. Endospores allow an individual bacterium to resume its life cycle if favorable conditions should recur.

CONDITIONS FOR BACTERIAL GROWTH

Bacteria require three basic conditions for growth and reproduction: a **protein** source, **moisture**, and **time**. The higher amount of protein in a food, the greater its potential as a carrier of food-borne illness. The amount of moisture available in a food is measured on the water activity (Aw) scale, which runs from 0 to 1, with 1 representing the Aw of water. Foods with a water activity above 0.85 support bacterial growth. A food's relative acidity or alkalinity is measured on the pH scale, which ranges from 1 to 14. A moderate pH (between 4.6 and 10) is best for bacterial growth and most foods fall within that range. Adding highly acidic ingredients, such as vinegar or citrus juice, to a food can lower its pH and extend its shelf life.

Many foods provide the three conditions necessary for bacterial growth and are therefore potentially hazardous. These include meats, poultry, seafood, tofu, and dairy products (except for some hard cheeses). Foods do not necessarily have to be animal based to contain protein. Vegetables and grains that contain protein, such as cooked rice, beans, pasta, and potatoes are also potentially hazardous. Other candidates for bacterial growth are sliced melons, sprouts, and garlic and oil mixtures.

IDENTIFYING ADULTERATED FOOD

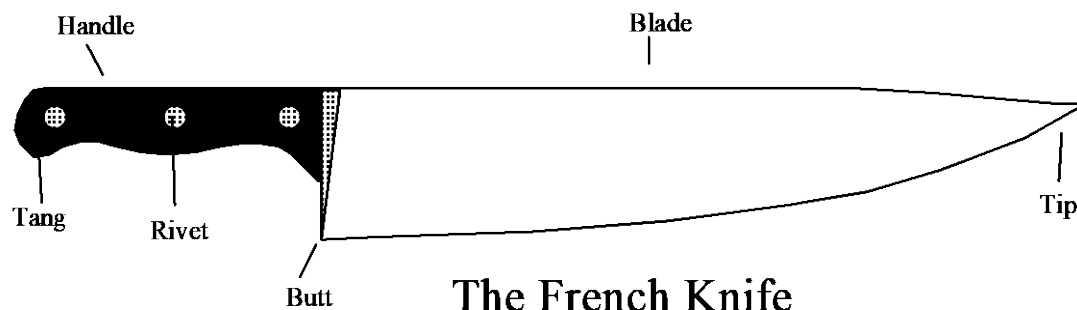
Food that contains pathogens in great enough numbers to cause illness may still look and smell normal. Disease-causing microorganisms are too small to be seen with the naked eye, so it is usually impossible to ascertain visually that food is adulterated. Because the microorganisms—particularly the bacteria—that cause food-borne illness are different from the ones that cause food to spoil, food may be adulterated and still have no “off” odor. It is important to remember that although cooking food will destroy many of the microorganisms present, careless food handling after cooking can reintroduce pathogens that will grow even more quickly without competition for food and space from the microorganisms that cause spoilage.

KNIFE CARE AND HANDLING

SAFETY RULES FOR KITCHEN CUTLERY

- Always use a **sharp** knife! A properly sharpened knife is safer than a dull knife because it requires less pressure while cutting, reducing the risk of injury. A sharp knife also improves the precision of your cuts and reduces prep time.
- Use the **correct size and type** of knife for the job:
 - **French knife** - basic chopping and dicing
 - **Boning knife** - removing bones from meats and poultry
 - **Slicer** - slicing meats, poultry, and breads
 - **Paring knife** - peeling fruits and vegetables
- 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 table edge** with the **blade facing away** from you.
- Keep knives **in sight** of everyone. Never cover a knife with towels or other materials.
- When reaching for a knife, **reach deliberately for the handle**. Do not grab blindly. If a knife falls off the table, do not grab for it.
- When handing a knife to another person, **point the handle toward them**.

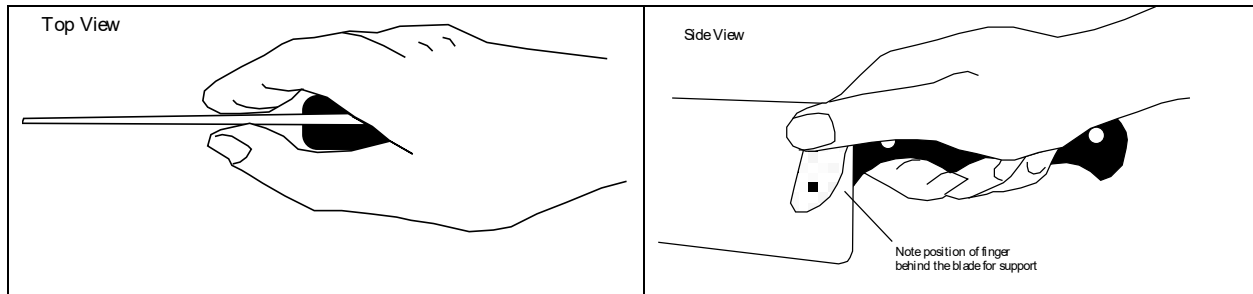
ANATOMY OF A KNIFE



The French Knife

HOW TO HOLD A KNIFE PROPERLY

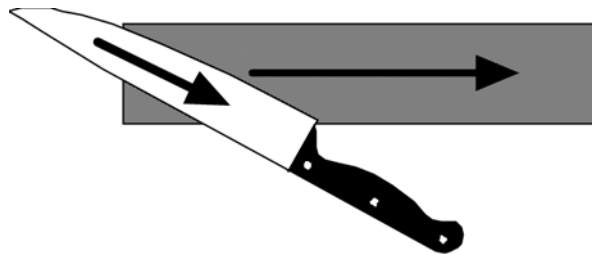
Grasp the knife by the handle, allowing your thumb and index finger to rest on the blade for support.



HOW TO SHARPEN A KNIFE

Carborundum or sharpening stones are available in different grades of coarseness for different stages of sharpening.

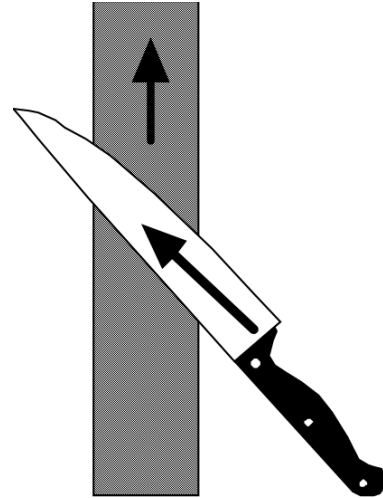
METHOD ONE



1. Lubricate the sharpening stone with knife sharpening oil or water.
2. Place the knife on the stone, using a 20 - 25° angle of the blade to the stone.
3. Move the knife right to left, also pulling it toward yourself. (This is to cover the entire blade of the knife in the sharpening process).
4. Turn the knife over and repeat the process in reverse for the other side.
5. Repeat this process, as necessary, to sharpen the edge.

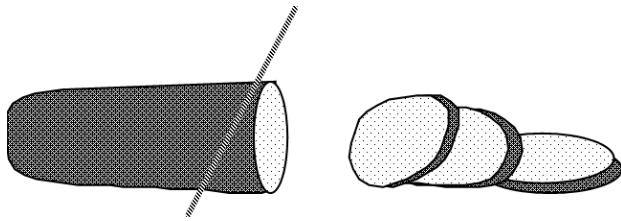
METHOD TWO

1. Lubricate the sharpening stone with knife-sharpening oil or water.
2. Place the knife on the stone using a proper angle.
3. Push the knife forward and to the left from tip to butt.
4. Turn over knife and repeat process in reverse, pulling the knife toward you, starting at the butt, and ending at the tip.



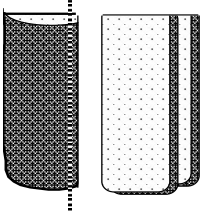
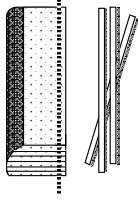
HOW TO SLICE, JULIENNE, AND DICE

SLICING

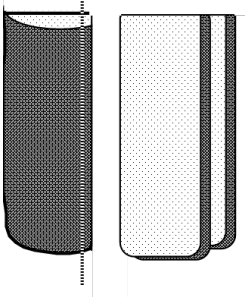
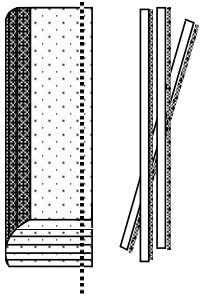
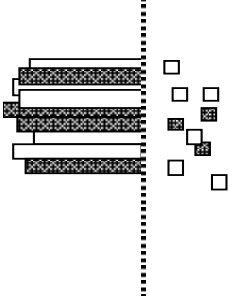


Cut the vegetable crossways into the desired thickness.
 Angle to create an oval slice
 Cut vegetable in half and slice to create half circles

JULIENNE

		
<p>Slice vegetable lengthwise into desired thickness</p>		<p>Stack slices, cut again lengthwise into desired thickness, this will yield julienne</p>

DICING

		
<p>Slice vegetable lengthwise into desired thickness</p>		<p>Stack slices, cut again lengthwise into desired thickness</p>
		<p>Bundle the sticks (julienne) Cut crosswise into cubes (brunoise)</p>
<p>The thickness of all the cuts will determine the result and the name of the cut (e.g. brunoise, small, medium & large dice).</p>		



Commonly Used Knife Cuts

Brunoise 1/8 X 1/8 X 1/8"



Small Dice 1/4 X 1/4 X 1/4"



Medium Dice 1/2 X 1/2 X 1/2"



Large Dice 3/4 X 3/4 X 3/4"



Fine Julienne 1/16 X 1/16 X 1 - 2"



Julienne 1/8 X 1/8 X 1 - 2"



Batonette 1/4 X 1/4 X 2"



Paysanne 1/2 X 1/2 X 1/8"



MISE EN PLACE & TIME MANAGEMENT

Setting yourself up properly at each stage of cooking is the key to great success.

Preparing the ingredients correctly, gathering the tools necessary to do the work, and setting up your station not only reduces waste and loss, but it also improves the quality of work and enhances the end results. In this section, we will discuss the various facets of mise en place and look at some general guidelines to facilitate your production.

MISE EN PLACE

Mise en place is a French term referring to the organization and completion of all the preliminary tasks involved in the preparation of a meal. By utilizing mise en place, the cooking process is then simplified. Today, the term mise en place means everything from arranging the utensils and linen, to preparing a meal in the preparation kitchen, and finishing a meal in the finishing kitchen (or finishing area). Keep in mind that each mise en place should be adapted to the needs of each individual kitchen.

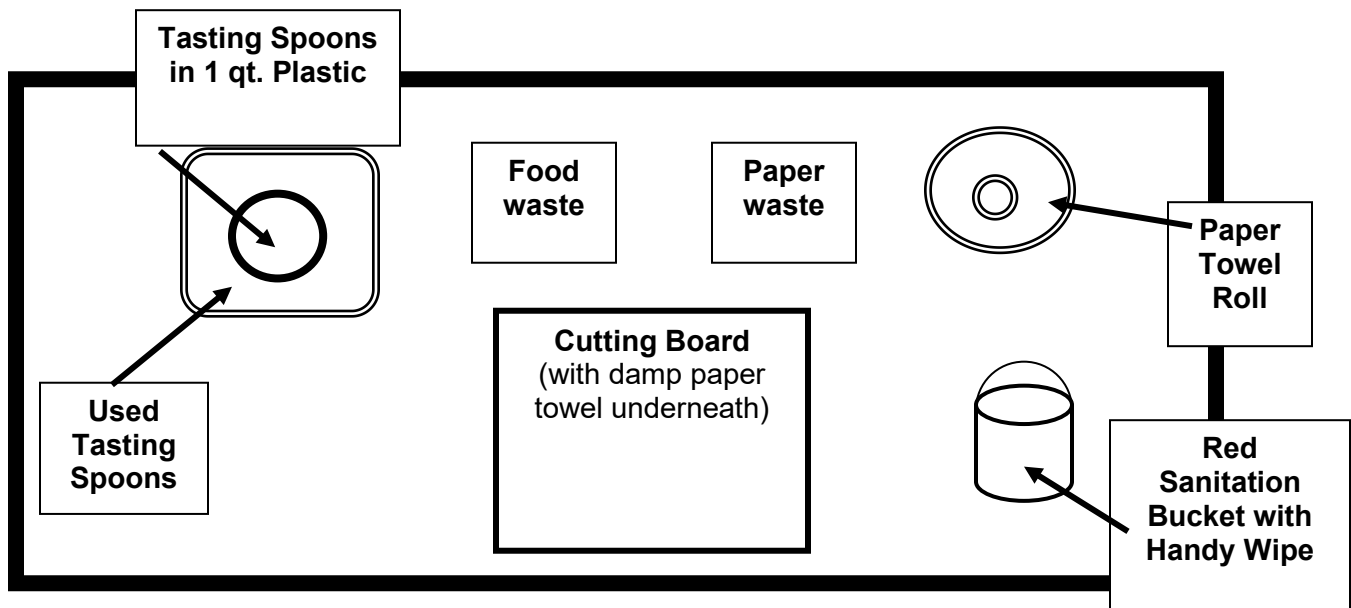
WORK STATION MANAGEMENT

ORGANIZATION AND WORKFLOW

- Set up efficient work stations.
- Set table and cutting board at correct height for individual.
- Use bain-maries with hot water for tools.
- Set cutting board on sheet pan for messy jobs.
- Use raised cutting boards for drop delivery system for end products and refuse.
- 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, if necessary.

- Use stem thermometers to ensure that products are maintained at appropriate temperatures.
- Be sure to use the right equipment for the job.

STANDARD WORKSTATION SET-UP



Consider the following questions when setting up a workstation:

- What recipe(s) and ingredients will be needed to complete the task?
- What precautions must I take to maintain good sanitation and nutritional conditions for the foodstuff?
- What equipment will be needed to complete the task (consider equipment needs throughout the entire process, including the final container which will hold the product)?
- What time should the product be completed, and how does this impact the sequence in which I will approach the task?
- When working in teams, how will the tasks be divided among the team members?

For greatest kitchen efficiency, always keep your workstation clean and well organized! Here are a few general rules to help you accomplish this...

1. If you don't need it, get rid of it.
2. If you are not currently using it, put it away.

3. Wipe down and clean up as you go.

RECIPE MANAGEMENT AND MISE EN PLACE

Learning to read recipes carefully and to use them to be more productive is an important step in developing your professional skills. Before starting to cook from any recipe, the first step is always to ***read through the recipe in its entirety*** to gain an understanding of exactly what is required and how to organize your work. As you read the recipe, look carefully for steps that might affect your own timing.

It is important to...

- Understand all the terms and definitions. Ask questions if you're not sure!
- Check the yield, temperature, and cooking time.
- Assemble, in order of use, all the ingredients needed before preparation time. Ingredients that require advance preparation (stocks, basic sauces, or a marinade, for example) or that must be either heated or chilled should be considered first.
- Complete necessary "pre" steps such as: greasing or conditioning pans, washing and cutting vegetables, assembling equipment such as food processors or meat grinders, and preheating the grill or oven.
- Accurately measure or weigh each ingredient.
- Follow the steps listed in the recipe exactly and never leave out a step.
- Time the cooking period for all cooked foods accurately. A resting period or an overnight cooling period (letting yeast doughs proof or allowing gelatin-thickened foods to thicken completely, marinating foods, etc.) will all affect timing.

CONSTRUCTING A WRITTEN "MISE EN PLACE PLAN"

- Review what you must prepare - including ALL group work.
- List all the ingredients. Check if you need to order any additional ingredients.
- Determine cooking times and preparation procedures.
- Determine equipment and utensils you will need.
- Write the "mise en place plan" in sequential order.
- Reprioritize your mise en place plan every so often throughout the day.
- Communicate with your team or partners regularly.

IMPORTANT POINTS FOR ORGANIZING YOUR TEAM GAME PLAN IN THE KITCHEN

- Pots and Pans, other equipment, communication
 - Select the proper pan and size for the job intended.
 - Have serving pans for the finished product.
 - Utensils, spoons, ladles, spatulas, etc. and sanitizing bucket on the station.
 - Preheat ovens, deep-fryer, broiler, etc.
 - Communicate with your group on stocks or other preparations.
- Food
 - Gather the produce and dry goods needed in the correct amounts to produce the recipe. Use up any product that is the oldest – First In, First Out (FIFO).
 - Keep perishable items refrigerated.
 - Prevent cross contamination with proper sanitation practice.
- Cooking
 - Pre-preparation
 - Washing
 - Slicing, dicing
 - Trussing, and seasoning
- Preparation
 - Start items with longest cooking times first.
 - Clean as you go.
- Finishing
 - Finish items as close to service time as possible.
 - Set up line for service.
 - Hot plates, serving spoons, forks, etc.
 - Actual service (Plates or other serving dishes neat and clean, food hot)

STRATEGIES FOR MANAGING TIME

The role of a chef today encompasses many areas besides cooking. The chef must be an effective administrator and manager, must manage physical assets, information, and human resources. Information gathering on current restaurant trends and products can become a full-time task on its own. If the chef cannot manage his or her time properly, there will not be enough time each day to successfully manage the operation. Some strategies include:

1. Invest time in reviewing daily operations.

- Observe how the fellow chef team members manage their time.
- Determine what can be done and what changes need to be made in the kitchen to make the work flow quickly and smoothly.

2. Invest time in training others.

- Walk yourself and your fellow team members through the jobs that must be done.
- Be sure that everyone understands how to do the work.
- Where to find the necessary items.
- How far each person's responsibly extends, and
- What to do in case a question or emergency comes up.

3. Learn to communicate clearly.

- Give direction in the most concise language possible; be brief but thorough.
- Write the directions down, especially if the work will be performed by more than one person.
- Encourage questions.

4. Take steps to create an orderly work environment.

- Plan work areas carefully.
- Think about all tools, ingredients, and equipment needed for preparation and throughout service.
- Group like activities together.

5. Purchase, replace, and maintain all necessary tools.

- A well-equipped kitchen will have enough of all tools necessary to prepare every item on the menu.
- If the staff has to share or wait for the appropriate tool, it is wasting time.
- Improperly maintained equipment leads to accidents and can waste food and time.

SAMPLE MISE EN PLACE AND TIMELINE WORKSHEETS

Using the following recipes, let's walk through an example of how to use these sheets. First, we'll review the recipes to determine what ingredients and tools are necessary for each dish. We'll then combine these items into the tally sheet to create a list which will help you quickly and efficiently gather everything you need for the day. Finally, we'll look at how all these recipes come together in creating a timeline for the tasks at hand.

GRILLED PORK CHOPS WITH POMMERY MUSTARD BEURRE BLANC

Yield: 6 Portions

Ingredients	Amounts
<i>Marinade</i>	
Vegetable oil	1 Tbsp.
Worcestershire	1 Tbsp.
Garlic, chopped	1 tsp.
Pork chops	6 ea.
Salt	1 Tbsp.
Ground black pepper	1 tsp.

Pommery Mustard Beurre Blanc (recipe follows)

Method

1. To prepare the marinade, combine the oil, Worcestershire sauce, and garlic.
2. Season the pork chops with salt and pepper and cover with the marinade.
3. Grill over medium heat to mark the pork chops. If desired, rotate chops at a 45 degree angle before turning to achieve crosshatch grill marks.
4. Place into an oven and cook until the pork chops reach an internal temperature of 155°F.
5. Serve with the Pommery Mustard Beurre Blanc.

POMMERY MUSTARD BEURRE BLANC

Yield: 1 Pint

Ingredients	Amounts
Dry white wine	6 fl. oz.
Cider vinegar	2 fl. oz.
Peppercorns, crushed	6 ea.
Shallots, minced	1 wt. oz.
Thyme stems	6 ea.
Bay leaf	1 ea.
Heavy cream	2 fl. oz.
Butter, diced	12 wt. oz.
Pommery mustard	2 Tbsp.
Salt	½ tsp.
Ground black pepper	¼ tsp.

Method

1. Combine the wine, vinegar, peppercorns, shallots, thyme, and bay leaf in a saucepan. Cook over medium heat and reduce until almost dry.
2. Add the heavy cream and reduce until sauce is thick enough to coat the back of a spoon (nappé).
3. Add the butter, one piece at a time, using a whisking motion until emulsified.
4. Finish by stirring in the Pommery mustard.
5. Strain the sauce, then season with salt and pepper to taste. Serve immediately or keep warm in a double boiler.

GLAZED SWEET POTATOES

Yield: 6 Portions

Ingredients	Amounts
Butter	3 wt. oz.
Sweet potato, peeled, diced or sliced	2 lb.
Orange juice	12 fl. oz.
Brown sugar	1 Tbsp.
Salt	½ tsp.
Ground white pepper	¼ tsp.

Method

1. Melt the butter over medium-high heat in a large pan with a lid. Add the sweet potatoes and toss to coat. Lower heat to medium.
2. Cover the pan and lightly sweat the potatoes, shaking the pan occasionally, until they start to become tender but have not yet browned.
3. Add the orange juice, sugar, salt, and pepper.
4. Cook, covered, at low heat until the sweet potatoes are almost done, about 20 minutes.
5. Remove the cover and allow the liquid to reduce to a glaze.

Date: _____			
Recipe: <u>Glazed Sweet Potatoes</u>			
Ingredient	Amount	Tool	Amount
Butter	3 wt. oz.	Large sautoir, with lid	1
Sweet potato, peeled, diced or sliced	2 lb.	Wooden spoon	1
Orange juice	12 fl. oz.	Presentation plates	6
Brown sugar	1 Tbsp.		
Salt	½ tsp.		
Ground white pepper	¼ tsp.		
Date: _____			
Recipe: <u>Grilled Pork Chops</u>			
Ingredient	Amount	Tool	Amount
Vegetable oil	1 Tbsp.	½ hotel pan	1
Worcestershire	1 Tbsp.	Tongs	1
Garlic, chopped	1 tsp.	½ sheet pan	1
Pork chops	6 ea.	Presentation plates	6
Salt	1 Tbsp.		
Ground black pepper	1 tsp.		

Date: _____			
Recipe: <u>Pommery Mustard Beurre Blanc</u>			
Ingredient	Amount	Tool	Amount
Dry white wine	6 fl. oz.	Saucepan	1
Cider vinegar	2 fl. oz.	Whisk	1
Peppercorns, crushed	6 ea.	Spoon	1
Shallots, minced	1 wt. oz.	Chinois	1
Thyme stems	6 ea.	Cheesecloth	1 square
Heavy cream	2 fl. oz.	Bain Marie	1
Bay leaf	1 ea.		
Butter, diced	12 wt. oz.		
Pommery mustard	2 Tbsp.		
Salt	½ tsp.		
Ground black pepper	¼ tsp.		

Date: _____			
Tally Sheet <i>Combines ALL Items from Day</i>			
Ingredient	Amount	Tool	Amount
Vegetable oil	1 Tbsp.	½ hotel pan	1
Worcestershire	1 Tbsp.	Tongs	1
Garlic, chopped	1 tsp.	½ sheet pan	1
Pork chops	6 ea.	Sauce pan	1
Salt	2 Tbsp.	Whisk	1
Ground black pepper	2 tsp.	Chinois	1
Dry white wine	6 fl. oz.	Cheese cloth	1 square
Cider vinegar	2 fl. oz.	Bain Marie	1
Peppercorns, crushed	6 ea.	Large sautoir, with lid	1
Shallots, minced	1 wt. oz.	Wooden spoon	2
Thyme stems	6 ea.	Presentation plates	6
Heavy cream	2 fl. oz.		
Bay leaf	1 ea.		
Butter, diced	16 wt. oz.		
Pommery mustard	2 Tbsp.		
Sweet potato, peeled, diced or sliced	2 lb.		
Orange juice	12 fl. oz.		
Brown sugar	1 Tbsp.		
Ground white pepper	¼ tsp.		

Date: _____

Timeline: Service at 12:15pm

Step #/ Start Time	Recipe	Action	Time Due
1. 9:00am	Pork	Pre-heat grill	9:05am
2. 9:10am	All	Gather utensils and ingredients	9:25am
3. 9:30am	All	Set up standard work station	9:45am
4. 9:50am	Pork	Marinate pork	10:10am
5. 10:15am	Sauce	Start sauce – Continue through end of step 2, reduce cream	10:40am
6. 10:45am	Pork	Grill pork – Finish in oven	11:00am
7. 11:00am	Sweet Potatoes	Cook until done – Set aside, reheat at service	11:25am
8. 11:30am	All	Clean station, prepare for plating	11:45am
9. 11:45am	Sauce	Finish sauce – add butter, strain, season, keep warm	12:00pm
10. 12:00pm	All	Plate and present	12:15pm

Here are some blank pages you can use when planning your mise en place.

MISE EN PLACE WORKSHEET (RECIPES)

Date: _____			
Recipe: _____			
Ingredient	Amount	Tool	Amount

Date: _____			
Recipe: _____			
Ingredient	Amount	Tool	Amount

MISE EN PLACE WORKSHEET (TALLY SHEET)

Date: _____			
Tally Sheet <i>Combines ALL Items from Day</i>			
Ingredient	Amount	Tool	Amount

MISE EN PLACE WORKSHEET (TIMELINE)

Date: _____		Timeline: <u>Service at</u> _____	
Step #/ Start Time	Recipe	Action	Time Due

SAMPLE ACTION PLAN WORKSHEET (USEFUL FOR GROUP PROJECTS)

SAMPLE ACTION PLAN WORKSHEET (USEFUL FOR GROUP PROJECTS)							
ACTION PLAN	Project	Goals	Tasks	Responsibility	Timeline	Evaluation	Check
	What is the theme of your project?	What are the goals of your project?	What are the steps that need to be taken to accomplish your goals?	Who in your team is responsible for each task?	When does each task need to be completed? (How many minutes or hours?)	Were you successful in accomplishing your goals and tasks on time?	√
Sample	Knife Skills	Learn how to julienne a potato	1. Make sure the work station is set up.	Peter	Today (in 5 minutes) Starting Time: 12:45 PM	No, I took way too long to finish Task # 1.	X
			2. Make sure the knives are sharp and honed.	Peter and Jennifer	Today (in 5 minutes) Starting Time: 12:55 PM	Yes, I finished on time, but I would like to improve my knife cuts. They were too thick.	√
1							
2							
3							
4							
5							
6							

DESCRIPTIVE SENSORY INDICATORS

Flavor: should be well developed and have characteristics associated with the particular type of food. The flavor should have the proper balance of salt, sour, sweet, bitter, umami and rigor.

Aroma: should be pleasing and appetizing by imparting a fragrance and flavor to the food product. The aroma should create a positive anticipation of eating the food.

Texture: a critical indicator that the food is perfectly cooked, or has the characteristics associated with fresh, raw, or cold food. Texture descriptors include – smooth, coarse, soft, hard, crispy.

Finish and Mouthfeel: the sensations experienced when the food is tasted, chewed, and swallowed. The mouthfeel should be pleasant without aftertaste. The final experience should be pleasant and entice you to eat more.

Appearance and eye appeal: Brightness of color indicates freshness of the product. Appearance should be appetizing and denotes quality of the food. A diner looking at the food should anticipate eating the food.

Bite: directly a result of proper cooking, or in the case of raw vegetables or salads, the crisp resistance experienced when biting into the food.

Moisture: The correct amount of juiciness hints at succulence in a food product and contributes to crispness.

Smokiness: should compliment the final product and not detract from the overall flavor profile and characteristics.

THE IMPORTANCE OF FLAVOR

Good cooking is the art of capturing the most appropriate flavors in a dish. The first step in mastering this art form lies in understanding exactly what constitutes **flavor**. Learning how to develop flavors, as well as when to bring them into balance and when to allow one flavor to dominate in a dish, is a matter of practice, experimentation, and tasting.

The term *flavor dynamics* indicates that two or more flavors have been blended in some way to produce a new flavor experience. Sometimes the dynamics are the result of mixing things together so that you can't easily recognize specific flavors. The term also applies when two or more flavors are put into an unexpected juxtaposition so that one flavor acts to improve the way another flavor is experienced.

Flavor profiles are a kind of culinary shorthand to talk about the specific preferences you might find within a cuisine. An Asian flavor profile includes ginger, garlic, soy sauce, cilantro, and lemongrass, for instance; a Mexican flavor profile includes chiles, pumpkin seeds, cilantro, and cumin. The profiles are influenced by culture, traditions, politics, economics, religion, and the environment.

DEFINING FLAVOR

All five of our senses provide us with perceptions that, when taken collectively, become "flavor." How we perceive a dish depends on its appearance and texture as much as it does on its aroma and taste.

Flavor is nothing if not subjective. What one person thinks is delicious, another person may think is anything but, and what one person perceives as much too salty or spicy may be "just right" to someone else.

Preferences for flavors can develop over time or through repeated exposure. Although humans are not born with an affinity for salty or spicy foods, we often develop

a taste for them. Too much exposure to some flavors can result in “flavor fatigue.” Over time, people can develop a tolerance for some flavors and may become desensitized to them. Chefs themselves need to be especially careful to guard against this, as they may end up adding far more seasoning to a dish than customers prefer.

The human tongue recognizes five basic tastes: sweet, sour, salty, bitter, and umami, a Japanese word meaning “deliciousness” that described as savory, brothy, or meaty. Additionally, we are capable of discerning incredibly subtle variations on an almost infinite number of combinations of those tastes, in large part due to the aromas of food. Lemon juice and distilled vinegar are both sour, and white sugar and maple syrup are both sweet, but no one would ever confuse one for one the other.

Most foods have extremely complicated combinations of flavors. The chemical composition of foods gives them their flavors—cruciferous vegetables like cabbage and Brussels sprouts contain sulfur compounds that give them a bitter, pungent taste; the acids in citrus fruits provide the tartness that their sugars tame somewhat. Umami appears to be related to glutamate, an amino acid in foods like beef and mushrooms.

Preparation affects the flavor of foods as well. Foods like garlic and onions get their flavor from volatile oils, which are released when the food is cut. Finely minced or crushed garlic has more exposed surfaces to release these oils than sliced garlic, so crushing will impart a stronger garlic taste than slicing. Heat changes the chemical makeup of foods, too. Raw garlic is harsh and pungent. Sauté it quickly and it becomes palatable yet retains a strong, distinctive flavor, but roast it slowly and it becomes sweet and mellow. Another example is white sugar, which has a purely sweet taste. Heat the sugar until it melts and caramelizes, though, and you have a complex array of sweetness, bitterness, and sourness.

UNDERSTANDING FLAVOR

Individual foods and ingredients often can have complicated flavors on their own. Combining ingredients and then cooking them, whether in a dish or a meal, can heighten or intensify a specific flavor, or may blend them to make the flavors even more intricate.

To better understand the flavor of a dish, first consider what attributes each ingredient contributes to the overall flavor profile of the dish. Take one of your favorite recipes and ask yourself why each ingredient is there. For many ingredients, the answer is obvious, but for others, the function may not be immediately clear.

Imagine how the dish would taste if you replaced the main ingredient. Could you substitute chicken breast for pork chop? Brown rice and quinoa for couscous? Similar foods can often be substituted for one another but look to less obvious substitutions. Duck breast has a rich, savory flavor and succulent texture that stands up well to robust seasonings, making it an appropriate option in a dish that typically features beef.

Next, explore the other ingredients. Does one provide most of the flavor, such as dill in a sauce to accompany salmon? Or do the other ingredients combine to become something completely different from their individual flavors, such as chili powder, cumin, garlic, and onion in chili? How would the flavor of a dressing change if you used sherry vinegar instead of red wine vinegar or lemon juice as the acid? Could you use tapenade or fish sauce in a marinade in place of salt?

If you are cooking grains, how flavorful are they? Simmering them in water allows their flavor to dominate, but not all grains are interesting enough to withstand such exposure. Bland grains may benefit from a more flavorful cooking liquid that enhances their taste, or you may wish to use a different, more flavorful grain.

Look at how the technique affects the dish's flavor. Dry heat cooking methods allow browning to occur. How do the resulting caramelization and crust affect the food? Imagine how the dish might taste if you used a different technique, or a combination of techniques. Steamed broccoli has a much simpler, purer taste than roasted broccoli, for

example, and a stew that is made without first browning the meat or sautéing aromatic vegetables will taste quite different from one that uses these techniques.

Timing affects flavor as well. Look at when the ingredients are added to the pot, and at how long they cook. Adding different ingredients at certain times helps to maximize flavor and ensures that each ingredient is cooked just enough. Onions, garlic, and some spices are normally added at the beginning and cooked with a touch of oil or fat to develop their sweetness and allow their flavors to permeate everything else that is eventually added to the pot. Fresh herbs, on the other hand, are often added to foods shortly before serving so their delicate flavors aren't muted, and their aromas and colors really stand out.

By adding ingredients in a certain sequence, we create a layering of flavors. A simple example is when you add freshly minced chives to an onion soup just before serving. The chives, members of the onion family, deliver another dimension of onion flavor, and their sharp, pungent note contrasts dramatically with the sweet, mellow caramelized onions.

A more intricate layering occurs when you add several different ingredients. Consider what happens when you cook meat and then make a mushroom sauce. You might sauté beef medallions or filets. After you removed them from the pan, you deglaze it by adding a bit of wine to releases the bits of meat that are left in the pan into the sauce; the wine adds a bright acidic flavor of its own; as it simmers, the wine loses some harsh flavors and mellows to become a background flavor. The mushrooms are added next so that they can release their essence into the sauce.

Aromatic components—a dash of Madeira, e, fresh herbs, and a little pepper—are added just before serving so that their volatile compounds are not lost to prolonged cooking. When we eat this dish, we perceive each of these flavors in nearly the opposite order. First, the bright aromatic quality of the herbs and the spiciness of the pepper become apparent, quickly followed by the darker earth tones of wine, mushrooms, and

fond de veau lié. At the base of all this is rich, meaty beef. This inverse linear quality of flavor perception is one of the key elements in composing successful recipes.

FLAVOR PROFILES

Each ingredient and dish have a flavor profile—a “fingerprint,” that makes it unique. But the term can also be used to describe the distinctive combination of ingredients and techniques that make each cuisine unique. Cultural, economic, political, religious, and geographic factors play influential roles in the development of flavor profiles.

Climate often makes geographically disparate cuisines somewhat similar. Thai and Mexican cooking both use lime and chiles as flavorings. From there, however, the cuisines diverge. Mexican cuisine uses different chiles and herbs, as well as tomatoes, and Mexico’s most common grain is corn. Indian and Moroccan cooking both use “hot” spices like cinnamon, clove, and ginger. Moroccan cooking is associated with tagines and couscous and mint tea, whereas Indian cooking is associated with curries and tandoori. In India, flavor profiles vary considerably from one region to another, but also from cook to cook. Each makes his or her own blend of curry powder and garam masala, and thus each cook puts his or her own stamp on dishes that contain these spice blends.

Northern European cooking is significantly different from the cooking of Mediterranean countries. Scandinavian and German foods tend to be heavier in texture, and they rely on fruits and vegetables that thrive in colder climates and that keep well through long winters: cabbages and kale, potatoes, and apples are far more common than tomatoes and citrus fruit.

Even within countries, this geographic influence can be seen. Compare the cooking of Brittany and Paris to that of the Côte d’Azur: northern France has more in common with many northern European countries than it does with southern France. This

is also seen in Italy. Landlocked and mountainous regions in the north such as Lombardy and Parma have dramatically different culinary traditions from the southern regions of Sicily and Puglia.

Even in the United States, these regional differences can be seen. Agriculture and climate play a part in each region's preference, but immigration does as well. Northern Europeans settled in the upper Midwest; menus in the Dakotas, Minnesota, and Wisconsin may well feature Swedish meatballs, pickled red cabbage, and wursts and sausages. Portuguese fishermen in Rhode Island and Massachusetts added tomatoes to New England's cream-based chowder. Louisiana's famous Creole cooking shows the influence of Choctaw Indians, French and Spanish settlers, African and Caribbean blacks, and Canadians (or Cajuns).

In addition to crops, livestock play a role in flavor profiles—sometimes in unexpected ways. Greece's rocky terrain is more suited to raising sheep than cattle, for example. As a result, Greek dairy foods are typically made with sheep's milk instead of cow's milk, and have a tangier, deeper flavor.

Flavor profiles evolve over time. At first, they are based primarily on the foods indigenous to a region or area. Colonization and exploration can influence them; as foreign powers invade and settle in an area, they bring with them their culinary traditions, including ingredients, equipment, and techniques. Lemongrass, cilantro, mint, chiles, and fish, for example, are common in both Thai and Vietnamese cooking. But Vietnam was for decades a French colony, and its cuisine bears a distinctively French stamp that Thai cooking does not. It is difficult to imagine the cuisines of Mediterranean Europe without tomatoes, but this ingredient did not appear in Europe until the sixteenth century, when Spanish explorers brought it home. Tomatoes were considered poisonous for a few centuries and did not become widely used until the 1800s. Each country, however, has combined tomatoes with other ingredients that reflect its profile: Italy with basil and mozzarella; Spain with garlic, olive oil, and peppers; Greece with

oregano, mint, basil, and dill.

Travel has allowed people to encounter authentic cooking that they seek to enjoy at home. Before World War II, pizza was found only in Italian neighborhoods. But as GIs returned home, they sought out this and other Italian foods. As air travel became affordable in the 1960s, people went to Europe, Africa, and Asia and discovered how different authentic foods could be from the versions served in U.S. restaurants. People came home from their travels and wished to recreate or experience the flavors and textures they discovered on their journeys. Chefs often return home from traveling to experiment with new ingredients and techniques, coming up with different combinations.

When playing with flavor profiles, it is wise to stay within flavor families when substituting one ingredient for another. Say, for example, you wish to introduce an Italian flavor to a Thai dish. If the recipe contains fish sauce, you might first try replacing it with anchovies. If the change isn't quite what you were looking for, experiment with other salty foods: capers or olives might be acceptable alternatives.

DEVELOPING FLAVOR

At every step, a chef controls the flavor of a dish. At the same time every chef is limited by his or her customers' expectations and what they are willing to pay. A chef at a three-star restaurant is expected to use pristinely fresh produce, properly aged meats, well-made cheeses, and high-quality dry goods to produce elegant plates that look like works of art. The prices on the menu are generally high, and the food budget is correspondingly generous. The director of food service for a school will most likely be working with a significantly less lavish budget but is by no means exempt from the customers' expectation of delicious, flavorful foods.

Regardless of what type of budget or kitchen at the chef's command, any cook

worth his or her salt knows that a mediocre chef can ruin high-quality, expensive ingredients in any number of ways, but a talented chef can turn ordinary or inexpensive ingredients into something fabulous.

This control begins with selecting the best ingredients the budget allows, from reliable purveyors. Chefs who are concerned with providing healthy, nutritious options do well to select foods based on those positive attributes. Rather than focus on what should be avoided, chefs should choose healthy ingredients for their flavors, then consider how those ingredients can be integrated into a menu for widest appeal. Say you want to use kale as an accompaniment to pork medallions. A side dish of steamed kale is rich in several nutrients, but it's pronounced flavor might be too intense for many diners. Preparing it with an Italian-style agro-dolce sauce or dressing, however, gives it another dimension without detracting from its rich flavors and nutritional benefits, and will complement the richness of the pork better than the unadorned steamed version.

Once the best ingredients have been selected, the chef must make sure they are stored properly. Dairy foods, for example, can absorb odors from pungent foods and should be kept away from citrus and onions. Improperly stored produce may lose nutrients and texture as well as flavor. Flaccid carrots, limp greens, and mushy apples will only detract from a dish. Proper storage does more than preserve flavor and texture; it helps to ensure that foods will not be exposed to contaminants.

Food safety and flavor extend to how food is handled as it is prepared for cooking. Some foods may need to come to room temperature before use to attain the proper texture of flavor when cooked—eggs to be beaten, some cuts of meat before cooking— but the chef should ensure that they are not left out for extended periods.

Foods that are seasoned before cooking taste different from foods that are not. Salt and other spices and marinades can penetrate the food, so even when mixtures are wiped off, as with gravlax, their essence remains. Whether the chef grinds spices fresh every day or relies on containers of ground spices matters, as does whether the spices

are toasted before use and when they are added during the cooking process. One of the biggest areas where chefs influence flavor is in choosing the cooking technique. Heat alters the chemical structure of food, breaking down cell walls, releasing flavor compounds and nutrients, and making the food more tender.

Dry-heat cooking techniques attain temperatures higher than moist-heat methods. These higher temperatures allow foods to brown and develop a crust. Moist-heat cooking methods are typically gentler. Because foods do not brown, their flavors tend to be simpler and purer. Compare the difference between grilled or roasted salmon and poached salmon.

A pan sauce gives you the chance to incorporate the flavorful drippings released by foods as they cook. Those drippings are reduced and collected in the pan. Adding a flavorful liquid, such as broth, wine, prepared sauce, or coulis, helps to dilute and dissolve those drippings. Classic pan sauces were often thickened with flour, roux, butter, or cream. Chefs today prefer to let natural reduction develop the flavor and leave the sauces with a somewhat lighter body.

BALANCING FLAVOR

Balance is something that we often assume to be the ultimate goal in the creation of pleasing flavor combinations. This is not always the case, however. Colors, sounds, textures, tastes, aromas, and temperatures can either complement or contrast with each other. Sometimes perfectly complementary flavors are desirable, as in the case of a slowly cooked lentil stew. Here, balance is the goal because the desired result is the melding of several ingredients into a singular taste experience that is completely different from the individual ingredients. If the stew isn't cooked long enough, the ingredients may still retain their distinct flavors.

Other times, though, the chef may wish to highlight a particular flavor. In this

case, contrasting flavors can be used to let one or more elements come to the forefront of the flavor profile. Pesto, for instance, showcases the flavor of fresh basil or other herbs and uses the contrasting flavors of garlic, pine nuts, Parmesan, and olive oil to round out the flavor profile. The amount of time that a flavor lingers on the palate after we have swallowed also influences our perception of the dish's overall flavor. We refer to this as the flavor "finish." Consider, for example, a clear soup versus a puréed soup. The clear soup has a lighter and cleaner finish than the thick and creamy puréed soup.

PRESENTING FLAVOR

Finally, the chef controls how flavors are perceived in how the food is presented. The texture of foods can affect how their flavors are perceived as well. A silky-smooth bisque and a chunky potage may have the same ingredients, but the puréed soup's flavor may be subtler than the latter, where each ingredient remains distinct. Imagine, too, the difference in flavor between a crab cake with large, meaty chunks of crab and one with small shreds. Because all our senses are involved in tasting food that looks attractive on the plate is more appealing than a carelessly arranged dish.

How long a food stands between the initial preparation and when it is actually eaten also affects flavor. Some foods, such as delicate vegetables, fish, and sautéed meats, are best immediately after they are cooked because the quality of their flavor, texture, and nutrient content begins to degrade quite quickly. Other foods, like soups and braised dishes, benefit from being prepared a day or so before they are to be eaten. The extra time allows their flavors to fully mature.

Finally, temperature can be used to add an unexpected element to a dish. Very hot and very cold foods tend to have less discernable temperatures. Foods like ice

cream, cheeses, and fruits have more developed flavors if they have been allowed to sit at room temperature for a while. Piping hot foods and beverages can deaden the palate.

We generally tend to separate hot foods from cold foods to keep the two temperatures from canceling each other out, but by serving hot and cold foods together, an interesting contrast can be created. In cuisines where food is often spicy, this is a time-honored tradition. For example, in Indian cuisine, a mango lassi (mangoes, yogurt, spices) might be served as a beverage with a fiery pork vindaloo and spicy mango chutney. Some of the ingredients are similar, and several are the same (mango, spices), but the temperature and creamy quality of the chilled drink provide a cooling counterpoint to the hot and spicy pork dish. Dairy is traditionally served with very spicy foods because proteins in milk interfere with pain receptors in the mouth and lessen the burning sensations caused by capsaicin.

SEASONINGS AND FLAVORING COMBINATIONS

Various seasoning and flavoring ingredients, ranging from single items to more complicated mixtures, are used in many different preparations. Classic seasoning combinations include mirepoix, matignon, marinades, oignon piqué, and oignon brûlé. These combinations of aromatic vegetables, herbs, and spices are meant to enhance and support, not dominate, a dish's flavors. Certain basic techniques and ingredient proportions should be observed to achieve the highest quality results.

Salting Foods

Salt is a seasoning that is almost taken for granted. Nearly everyone notices when you leave it out of a dish, because the food tastes a little dull and flat. As we continue to learn more about the potential health risks of a diet high in sodium, chefs and

nutritionists alike are looking at salt more closely once again. Adding a little salt before you cook foods can have the effect of bringing out the best flavor in the cooked foods. If you wait until the very end of cooking to add salt, you may be inclined to add too much. Adding more than that adds a salty taste. Humans do crave salt, but our craving appears to be all out of proportion to both our need and our ability to process it once we eat it.

We do not advocate simply eliminating salt, unless there is a specific reason to do so, but we do encourage all cooks and chefs to use salt wisely. Use kosher salt, as we have done in our recipes, wherever salt is called for. The same volume of kosher salt has about half the sodium of table salt. Use your fingertips to apply salt in a more even coat. Salt isn't the only source of sodium in foods. Processed and prepared foods are often high in sodium, even when they don't actually taste salty. Look for low- or reduced-sodium versions of ingredients like soy sauce, prepared broths or stocks, and condiments.

DEVELOPING FLAVOR IN MEATS, FISH, AND POULTRY DISHES

When a spice blend is used as a dry rub (also called a dry marinade) to coat food, the food is refrigerated after application to allow it to absorb the flavors. Very often these rubs contain some salt to help intensify all the flavors in the dish. Dry rubs may be left on the food during cooking, or they may be scraped away first. Spice blends may also be added to aromatic vegetables as they cook during the initial stages of preparing a braise or stew.

To use a marinade, combine the marinade and meat in a re-sealable plastic bag or shallow container. Turn the meat to coat it evenly, cover, and marinate it in the refrigerator for thirty minutes to overnight, depending on the size of the pieces and the level of acidity in the marinade. During longer marinating times, turn the meat once or

twice. If a recipe calls for using part of the marinade in an accompanying sauce, reserve some of it before adding the meat or boil the marinade for several minutes after removing raw meat.

A pan sauce gives you the chance to incorporate the flavorful drippings released by foods as they cook. Those drippings are reduced and collected in the pan. Adding a flavorful liquid, such as broth, wine, prepared sauce, or coulis, helps to dilute and dissolve those drippings. Classic pan sauces were often thickened with flour, roux, butter, or cream. Chefs today prefer to let natural reduction develop the flavor and leave the sauces with a somewhat lighter body.

BASIC AROMATIC AND FLAVORING COMBINATIONS

Various seasoning and flavoring ingredients, ranging from single items to more complicated mixtures, are used in many different preparations. Classic seasoning combinations include mirepoix, matignon, marinades. These combinations of aromatic vegetables, herbs, and spices are meant to enhance and support, not dominate, a dish's flavors. Certain basic techniques and ingredient proportions should be observed, as outlined in the following methods.

Mirepoix

A combination of chopped aromatic vegetables, customarily onion, carrot, and celery, a mirepoix is used to flavor stocks, soups, braises, and stews. The basic ratio of ingredients is two parts onion, one-part carrot, and one part celery, by weight. Because mirepoix usually is not eaten, the vegetables, except the onions, do not have to be peeled. The size of the cut will depend on how the mirepoix is to be used. For preparations with short cooking times, such as fish fumet, the mirepoix should be sliced or chopped small. For preparations with more than an hour of cooking time, such as

brown stock, the vegetables may be cut into larger pieces or even left whole.

Other ingredients may be added to the mirepoix, depending on the needs of a specific recipe. Leeks are often used in place of all or part of the onion. Other root vegetables, such as parsnips, may be used in addition to, or in place of, the carrots. Two mirepoix variations are white mirepoix and Matignon. White mirepoix replaces carrots with parsnips, additional onions, and leeks, and occasionally includes chopped mushrooms or mushroom trimmings. It is used for pale or white sauces and stocks, such as fish fumet. Matignon is an edible mirepoix, intended to be served as part of the finished dish.

Consequently, the vegetables are peeled and cut in uniform dice. Diced ham is often also included to enhance the flavor. A matignon is commonly used in poêlées dishes, such as poêlée capon. The ratio of ingredients in a Matignon is two parts carrot, one part celery, one part leek, one part onion, one part mushroom (optional), and one part pork product (ham or bacon). Various herbs and spices may be included as desired.

Bouquet Garni

Another combination of herbs and vegetables used to flavor stocks and other savory preparations is the bouquet garni, the French term for “bouquet of herbs.” A bouquet garni is a combination of fresh vegetables and herbs that typically contains fresh thyme, parsley stems, a celery stalk, and a bay leaf, tied into a bundle. When a bouquet garni has contributed adequate flavor (determined by tasting), it should be removed from the preparation and discarded.

Sachet d'épices

A standard sachet d'épices, French for “bag of spices,” contains parsley stems, dried thyme, bay leaf, and cracked peppercorns in a cheesecloth bag. As with the bouquet garni, it should be removed and discarded after enough flavor has been given.

Thickeners

The consistency of liquid preparations, such as soups, sauces, and braising liquids, often needs to be adjusted to achieve a desired texture. The following techniques and preparations provide ways to thicken liquids.

Reduction

Reduction, a process that removes some or all of the water in a liquid, not only thickens but also concentrates the liquid's flavor. Liquids can be reduced to varying degrees, typically defined by how much liquid is cooked off. For example, reducing by half means half of the liquid is cooked off. To reduce by three-fourths means to cook off three-fourths of the liquid, leaving one-fourth of the original volume. To reduce au sec (to dry) means to reduce until nearly all the liquid has evaporated.

Heavy pots are recommended, especially for reductions au sec, because as more water evaporates, the reduction is more likely to scorch. When reducing large amounts, it is advisable to transfer it to a succession of smaller pots as it reduces, thereby minimizing the risk of scorching by keeping the liquid from spreading over a large surface area. It is often advisable to strain the liquid as it is transferred. The method is as follows:

- Place the liquid in a heavy pot.
- Bring it to a simmer and cook until the desired amount has evaporated.
- When reducing au sec, keep the heat very low near the end of cooking and watch the reduction carefully to prevent scorching.

Slurries

A slurry is simply a starch (flour, arrowroot, cornstarch, or rice flour) dissolved in cold

liquid. The mixture should have the consistency of heavy cream. The method is as follows:

- Blend the starch thoroughly with one to two times its volume of cold liquid. If the slurry has stood for a while, be sure to stir it well before mixing it into the hot liquid, as the starch tends to settle.
- Bring the hot liquid to a simmer or a low boil.
- Gradually add the slurry, stirring or whisking constantly to prevent lumping and scorching.
- Bring the mixture to a boil and cook just until the sauce reaches the desired thickness and clarity.

Roux

Roux is prepared by cooking together fat and some flour. This mixture is often prepared in advance in large quantities for use as needed. Butter is the most common fat, but chicken fat, vegetable oils, or fats rendered from roasts may also be used. Different fats will have a subtle influence on the finished dish's flavor. The standard proportion of fat to flour is one to one by weight, but depending on the types of fat and flour used, this proportion may need to be adjusted slightly. Cooked roux should be moist but not greasy. A common description is "like sand at low tide." There are three basic types of roux, differing according to the length of time they are cooked: white roux, pale or blond roux, and brown roux. The method is as follows:

- Melt the butter or other fat in a pan over moderate to low heat.
- Add the flour and stir until smooth.
- If necessary, add a small amount of flour to achieve the proper consistency.
- Cook, stirring constantly, to the desired color. Roux should be glossy in appearance. White roux should be barely colored, or chalky. Pale or blond roux should be a golden straw color, with a slightly nutty aroma. Brown roux should be

deep brown, with a strong nutty aroma.

- If the roux will not be used right away, cool and store it, tightly wrapped, in the refrigerator.

Note: Larger quantities of roux may be made in the oven in a rondeau or brazier. The fat is melted and the flour added as in the previous method. The pan is then placed in a moderate (350 to 375°F/175 to 190°C) oven and cooked to the desired color. It should be stirred occasionally during cooking time.

Combining Roux with Liquid

Be sure that the roux and liquid temperatures are different—hot liquid and cold roux or cold liquid and hot roux— to help prevent lumping. Add one to the other gradually and whip constantly to work out lumps. Gradually return the soup or sauce to a boil, whisking occasionally. Reduce the heat and simmer, stirring occasionally, at least 20 minutes, to cook out the taste of the flour. Note: To test for the presence of starch, press a small amount of the sauce to the roof of the mouth with the tongue. It should not feel gritty or gluey. If it does, continue cooking until the starch is completely cooked out.

WEIGHTS AND MEASURES

U.S. CUSTOMARY UNIT EQUIVALENCIES

dash	=	less than 1/8 teaspoon
3 teaspoons (tsp.)	=	1 Tablespoon (1/2 fl. oz.)
2 Tablespoons (Tbsp.)	=	1/8 cup (1 fl. oz.)
4 Tablespoons	=	1/4 cup (2 fl. oz.)
8 Tablespoons	=	1/2 cup (4 fl. oz.)
16 Tablespoons	=	1 cup (8 fl. oz.)
2 cups	=	1 pint
2 pints	=	1 quart (approximately 1 liter)
4 quarts	=	1 gal.

METRIC EQUIVALENCIES

1 gram (g)	=	1/28 oz. (or 0.035 oz.)
1/2 ounce (oz.)	=	14 g
1 ounce	=	28.35 g (approx. 30 g)
2 ounces	=	56 g (approx. 60 g)
4 ounces	=	110 g
6 ounces	=	170 g
8 ounces	=	225 g
12 ounces	=	340 g
1 pound (16 oz.)	=	450 g
1 kilogram (kg)	=	2.21 lb.
1 liter (L)	=	33.92 fl. oz.

TEMPERATURE EQUIVALENCIES


250 °F	very cool	130 °C
300 °F	low	150 °C
350 °F	moderate	180 °C
400 °F	hot	200 °C
450 °F	very hot	230 °C

METRIC CONVERSION TABLE

To Change	To	Multiply by
Ounces (oz.)	Grams (g)	28.35
Pounds (lb.)	Kilograms (kg)	.45
Teaspoons (tsp.)	Milliliters (mL)	5
Tablespoons (Tbsp.)	Milliliters (mL)	15
Fluid Ounces (fl. oz.)	Milliliters (mL)	30
Cups	Liters (L)	.24
Pints (pt.)	Liters (L)	.47
Quarts (qt.)	Liters (L)	.95
Gallons (gal.)	Liters (L)	3.8
Celsius (Centigrade)	Fahrenheit	1. multiply by 9 2. divide by 5 3. add 32°
Fahrenheit	Celsius (Centigrade)	1. subtract 32° 2. multiply by 5 3. divide by 9


Example: 9°F above boiling equals 5°C above boiling

Weights and Measures



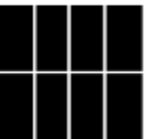
1 gallon

=



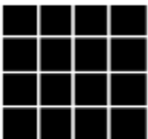
4 quarts

=




8 pints


=




16 cups




1 gal. = 128 oz.



1 qt. = 32 oz.



1 pt. = 16 oz.



1 cup = 8 oz.