**Food and Nutrition II Addendum (June 2014)**

Helps for the Teacher

**STANDARD 1**

**Students will review and apply the skills of kitchen management, safety and sanitation.**

**Objective 1: Identify food safety and sanitation rules and guidelines to maintain a safe working environment.**

**a. Review types of food borne illnesses and methods of prevention.**

* + Food-borne illness results from eating contaminated foods containing poisonous toxins. Fever, headache and digestive troubles are symptoms of food-borne illness. Practicing proper hand washing can prevent a large majority of food-borne illnesses.
	+ General conditions for bacteria growth: warmth, moisture, food and time.
	+ Food will often look and smell normal and will not always have off-odors or off- flavors. When in doubt, throw it out.
	+ Do not buy or use bulging cans.
	+ Frequently clean and sanitize work surfaces.
* **Salmonella, E-coli, Botulism, Hepatitis A, Campylobacter, Staphylococcus**
	+ **Salmonella:** Often found in fresh poultry and raw eggs.
	+ **E-coli:** Bacteria spread by air from soil, ground and fecal matter to food sources. Usually found in undercooked ground beef, unpasteurized milk, fruit juices, fresh fruits and vegetables. Cooking or heating to a high enough temperature will kill e-coli.
	+ **Botulism:** Associated with improperly canned foods, specifically low-acid foods.
	+ **Hepatitis A:** A virus that can be transferred to food when infected food preparers touch food or equipment with fingers that have feces on them. It is also associated with shellfish from contaminated water.
	+ **Campylobacter:** Most often been associated with unpasteurized dairy products, contaminated water, poultry, and produce
	+ **Staphylococcus:** Caused by eating foods that were contaminated by food workers who carry Staphylococcus and then handle food without washing their hands.  It can also be found in unpasteurized milk and cheese product.
* **Cross-contamination**
* Cross-contamination is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods.
* Use separate plates: one for holding raw meat, poultry or seafood and another for cooked foods.
* Place washed produce into clean storage containers, not back into the original ones.
* Be aware of the tools used during cooking—never use the same knife for raw meat, poultry or seafood to chop produce or ready-to-eat foods.
* Use one cutting board for meat, poultry and seafood, and a separate cutting board for produce and ready-to-eat foods.
	+ Always wash hands, cutting boards, etc. with hot soapy water after they come in contact with raw meat, poultry or seafood.
* **Proper thawing and storage of food.**
	+ **Proper thawing of food**
		- Refrigeration- Keep temperature at 41 degrees or lower
		- Running Water- From the time it takes for the food to thaw plus the time to prep the food, never let the food temperature go above 41 degrees for longer than 4 hours
		- Microwave- If it will be cooked immediately
	+ **Proper storage of food.**
		- The temperature in a refrigerator should be 40 °F or below throughout the unit, so that any place is safe for storage of any food.
		- Raw meat, poultry, and seafood should be in a sealed container or wrapped securely to prevent raw juices from contaminating other foods.
		- Raw meat, poultry, and fish should be stored separately from prepared and ready-to-eat food. If they cannot be stored separately, store them below prepared or ready-to-eat food.
		- Raw meat, poultry, and fish should be stored in the following top-to-bottom order in the refrigerator: whole fish, whole cuts of beef and pork, ground meats and fish, and whole and ground poultry.
		- If food is removed from its original package, put it in a clean, sanitized container and cover it. The container should be labeled with the name of the foods and the original use by date.
* **Danger zone (41-135 degrees)**
	+ To keep foods safe, reduce the amount of time it spends in this temperature range. If food is held in the danger zone longer than 4 hours it should be thrown out
* **Internal meat temperatures (145-165 degrees)**
	+ Internal meat temperatures are based on industry standard.
	+ 145 degrees- Seafood, pork, beef, veal, lamb
	+ 155 degrees- Ground meats
	+ 165 degrees- All Poultry
* **Reheat internal food temperature – 165 degrees**
* **Cooling Foods – (from 135 to 70 degrees within 2 hours and then 70 to 41degrees within 4 hours)**
	+ Cutting large food items in to smaller portions and storing in shallow containers can cool foods more quickly.
	+ Cooling time can also be decreased by placing containers of hot food into and ice bath and stirring frequently.

**b. FIFO – First in First out is a method of storage rotation for home and restaurants**

* First in, first out is a method of storage rotation for home and restaurants- store items with the earliest use-by date in front of other items with later dates.

**c. Identify and demonstrate the importance of personal hygiene**

* **Hand washing and hand care**
	+ Use as hot of water as you can stand and scrub for 20 seconds, cleaning under fingernails and between fingers. Fingernails should be short and clean, with no nail polish or false nails, and jewelry should be removed to help prevent the spread of pathogens.
* **Hair covering or tied back**
* **Uniform – apron/chefs jacket/lab coat**
	+ Uniform should be clean
* **Discuss use of gloves – use/change (Ready to eat food, handling of protein)**
	+ Use/change gloves before preparing ready-to-eat food (foods that won’t be heated before serving) and handling protein: both raw and cooked. Wounds or cuts should be covered with a bandage, then with gloves.

**d. Demonstrate disinfection of work surfaces**

* Clean means to remove visible soil and food particles
* Sanitize means to use moist heat or chemical agents to reduce pathogens

**e. Apply established safety rules and guidelines to maintain a safe working environment.**

* **Basic first aid (prevention and treatment of cuts, burns, slips, and falls)**
* Cuts
* Always use the correct knife for the job.
* Keep shields on the sharp edges of tools and when not in use, store in a safe place. Never keep knives loose with other cooking implements in a drawer.
* Use a cutting board and place a damp cloth under the board.
* Never try catching a falling knife. When passing a knife, keep it pointed at the floor.
* Notify others working in the kitchen that you have a knife.
* First Aid Treatment: In the case of a minor cut, rinse wound under running water and then put on a protective glove to avoid contamination.
* Slips/Falls/Strains
* Clean and dry the floor and wear non-slip shoes.
* Avoid carrying large items that block the front view.
* Don't lift heavy object without help.
* Bend at the knees, not at the waist and keep the back straight.
* Burns
* Burn treatment: Cool the burn with cool or lukewarm water for 10 to 30 minutes, ideally within 20 minutes of the injury occurring. Never use ice, iced water or any creams or greasy substances such as butter.
* **Fire prevention and safety**
	+ Never leave cooking food unattended, stay in the kitchen when frying, grilling or broiling food.
	+ Use a timer so you’ll remember that the stove or oven is on.
	+ Don’t wear loose clothing or dangling sleeves while cooking.
	+ Keep anything that can catch fire – potholders, oven mitts, wooden utensils, paper or plastic bags, food packaging, and towels or curtains—away from the stove, oven or any other appliance in the kitchen that generates heat.
	+ Clean cooking surfaces on a regular basis to prevent grease buildup.
	+ Do not use water or flour on a grease fire. Turn off the burner and cover the grease fire with a lid. Grease fires can also be smothered with baking soda, but it takes a lot of baking soda to do the trick. Unless the baking soda is easily accessible, it's usually easier to quickly find a lid.

**Objective 2: Review and apply culinary terms and abbreviations, equivalents, recipe yields, and proper measuring techniques with correct equipment.**

**a. Mise en place**

* + The planning and placement of ingredients and equipment before food preparation

**b. 3 tsp = 1 Tbsp**

**c. All tablespoon equivalents to 1 cup**

* + 4 tablespoons in ¼ cup
	+ 8 tablespoons in ½ cup
	+ 12 tablespoons in ¾ cup
	+ 16 tablespoons in 1 cup

**d. ¾ cup = ½ cup + ¼ cup**

**e. Cups/pints/quarts to gallons**

* 8 ounces =1 cup
* 16 ounces = 2 cups = 1 pint
* 32 ounces = 4 cups = 2 pints = 1 quart
* 128 ounces = 16 cups = 8 pints = 4 quarts = 1 gallon

**Objective 3: Select and explain the appropriate use and care of small appliances and equipment for specific product preparation and culinary applications.**

**a. Food processor**

* A versatile kitchen appliance that can quickly and easily chop, slice, shred, grind, and puree almost any food. It is different than a blender because you can chop, grind and puree without adding additional liquid. It is also used to make piecrusts, bread and pasta dough. Grains, nuts and meats can be ground with this versatile piece of kitchen equipment.

**b. Immersion blender**

* An immersion blender, or stick blender is a kitchen appliance to blend ingredients or puree food in the container in which they are being prepared. It can quickly and easily chop, grind, and puree almost any food. Immersion blenders are often used to emulsify salad dressings and pureed sauces and soups.

**c. Internal temp thermometers/calibration**

* Insert thermometer into the thickest part of the food without touching bone or fat, when checking the temperature.
* **Calibrate a thermometer:** Fill a large glass with crushed ice. Add clean tap water until the glass is full and stir well. Put the thermometer stem or probe in the ice water mixture so that the entire sensing area is submerged. Do not let the stem of the thermometer or probe touch the sides or bottom of the glass. Wait at least 30 seconds or until indicator stops moving. With the stem of the thermometer or probe still in the ice water mixture, use a wrench to turn the adjusting nut until the thermometer reads 32°F (0°C). If calibrating a digital thermometer, press the reset button to automatically calibrate the thermometer.

**d. Scale**

* Because weighted measure (grams, ounces) is much more accurate than volumetric measurements (cups, tablespoons, teaspoons) a scale should be used in recipe preparation whenever possible. More consistent results will occur with the use of a scale and recipes can be easily scaled to fit any number of servings.

**STANDARD 2**

**Demonstrate food preparation techniques and nutrition of yeast breads.**

**Objective 1: Identify and prepare yeast breads.**

**a. Lean Dough, Enriched Dough**

* **Lean Dough:** Lean dough contains only relatively small amounts of sugar and fat, if any. Breads made from lean dough tend to have a chewier texture, more bite, and a crisp crust. Hard rolls, French and Italian-style breads, and bagels are examples of lean dough.
* **Enriched Dough:** Enriched dough has fat, dairy, eggs, or sugar added. It is usually softer, and the finished product has a more tender bite after baking than lean dough products. They may be golden in color because of the use of eggs and butter, and the crust is soft rather than crisp. This category includes most sandwich breads, soft rolls, and braided breads such as challah.

**b. Mixing Methods: Straight dough, Modified straight-dough, Sponge method**

* **Straight Dough Method:** Simplest and most common way of mixing yeast dough. In this method mix all the ingredients for the dough together at the same time. When the ingredients are mixed the yeast starts to develop immediately.
* **Modified straight-dough:** Rather than adding all the ingredients at once the ingredients are added in steps.
	+ Hydrate the yeast and add the flour.
	+ Add liquid ingredients and sweeteners
	+ Mix the dough until al the flour is evenly moistened.
	+ Add additional butter until evenly blended.
	+ Continue to mix and knead the dough until properly developed.
* **Sponge Method:** The sponge method combines one-third to one-half of the recipes total liquid with all the yeast and enough flour to make a very loose dough called a sponge. When the sponge has doubled in size the remaining ingredients are added to the sponge and mixed to make dough**.**

**Objective 2: Identify and discuss the different types of flours used in bread making: all-purpose flour, unbleached flour, bread flour, and whole wheat flour.**

**Objective 3: Identify ingredients in yeast breads and their functions.**

**a. Flour**

* Flour is the most basic and important ingredient in bread. When the protein in flour comes in contact with liquid and is kneaded, it produces gluten, which becomes the basic structure of the bread.

**b. Yeast**

* Yeast is the primary cause of fermentation in naturally leavened breads. Yeast eats sugar and produce alcohol and carbon dioxide. Yeast increases the volume of breads creating different textures and crumbs. Yeast are living organisms. In extremely hot or extremely cold temperatures they can die or slow down.

**c. Liquid**

* Water’s main function in bread baking is to hydrate other ingredients. Flour mixes with water and combines protein into gluten. Other ingredients, like salt and yeast, are dissolved in water and fully incorporated into the dough.

**d. Salt**

* Enhances flavor and controls fermentation

**e. Sugar**

* Sugar helps with fermentation of the yeast and speeds growth. Sugar leftover after fermentation is called residual sugar. This sugar is what gives a sweet taste to the final product. It also caramelizes on the outer crust and provides browning.

 **f. Fat**

* Fats add tenderness, flavor, and color and affect the crumb of the bread.

**g. Eggs**

* Adds protein, color, structure, richness and leavening.

**Objective 4: Identify the food science principles of yeast breads.**

**a. Fermentation**

* + When yeast breaks down sugars, carbon dioxide is produced, which causes the bread to rise—sugar feeds the yeast during the fermentation process

**b. Kneading**

* When liquid and flour combine, they form gluten. As the dough is kneaded the gluten strands line up creating a structure where the carbon dioxide bubbles from the yeast are trapped, allowing the dough to rise.

**c. Proofing**

* The time period that dough rises prior to baking

**d. Shaping**

* + Preparing dough for its intended purpose—rolls, loaves, doughnuts, etc.

**e. Baking/oven spring**

* + The final burst of rising just after the bread is put into the oven--due to the increase in heat, carbon dioxide and water vapor that is trapped inside the gluten structures expand, causing further rising.

**Objective 5: Review the nutrients found in breads and incorporate guidelines from MyPlate.**

* + Grains are important sources of many nutrients, including [dietary fiber](http://www.health.gov/dietaryguidelines/dga2005/document/html/appendixB.htm#AppB8), several B vitamins (thiamin, riboflavin, niacin, and folate), and minerals (iron, magnesium, and selenium).
	+ Dietary fiber from whole grains or other foods, may help reduce blood cholesterol levels and may lower risk of heart disease, obesity, and type 2 diabetes. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as whole grains help provide a feeling of fullness with fewer calories.

**STANDARD 3**

**Apply budgeting and consumerism skills to manage food costs.**

**Objective 1: Students will practice consumerism and budgeting skills related to food.**

**a. Establish and apply a budget as it relates to food.**

* + A budget is a plan for managing money that can help consumers get more from their money. The challenge is to provide wholesome, enjoyable meals without spending more than the budget allows. Good planning can help consumers create tasty, nutritious meals within a budget.

**b. Apply shopping strategies**

* **Create a categorized shopping list**
	+ A shopping list helps consumer remember what they need to buy and get through a shopping trip quickly. A list can also help prevent impulse buying. Group items on a shopping list in the order they are arranged in the store. A list saves time and money.
* **Take calculator**
	+ Calculating food as you shop helps to keep track of spending and to stay within your budget.
* **Don’t shop when hungry or tired**
	+ Savvy consumers avoid shopping when they are hungry. People spend up to 15 percent more on food when they are hungry, because they give in to impulse buys.
* **Shop alone**
	+ Those that shop alone spend less money because they aren’t being persuaded by others to make an impulse buy.

**c.** **Identify shopping guidelines and advertising strategies**

* **Loss leaders:**
	+ Sale items that are sold at such a low price the store makes very little profit or actually loses money. The low price on these items leads shoppers to spend more. Loss leaders are often advertised on signs in store windows and in the newspaper to get the consumer into the store to buy the loss leader item in hopes that they will also purchase other items.
* **Coupons/rebates:**
	+ Coupons offer savings on specific products. When matched with store sales consumers can often save money on a name brand item making it cost less than a store/generic brand. Coupons are also used by the manufacture to introduce a new product. Coupons should only be used on products that a consumer would purchase anyway.
	+ Rebates are a partial or full refund from the maker of an item. Consumers pay the full price at the store and then fill out the rebate coupon and mail it, with a proof of purchase, to the address given. The maker then sends a check for the rebate.
* **Impulse buys**
	+ Most grocery purchases are on impulse, unplanned. Grocers usually make more money on impulse buys than on sales of staples like bread, milk, and dry groceries.
* **Layout of store/shelf placement:**
	+ Layout: Foods that appear most often on grocery lists (called demand items) are often placed at the rear of a store in order to use the stores pulling power to move shoppers past other merchandising temptations. Most checkout counters are stocked with point-of sale items like chewing gum, chocolate, and magazines. Be aware that these shelves are designed to encourage impulse buys.
	+ Shelf placement: Best sellers and other leading brands are placed in the “Bulls-Eye Zone”-front and center, right at eye level. These items tend to be higher-priced items or items with the highest mark up. Specialty items are found on the top shelf. These smaller brands usually don’t have the budget to pay for favorable placement. Bulk items or store brands are usually placed on the bottom shelf.
* **Package dating**
	+ Some packages are stamped with a date that indicates how fresh a product is and how long it can be used before it expires. Different states have different laws regarding dating of foods. There are two basic forms of package dating: Sell-by date is the last day the product should remain on the store shelf. Use-by date is the last day on which the product will still have high quality.
* **Calculate unit pricing/cost per serving**
	+ Unit pricing is the cost per ounce, quart, pound, etc. Most stores show the unit price on the shelf label. If no unit price is given, it can be calculated it by dividing the item’s total price by the number of units. Unit price does not always tell a product’s real value. For example, boneless chicken costs more per unit than bone-in chicken, but it may be a better value because it has more edible meat. Cost per serving is a good way to compare foods like these.
* **Interpret package information**
	+ Wrappers on food packages are full of details about the food inside. Food labels are part advertising and part information. Understanding labels and distinguishing facts from claims is an important shopping skill.

**d. Discuss name brands versus store brands**

* + The best way to choose the best product is through comparison-shopping. Comparison-shopping means matching prices and characteristics of similar items to determine which offers the best value. Name brand products are usually more expensive than store brand products because more money is spent on advertising.

**e. Compare and contrast the use of convenience foods in relation to nutrition use of time and money.**

* + Convenience foods are foods that have been processed to make them easier and faster to use, but are more expensive than foods prepared from scratch. Convenience foods can also be whole foods that have been cut, sliced etc., saving time in scratch cooking at home (purchasing pre-diced onions, minced garlic etc.). These items cost more money than its whole form but save the consumer time.

**Objective 2**: **Read and interpret food labels as it applies to nutritional value.**

**a. Identify the components of a food label**

* **Nutrition facts**
	+ The nutrition facts panel on a food package lists the calories, nutrients, number of servings, and portion size of food.
* **Ingredients are listed from the largest to the smallest amount by weight**
* **% Daily Value**
	+ The Percent daily value on the nutrition facts label is a guide to the nutrients in one serving of food. For example, if the label lists 15 percent for calcium, it means that one serving provides 15 percent of the calcium needed for the day.
* **Serving size**
	+ Nutrition information is given per serving. Make sure to note the number of servings in a package before consuming it.

**b. Food label terms**

* **Low in**
	+ How you might see it on a label
		- Low-fat, low-sodium, low-cholesterol, low-calorie
	+ What it means:
		- This term is used on foods that can be eaten often and consumers still won’t get more than the recommended amount of that nutrient.
* **Reduced, less, light**
	+ Reduced contains at least 25 percent less of the ingredient or 25 percent fewer calories than the regular version
	+ Less contains 25% less of a nutrient or calories than another food. It could be the “regular” version of the same food, or a different food. For example, pretzels that have 25% less fat than potato chips could carry a “less” claim on their label.
	+ Light can mean lower calories, fat or sodium. If the food gets 50% or more of its calories from fat, then the product must have half the fat of the regular version in order to use “light.”
* **Good source of**
	+ Contains 10 to 19% more of the daily value for the nutrient than a comparable food per serving.
* **Organic and natural**
	+ The word “organic” on a food label means that the food is not genetically modified, that it was produced without pesticides, artificial fertilizers, growth hormones, or antibiotics.
	+ A natural food is a food that has been minimally processed and has few additives such as dyes and added sugars.
* **High source of**
	+ Provides at least 20 percent of the Daily Value for the nutrient per serving.
* **100% Juice vs. drink, punch, juice cocktail, fruit flavored drink, etc.**
	+ To be labeled juice, a product must be 100 percent fruit or vegetable juice. A juice drink, also called a “juice cocktail,” a blend of 10 to 50 percent juice with water, sweeteners, flavorings, and other additives. A fruit-flavored drink (punch) is a drink that tastes like juice but does not have any juice. Fruit-flavored drinks are made with water, sweeteners, and flavorings that give a fruitlike flavor.

**STANDARD 4**

**Demonstrate food preparation techniques and nutrition of meats, poultry and seafood.**

**Objective 1: Identify and apply proper internal temperatures of meat, poultry and seafood according to the food industry standards**.

* + A thermometer is the best way to ensure properly cooked meat. It should be placed in the center, thickest part of the meat, away from the fat and bone.

**a. Whole meats (seafood, pork, beef, veal, lamb) – 145 degrees**

**b. Ground meats (pork, beef, veal, lamb) – 155 degrees**

* + Ground meatis popular and relativity inexpensive. Less tender cuts of meat, along with trimmings, are often ground. Ground beef, also called hamburger is most commonly used in the United States. Ground beef is available with different kinds of fat. You can also buy ground lamb, pork and veal. When ground meats are processed the surface bacteria can be ground and mixed throughout product. This is why it is important to cook ground products to a higher internal temperature than other cuts.

**c. Poultry (whole or ground) – 165 degrees**

**Objective 2: Identify and discuss different types of meats.**

**a. Meat (pork, beef, veal, lamb)**

* + **Pork:** Meat from a Pig also known as a Hog. Modern-day production has reduced Pork’s fat content. Pork can be considered lean by trimming excess fat and looking for the word “loin” on the package label. Some common cuts of pork are: Cutlets, Ham, Chops, Back Ribs, and Bacon
	+ **Beef:** Cattle more than one year old. Beef is sold to retails stores as wholesale cuts. The retailer divides wholesale cuts into retail cuts. Some cuts of meat are more tender than others. The two main reasons for this are muscle movement and marbling. Marbling is small white flecks of fat that melts during cooking making the meat more tender.
	+ **Veal:** Calves (young cattle), usually one to three months old. Mild flavor; firm texture; light, gray-pink color with very little fat
	+ **Lamb:** Sheep less than a year old. Unique, mild flavor; bright, pink-red color; brittle white fat.

**b. Poultry (white meat vs. dark meat)**

* + Poultry is any bird raised for food. Some common types of poultry are: chicken, turkey, and duck. Because of its mild flavor, poultry lends itself to many different recipes and cooking methods. Poultry usually has less fat and calories than red meat. Most of the fat in poultry is attached to the skin. Poultry comes in many forms. You can buy whole birds, or you can choose from pre-cut parts, ground poultry, internal organs, and ready-to-eat products.
	+ Within poultry, there are two types of meats—white and dark. The different colors are based on the different locations and uses of the muscles. Dark meats occur in the [legs](http://en.wikipedia.org/wiki/Leg), which are used to support the weight of the animals while they move. The Dark meat has more saturated fat than the White meat.

**c. Seafood**

* + Seafood hastwo main categories
* Finfish (Fish)are all species of fish that have internal skeleton.
	+ - * Two categories: Salt Water and Fresh Water
* Shellfish are water creatures that have no bones.
	+ - * Two types of shellfish: Crustaceans and Mollusks
* Some fish are particularly rich in omega-3 fatty acids and unsaturated fats, which make them a healthy source of protein. Fish and shellfish are highly perishable.

**Objective 3:** I**dentify appropriate meat cooking methods: dry vs. moist**

1. **Moist heat cooking for less tender cuts (Braising, Stewing, Slow- Cooking)**
	* **Braising:** Is a combination of dry and moist heat cooking methods, used for tough cuts of meat and poultry to make them tender. Start with browning the meat in a small amount of fat. Sear it on all sides. Liquid is then added to the pan to create a moist cooking environment.
	* **Stewing:** Is cooking small pieces of less tender cuts of meat and for poultry and fish, by covering

them completely with a liquid and simmering slowly, usually in a covered pan.

* **Slow Cooking:** Generally, slow –cooking means any food preparation method that relies on using low-heat for a long amount of time. A benefit of slow-cooking is that food become more tender, as connective tissues break down. Specifically, slow-cooking refers to the “slow-cooker” or “crock pot”, (a countertop small appliance). The benefit of slow-cooking in a slow-cooker is mainly convenience. The slow-cooker is geared towards “one-pot” recipes.
1. **Dry heat cooking for tender cuts (Broil, Grill, Roast, Sauté)**
	* Dry heat cooking doesn’t break down fibers or connective tissues as well as moist methods. For this reason, dry-heat cooking methods are most often used with tender products.
* **Broil:** Uses radiation from a heat source located above the food. The heat for broiling is usually intense in order to sear or brown the food.
	+ **Grill:** Is a cooking method that uses radiation from a heat source located below the food. Grilled foods can be cooked over a variety of heat sources. This is a healthy way to cook because melted fat from the food drips away during cooking.
	+ **Roast:** Most roasting is done in the oven. Roasting is a method that cooks a food by surrounding it with hot air. During roasting the food is uncovered so any moisture released can evaporate.
	+ **Sauté:** Quickly cooking an item in a small amount of hot fat, over moderate heat.

**c. Trimming excess fat**

* Keep it lean: Guidelines from Myplate
* Trim away all of the visible fat from meats and poultry before cooking.
* Broil, grill, roast, poach, or boil meat, poultry, or fish instead of frying.
* Drain off any fat that appears during cooking.
* Skip or limit the breading on meat, poultry, or fish. Breading adds calories. It will also cause the food to soak up more fat during frying.
* Choose and prepare foods without high fat sauces or gravies.

**Objective 4: Discuss inspection and grading of meat and poultry.**

* All meat sold in the United States must be **inspected**. Inspection is strictly an assurance of safety and wholesomeness or healthfulness before and after the animals are slaughtered and not an indication of quality.
* The USDA also grades meats and poultry. **Grading** is classifying products according to quality. Grading identifies the qualities that affect the tenderness and flavor of meat and poultry. Grading of meats is based on marbling, maturity, and muscle conformation. Grading of poultry is based on size, flesh quality, and visible defects. Grading is voluntary and helps meatpackers market their products.
* Common Beef Grades are: USDA Prime, USDA Choice, and USDA Select

**Objective 5: Review the nutrients found in meats and incorporate guidelines from MyPlate**.

* Meat is an excellent source of protein. It is also a major source or iron, zinc, phosphorus, thiamin, riboflavin, niacin, and vitamins B6 and B12. Meat can be high in saturated fat so choose lean meats when possible.
* Guidelines from MyPlate
* All foods made from meat, poultry, seafood, beans and peas, eggs, processed soy products, nuts, and seeds are considered part of the Protein Foods Group.
* Select a variety of protein foods to improve nutrient intake and health benefits, including at least 8 ounces of cooked seafood per week. Young children need less, depending on their age and calorie needs.

**STANDARD 5**

**Apply proper procedures for knives and knife cuts**.

**Objective 1: Identify types, use and care of knives.**

**a. Cutting board -- designation of use, stabilization and sanitation**

* + A cutting board is used to cut food to prevent damage to the countertop and to prevent cross contamination. Wood cutting boards keep knives sharp longer, but are porous and cross contaminate more easily. A plastic cutting board can damage knifes but is safer to use because plastic is easier to sanitize.
	+ Plastic cutting boards are available in different colors. Each color is designed for use with a specific food type. Adopting a color-coding system reduces cross contamination.
	+ To stabilize cutting boards place a damp towel under the cutting board.
	+ Sanitize wood boards by scrubbing in hot soapy water and sanitizing in a diluted bleach solution. Never put wood boards in the dishwasher or soak in water.
	+ Sanitize plastic boards by scrubbing in hot soapy water and sanitizing in a diluted bleach solution or wash in the dishwasher.
	+ It is advised to cut raw [meat](http://en.wikipedia.org/wiki/Meat) on a separate cutting boards from cooked meat, [vegetables](http://en.wikipedia.org/wiki/Vegetable) or ready to eat foods to prevent cross contamination.

**b. Types of knives (Chef’s Knife, Paring Knife, Serrated Knife)**

* + **Chef’s Knife:** Among the most versatile knives, this is the knife used daily for chopping, slicing, dicing and mincing.
	+ **Paring Knife.** This indispensable knife is handy for smaller precision tasks like peeling, trimming and slicing small fruits and vegetables.
	+ **Serrated Knife.** A serrated bread knife cuts soft, fresh loaves without squashing or tearing. It's also great for cutting tomatoes and citrus.

**c. Sanitation and storage of knives**

* + Knives should not be washed in the dishwasher or placed in the bottom of the sink. Hand wash knives immediately after the knife enters the dishwater with warm soapy water and dry immediately.
	+ Store knives in a knife block or cover each blade with a protective sheath**. Knives should not be stored loose in a drawer with other knives or utensils because the knives will bang against each other and the blade will become dull.**

**Objective 2: Identify and demonstrate different knife cuts**

**a. Batonnet**

* + Batonnet is a French word for baton or stick. The technical measurement is ¼” by ¼” by 2.5-3” long.

**b. Julienne**

* + Julienne = 1/8” by 1/8” by 2 ½” long

**c. Brunoise**

* + 1/8” cubed

**d. Dice**

* + Large dice = ¾” cubed
	+ Medium dice = ½” cubed
	+ Small dice = ¼” cubed

**e. Chiffonade**

* Cutting leafy vegetables into long, thin strips. This is accomplished by stacking leaves, rolling them tightly, then slicing the leaves perpendicular to the roll.

**f. Diagonal**

* + 45 degree angle cut

**STANDARD 6**

**Students will demonstrate food preparation techniques and nutrition of salads**.

**Objective 1: Identify and perform salad preparation skills.**

**a. Identify classifications of salad dressings –vinaigrette and mayonnaise based**

* Vinaigrette is made with oil and vinegar, usually in a 3:1 ratio and seasonings.
* Most salad dressings are emulsions. An emulsion is a mixture of two liquids that normally do not combine. Vinaigrette is a temporary emulsion, one that quickly separates. That is why it is necessary to shake oil-and-vinegar dressings before using them.
* A permanent emulsion is a mix of liquids that will not separate because there is an emulsifier added. An emulsifier is a substance that keeps the oil and vinegar blended. Egg yolk is an effective emulsifier.
* Mayonnaise is a thick, creamy dressing that is a permanent emulsion of oil, vinegar or lemon juice, egg yolk and seasonings.
* Mayonnaise based dressing uses mayonnaise and seasonings.

**Objective 2: Identify structure and arrangement and service of a salad.**

**a. Freshness**

* The ingredients in a salad should be as fresh as possible.
* Crisp up greens by placing in ice water. Drain well and pat dry with a dry paper towel.
* It is best to not wash until ready to use. If it must be washed before use, store in a plastic bag wrapped in a dry paper towel.
* Do not over handle or greens become bruised and wilted.
* Never freeze

**b. Color**

* Choose vegetables that will give a variety of color to the salad to increase the aesthetics and nutritional content.

**c. Texture**

* Choose vegetables that will give a variety of textures such as crunchy, soft, smooth, rough to increase aesthetics and taste appeal.

**d.** **Ingredients should be well drained, cut into convenient eating size, prepared right before serving, dressing procedures**.

* Salad dressing should be put on the salad immediately before serving.

**e. Serving**

* Creativity and presentation help make salads look appetizing. Salads can be served tossed, (mixed) arranged, (placed in an attractive pattern), layered (placed in layers) or bound (held together by a thick dressing).
* Chilling the bowl or plate in the refrigerator helps the salad stay cold for serving and eating.

**Objective 3: Demonstrate knife skills and cutting techniques in salad making.**

* Batonnet, brunoise, julienne, dice, chiffonade, diagonal

**Objective 4: Identify the nutrients found in salads and incorporate guidelines from MyPlate.**

**a. Carbohydrates (fiber) – pasta, potatoes**

**b. Fats - dressings**

**c. Protein – meats, cheese, eggs**

**d. Minerals – fruits and vegetables (fiber)**

**e. Vitamins – fruits and vegetables (fiber)**

**f. Water- fruits and vegetables**

**Objective 5: Identify types of salads—appetizer, accompaniment, main dish, and dessert.**

* **Appetizer salad** is a small, light salad served before the main course. This salad should be made from vegetables or fruit.
* **Accompaniment salad** is a salad that is served with and compliments the main course. This salad should contrast well with the rest of the meal in color, flavor, and texture. This salad could be made of greens, pasta or fruit.
* **Main dish salad** is a large salad that includes protein and is substantial and satisfying.
* **Dessert salad** is served after the main course. This salad may be sweetened, molded or frozen using gelatin or fruit. Whip cream is usually the dressing.

**Objective 6: Identify categories of salads by the main ingredient -- pasta, gelatin, protein, vegetable, and fruit.**

**STANDARD 7**

**Students will explore health concerns incorporating guidelines from MyPlate and current dietary guidelines throughout the life span**.

**Objective 1: Identify the changing nutritional needs across the life span.**

**a. Child (12 months to 11yrs)**

* Young children are active and growing, they need nutrient dense foods in small amounts often. One tablespoon of food for each year of the child’s life is a good proportion indicator.
* Set an example, children watch and learn from their caregivers.
* Make meals fun, serve foods with bright color, different texture and shapes.
* Introduce new foods one at a time and at the beginning of the meal when the child is most hungry.
* Don’t use food as a reward or punishment.
* Encourage children to drink water instead of sugary drinks.

**b. Adolescence (12 to 20)**

* This is the second most rapid growth period of life, which dramatically increases the need for almost all nutrients especially iron and calcium.
* Most teens experience spurts of growth. During these times, more food is needed but the extra food should be nutritious.
* Avoid high sugar and high fat snack foods.
* Drink water instead of sugary, caffeine and carbonated drinks.

**c. Adult (21 to 60)**

* Adults need the same amount of nutrition as they get older, but they need fewer calories.
* Choose a variety of healthful, low-calorie foods.
* Make regular physical activity a priority.

**d. Elderly (60+)**

* Good nutrition plays a major role in wellness and disease prevention as well as helping adults stay active and energetic.
* Because calorie needs drop but nutrition needs rise older adults need to eat nutrient dense food.
* Calcium and vitamins D and B12 are used in the body less efficiently so take in more of these nutrients.
* Thirst signals decline with age. Drink 8 cups of water or milk each day. Increase liquid intake by eating foods like soups, smoothies and cooked cereals.
* Often the elderly have special diets such as low fat or low sodium.
* Malnutrition is a concern especially for elderly that live alone. There are social service programs in most communities to help elderly receive nutritious meals.

**e. Use MyPlate and current dietary guidelines to assess nutritional needs based on age, gender and activity level**

* Build a healthy plate:
	+ Make half your plate fruits and vegetables
	+ Switch to skim or 1% milk
	+ Make at least half your grains whole
	+ Vary your protein food choices
	+ Keep your food safe to eat
* Cut back on foods high in solid fats, added sugars, and salt
	+ Choose foods and drinks with little or no added sugars.
	+ Look out for salt (sodium) in foods you buy - it all adds up.
	+ Eat fewer foods that are high in solid fats.
	+ Eat the right amount of calories for you
	+ Enjoy your food, but eat less.
	+ Cook more often at home, where you are in control of what's in your food.
	+ When eating out, choose lower calorie menu options
	+ Write down what you eat to keep track of how much you eat.
	+ If you drink alcoholic beverages- limit to 1 drink a day for women and 2 drinks a day for men.
* Be physically active your way
	+ Pick activities that you like and start by doing what you can, at least 10 minutes at a time. Every bit adds up, and the health benefits increase as you spend more time being active.

**Objective 2: Identify sports nutrition guidelines for athletes and/or an active lifestyle**.

**a. Training**

* Conditioning and nutrition is the key to top athletic performance. Daily food choices can make a difference between a good performance and a poor one.
* Athletes who eat a varied, nutrient dense diet following the dietary guidelines do not need sports bars or dietary supplements.
* Athletes need to get 55 to 60 percent of their calories from carbohydrates.
* Athletes need to get 20 to 25 percent of their calories from fat.
* Athletes need to get 15 to 20 percent from protein.

**b. Pre-event/exercise**

* The last meal before a competition or intense exercise should be complex carb-rich meal (grains, fruit, starchy veggies, milk, and yogurt) 2-4 hours before training or competition. If you have a sensitive stomach, consume the last meal 4 hours before and sip on a sport drink or easily digestible carbohydrate-filled snack in the hour prior.
* The last meal before a competition or intense exercise should include a moderate amount of protein and be low in fat and fiber rich foods.

**c. Hydration**

* Water helps the body regulate many important functions: temperature, blood pressure, nutrient concentration (maintain appropriate levels of electrolytes in the body, nutrient transportation, recovery from intense training.
* Allowing the body to become dehydrated can cause muscles to cramp, alter blood pressure, cause weight loss during exercise, delay recovery time, and decrease performance.
* Drinking too much water can alter electrolytes and cause bodily harm.
* Athletes should drink water before and after an event even if they don’t feel thirsty.
* Athletes should drink water about every 15 minutes during an event.
* Consider a sport drink for workouts over 45 minutes or workouts in the heat.
* Fluid needs are highly individual, aim to replenish 150% of lost fluid after training or an event and monitor urine color (pale yellow is ideal).

**d. During an event/exercise**

* Carbohydrate is the body’s primary energy source during exercise. Dietary carbohydrates (grains, fruit, starchy veggies, milk and yogurt) are stored in the liver and in the muscle as glycogen. During exercise, the body draws upon these glycogen stores (primarily muscle glycogen) to fuel working muscles.
* Carbohydrate while exercising can help improve performance by: reducing the risk of hypoglycemia (low blood sugar), providing fuel for actively working muscles, prevent “hitting the wall” and being forced to slow down or stop.
* Sparing protein and fats (you don’t want your body to start breaking down muscle for energy).

**e. Recovery**

* The body is primed to replenish lost nutrients soon after exercise. After a workout, game, match, or race, start refueling within 15-60 minutes.
* Recovery in 3 stages:
* Snack + Fluid (within15-60 minutes) carbohydrate & 10-15g protein
* Meal + Fluid (within 2 hours) Balance (mostly carbs, lean protein, low fat)
* Snack + Fluid (within 4 hours) carbohydrate & 10-15g protein

**Objective 3: Classify common food and nutrition related health concerns.**

**a. Diabetes: Type I child/juvenile, Type II adult onset**

* Type 1 diabetes is hereditary; the immune system attacks and destroys the insulin producing cells in the pancreases.
* Excess body fat and inactivity cause type 2 diabetes.
* Symptoms of diabetes are: increased thirst, frequent urination, extreme hunger, unexplained weight loss, fatigue, blurred vision, slow-healing sores.
* Those at high risk for developing diabetes are the overweight and inactive.
* There is no prevention for Type 1 diabetes
* Prevention for Type 2 diabetes is: maintain a healthy weight, eat nutritious foods, and keep active.

**b. Heart disease**

* Plaque forms along the inner walls of the arteries.
* Symptoms include: chest pain, shortness of breath, pain, numbness and/or weakness or coldness in legs and/or arms.
* Those at high risk: genetics, age, high-fat diet, lack of exercise, high stress, smoke and tobacco use, excessive alcohol consumption, low fiber intake, low vitamin/mineral intake.
* Prevention: decrease foods that are high in saturated fats, decrease foods high in sodium, exercise.

**c. Anemia**

* Severe depletion of iron stores resulting in low blood hemoglobin.
* Symptoms are: weak, tired and mental state is affected.
* Those at high risk are menstruating women.
* Prevention: eat foods high in iron such as red meat, egg yolk, dark green vegetables, dried fruits and fortified cereals. Vitamin C helps iron absorb in the body so eat vitamin C rich foods such as oranges and tomatoes.

**d. Colon cancer**

* Cancer of the colon can be hereditary or from not getting enough fiber in the diet.
* Often there are no early symptoms but may include bloody stool and abdominal pain.
* Colon cancer is one of the top cancer causing deaths in the United States and it is preventable.
* Prevention: Eat high fiber foods such as whole grains and fruits and vegetables. Eat between 25 and 35 grams of fiber per day.

**e. Osteoporosis**

* Bones become porous and fragile due to a lack of calcium.
* Symptoms are: bones break easily, curvature of the spine.
* Those at high risk are females and the elderly.
* Eat plenty (3-4 servings) of foods rich in calcium such as milk and dairy products, broccoli, salmon and figs.

**f. Obesity**

* Obesity is having too much body fat, typically indicated in adults as having a body mass index (BMI) of 30 or more.
* Lack of exercise is the major contributor to obesity in the U.S.
* Balance calorie intake with output, generally people tend to underestimate their calorie intake and overestimate their calorie output.
* Eat nutrient dense foods.
* Avoid high sugar, high sodium and high fat foods.
* Increase overall activity—include activities such as taking the stairs instead of the elevator or parking a distant away and walking in to a store.

**STANDARD 8**

**Students will demonstrate food preparation and nutrition of soups and sauces.**

**Objective 1: Identify the five Mother sauces used in standard home and restaurant cooking.**

**a. Béchamel**

* A white sauce made from milk or cream and thickened with a roux (equal parts butter and flour). Secondary sauces made from a béchamel sauce include cream sauces, mornay, cheddar cheese sauce, and mustard sauce. Béchamel sauces are often served with pasta, vegetables, eggs, or poultry.

**b. Veloute**

* Veloute is made from veal, chicken, or fish stock and a white or blond roux. Examples of secondary sauces made with a veloute include mushroom sauces, curries, herb sauces, or white wine sauce. Veloute sauces are often served with lighter dishes such as vegetables, fish, pasta, or poultry.

**c. Espagnole**

* Espagnole, often referred to as *brown sauce*, uses a brown stock, such as beef, as a base and is thickened with a brown roux. Espagnole is often flavored with aromatics, savory herbs, or tomato paste. Espagnole is commonly made into secondary sauces such as mushroom sauce, [Demi-Glace](http://culinaryarts.about.com/od/sauces/r/demiglaze.htm), [Sauce Madeira](http://culinaryarts.about.com/od/sauces/r/madeira.htm), or [Bordelaise](http://frenchfood.about.com/od/dressingpreservessauces/r/Bordelaise-Sauce-Recipe.htm). Espagnole sauces are commonly served with roasted meats, such as beef, veal, lamb, or duck.

**d. Tomato**

* Made with sautéed aromatic vegetables and a tomato product. Red sauces have a tomato base and are thickened with purees, by reduction, or a roux. Red sauces can be served with nearly everything, including pasta, vegetables, fish, beef, veal, poultry, or polenta.

**e. Hollandaise**

* Made by whisking egg yolks with melted butter and lemon juice over a double boiler Hollandaise sauce is a rich creamy sauce that uses butter as a base and is thickened through the science of emulsions. Hollandaise sauces are often flavored with peppercorns, cayenne, lemon, or vinegar. Hollandaise sauces are often served with eggs (eggs benedict), vegetables, or poultry.

**Objective 2: Identify and prepare the two basic types of soup (cream and stock).**

**a. Cream based soup.**

* **Apply and prepare a béchamel based sauce (white sauce – a mother sauce)**
* A béchamel sauce is a white sauce made from milk or cream and thickened with a roux.
* **Explain the thickening agent for a béchamel sauce is a roux.**
* A roux is made from equal parts butter and flour. The roux for a béchamel sauce is a white roux. The white roux is cooked until the raw flour taste disappears (3 to 5 minutes).

**b. Stock based soup**

* **Discuss how to prepare a stock using a liquid from cooking meat, poultry, fish and vegetables using a mirepoix**.
* Stock based soup: Combine the main flavoring ingredient (meat, poultry, fish, or vegetables) and cold water. Bring to a boil and then simmer until the stock develops flavor, body, and color. Some stocks may take up to 24 hours to properly cook. Skim as necessary. Add the mirepoix (50% onion, 25% carrots and celery) and aromatics at the appropriate time, usually during the last hour of cooking. Strain, then use immediately, or cool and store.

**Objective 3: Identify and apply proper storage of soups.**

* Divide soup into smaller portions and place the smaller (shallow) containers into the refrigerator. Stir occasionally so that each container cools at the same rate.
* Soup can also be cooled by placing the soup into an ice bath, stirring often, and then placing it into the refrigerator when it has cooled to room temperature.

**Objective 4: Demonstrate knife skills and cutting techniques in soup making.**

* Batonnet, brunoise, julienne, dice, chiffonade, diagonal

**Objective 5: Identify how soups incorporate nutritional guidelines from MyPlate**.

* Soups containing meat or poultry provide protein, vegetables provide vitamins and mineral, and grains provide carbohydrates. Soup can be a healthy one-dish meal that incorporates a variety of guidelines from each area of MyPlate.

**STANDARD 9**

**Identify and apply the elements of meal planning, meal management, and meal service.**

**Objective 1: Incorporate the current Dietary Guidelines and MyPlate when planning nutritionally balanced meals.**

* http://www.health.gov/dietaryguidelines/
* http://www.choosemyplate.gov/

**Objective 2: Plan, prepare and evaluate aesthetically pleasing meals.**

**a. Color**

* Select food in a variety of color-- colorful fruits, vegetables and garnishes brighten the meal.

**b. Texture**

* Aim for a variety of textures in meals, and think of ways to add crunch.

**c. Flavor**

* Avoid using foods with similar flavors in the same meal.

**d. Temperature**

* Keep hot foods hot and cold foods cold by using preheated or chilled plates and serving foods appropriate for the weather

**e. Size and shape**

* Use of variety of sizes and shapes to add interest

**f. Food presentation (plating)**

* Avoid placing food on the rim
* Avoid overfilling the plate—allow for white space
* Avoid the use of non edibles on the plate
* Odd numbers are more pleasing than even numbers

**Objective 3: Discuss the factors that influence food costs/budget when meal planning.**

* The number of family members, age of family members, time and skills available for food preparation, how often families eat out, the amount of food wasted, and the family income are factors that influence food costs/budget when meal planning.
* Set a goal to plan daily menus for a week at a time. It will save time in the long run. Have family members help in the planning.
* Plan the menu based on what’s on sale at the local grocery store. Fruits and vegetable that are “in season” usually are less expensive and have better quality.

**Objective 4:** Create a work plan (see FCCLA STAR Culinary Arts event)

* **Work plan:** List of all the tasks that need to be done in order to prepare a meal. It should be organized according to time so that all foods are ready to eat at the same time.
	+ Organize the kitchen. Keep frequently used items such as cooking oils/sprays, spatulas, cutting boards, and spices within easy reach.
	+ Clear the clutter. Before beginning to cook, clear off the counters. This allows more room for prep space.
	+ Chop extra. When chopping up veggies for a meal, chop more than needed. Take the extra, place in a reusable container and freeze for later use.
	+ Have everything in place. Gather all ingredients needed for the meal – vegetables chopped, spices measured, and meats thawed. It will be easier to spot missing items and avoid skipping steps.
	+ Clean as you go. Fill up the sink with soapy water and wash the dishes while cooking. It’ll make clean up go much smoother!
	+ Save some for later. Freeze leftover soups, sauces, or gravies in small reusable containers.

**Objective 5: Identify and demonstrate proper table setting and etiquette.**

**a. Recognize the steps and elements necessary to present a place setting.**



* + The forks go on the right.
	+ The knife and spoon go on the left.
	+ The knife blade faces the plate.
	+ The drinks go on the right.
	+ The bread and butter plate and salad

 plate go on the left.

**b. Identify and demonstrate correct dining etiquette – tipping, napkin and flatware placement, cell phone use, and table manners.**

* + **Tipping:** A tip should be 15% of the bill
	+ **Napkin placement:** The napkin should be placed in your lap immediately after sitting down. When leaving the table place the napkin on the chair. When finished the napkin should be placed to the left of the place setting.
	+ **Flatware placement**
		- American Style: Between bites or "resting position"--the knife is placed on the right side of the plate in the 4 o'clock position, blade in, and the fork placed on the left side in the 8 o'clock position, tines up. When finished eating or “I am finished” position-- the knife and fork are placed side by side on the right side of the plate in the 4 o'clock position, with the fork on the inside, tines up, and the knife on the outside, blade in.
		- Continental Style: "Resting position"-- the knife and fork are crossed in the center of the plate, fork tines pointed down. "I am finished" position-- the knife and fork are placed side by side on the right side of the plate at the 4 o'clock position, with the fork on the inside, tines are down and the knife is on the outside, blade in.
	+ **Cell phone use:** Cell phone should be on silent or vibrate, don’t initiate a call while dining, check text messages in private.
	+ **Table Manners:** When choosing a piece of flatware move from the outside in, chew with your mouth closed, avoid slurping, cut only one piece of food at a time, butter roll one piece at a time, avoid slouching, don’t place elbows on the table, pass the food to the right, don’t place used flatware back on the table.

**STANDARD 10**

**Demonstrate food preparation techniques and nutrition of pies/tarts.**

**Objective 1: Identify and prepare pies/tarts (pie shell, single, double).**

* A pie is any dish that has a crust with a filling. Types of pies include: Fruit Pies, Cream Pies, Custard Pies, and Savory Pies.
* **Single –Crust Pies:** For some single-crust pies, the crust and filling are baked together, as in pumpkin and pecan pies. For others, the crust is baked empty, or blind, and a prepared filling is added later as in custard (lemon) and cream pies.
* A bottom crust baked before filling is called a **pie shell.**
* **Double-Crust Pies:** To make a two-crust pie, divide the dough into two portions, one slightly larger than the other. Roll out the larger portion and fit it into the pan. Then make a top crust as a solid piece or make a lattice top. Double-crust pies are fruit filled such as apple and cherry or savory pies such as a chicken potpie.
* **Tarts:** A tart is a filled dessert with a single crust. Like pies, tarts can be appetizers, entrees, or desserts. Unlike pies, tarts are always removed from the pan before serving.

**Objective 2: Identify main ingredients and their functions.**

**a. Flour**

* Flour helps form the structure of the pie. To create a light and delicate textured pie, most bakers and pastry chefs use pastry flour. Pie crust made with pastry flour is delicate rather than dense and chewy because pastry flour is lower in gluten and higher in starch.

**b. Fat**

* Fat tenderizes and adds flavor. The melting point of the type of fat used affects the crusts texture. Types of fats used are Shortening, Butter, and Lard. Vegetable-based solid shortening has a high melting point that creates a flaky crust, and a neutral flavor.

**c. Salt**

* Salt gives flavor to the pie-crust. Those crust used for sweet pies may have sugar added to the dry mixture to add sweetness.

**d. Water**

* Water helps to form the structure by helping hold the ingredients together. Ice-cold water helps keep the fat from melting.

**Objective 3: Identify basic types of pie/tart fillings and their proper storage.**

**a. Cream/custard pies--refrigerate**

* The “cream” in cream pies is usually a pudding. It has eggs, milk, cornstarch, and flavoring. The mixture is cooked until thick, then cooled and poured into a baked, cooled crust. Popular cream pie flavors include lemon, banana, coconut, butterscotch, and chocolate. Cream pies and custards need to be refrigerated.

**b. Savory pies--refrigerate**

* Savory pies contain cooked meat, poultry, seafood, or vegetables in a thickened sauce. Savory pies are usually served as a main course and need to be refrigerated.

**c. Fruit pies**

* In fruit pies, whole or sliced fruit is combined with sugar and a starch thickener. The ratio of sugar to thickener varies depending on the fruit. The sugar and the fruit juices form into syrup. The thickener congeals the syrup to firm up the filling as it bakes. Common fruit pie thickeners include flour, cornstarch, and tapioca. Fruit pies can be stored at room temperature.

**Objective 4: Review the nutrients found in pies/tarts and incorporate guidelines from MyPlate.**

* Pies can vary in healthiness as their contents can be anything from fruit to vegetables to meat or a mix, and can have varying amounts of salt or sugar, but generally the pastry casing is high in fat.
* Consume foods like cakes, **pies**, and brownies as an occasional treat.

**STANDARD 11**

**Students will discuss career options and employment skills required in the food service industry.**

**Objective 1: Identify various career opportunities and educational requirements.**

**a. Identify various careers involved in culinary/food service.**

* Use [www.utahfutures.org](http://www.utahfutures.org) or [www.bls.gov](http://www.bls.gov) to research career opportunities and educational requirements in the culinary/food service industry.