Utah CTE

Food and Nutrition (2023): Grades 9-12

Students will consistently demonstrate food & kitchen safety procedures and sanitation techniques. 1

1 **Apply established safety rules and guidelines in a work environment.** 1.1

1 Identify prevention, protocol, and treatment for cuts. 1.1.1

1 Prevention 1.1.1.1

1 Use sharp knives, dull knives are more dangerous 1.1.1.1.1

2 Hold the knife correctly, using the claw hand position on the guide hand. 1.1.1.1.2

3 Use a stabilized cutting board. 1.1.1.1.3

4 Hold onto the knife handle while cleaning, do not soak. 1.1.1.1.4

2 Protocol 1.1.1.2

1 Clean and sanitize the affected area and equipment as soon as possible. 1.1.1.2.1

3 Treatment 1.1.1.3

1 Minor cuts clean wound, apply bandage and wear glove. 1.1.1.3.1

2 Sever cuts apply pressure and seek medical attention. 1.1.1.3.2

2 Identify prevention, protocol and treatment for fires, chemical and heat-related incidents. 1.1.2

1 Prevention 1.1.2.1

1 Avoid flammable materials or clothing on or near the range. 1.1.2.1.1

2 Turn handles away from the front of the range. 1.1.2.1.2

3 Lift lids on hot foods to direct steam away. 1.1.2.1.3

4 Use hot pads or oven mitts for handling hot baking pans. 1.1.2.1.4

5 Keep equipment clean. 1.1.2.1.5

6 Keep chemicals away from food. 1.1.2.1.6

2 Protocol 1.1.2.2

1 To extinguish a fire use the correct fire extinguisher. (A, B, C, or K) 1.1.2.2.1

2 To extinguish a grease fire, cover/smother the pan, pour baking soda/salt. Avoid water, flour or sugar on grease fires. 1.1.2.2.2

3 Follow manufacturer directions for all chemical use and storage, do not mix chemicals. 1.1.2.2.3

3 Treatment 1.1.2.3

1 First Degree Burn and Second Degree Burn: immerse burn in cool water or use cool compress for 10-15 minutes. 1.1.2.3.1

2 Third Degree Burn: seek medical treatment 1.1.2.3.2

3 For Chemical Burn: seek medical treatment or call poison control. 1.1.2.3.3

3 Identify prevention and treatment for break, strains and sprains. 1.1.3

1 Prevention 1.1.3.1

1. Keep floors clean and dry. 1.1.3.1.1
2. Post caution signs for wet floors. 1.1.3.1.2
3. Store heavy items on lower shelves. 1.1.3.1.3
4. Use ladders or step stools appropriately. 1.1.3.1.4
5. Lift heavy items appropriately. 1.1.3.1.5
6. Wear non-slip shoes. 1.1.3.1.6

2. Treatment 1.1.3.2
    1. Seek medical attention. 1.1.3.2.1

---

2. **Identify health and hygiene requirements for food handling.** 1.2
    1. Identify proper hand washing. 1.2.1
        1. Wash hands with soap and warm water for a minimum of twenty seconds. 1.2.1.1
        2. Wash hands before and after handling raw meat, poultry or eggs. 1.2.1.2
        3. Wash hands after using the restroom, sneezing, coughing, changing diapers, etc. 1.2.1.3
    2. Identify appropriate clothing and hair restraints. 1.2.2
        1. Clean clothing or uniform. 1.2.2.1
        2. Cover and tie back hair with hair restraints before working with food. 1.2.2.2
    3. When tasting foods use clean utensils. 1.2.3
    4. Discuss the appropriate use of gloves. 1.2.4
        1. Single-use gloves. 1.2.4.1
        2. Wash hands before putting on gloves. 1.2.4.2
        3. Change gloves when they get dirty, torn, or changing tasks. 1.2.4.3
        4. Wear gloves when handling ready-to-eat (RTE) foods. 1.2.4.4
        5. Wear a bandage and gloves if there is a cut or open wound. 1.2.4.5

3 **Recognize food-borne illness and prevention.** 1.3

1 Identify the ways food becomes unsafe. 1.3.1

1 Physical: fingernail, hair, metal shard, band-aid. 1.3.1.1

2 Chemical: cleaning chemicals, sanitizers 1.3.1.2

3 Biological: pathogens 1.3.1.3

2 Define food-borne illness. 1.3.2

1 Food-borne illness results from eating foods containing pathogens. 1.3.2.1

2 Pathogens are any bacteria, virus, parasite, or fungi that can cause illness. 1.3.2.2

3 Bacteria need certain conditions to grow. FATTOM: Food, Acid, Time, Temperature, Oxygen, and Moisture. 1.3.2.3

4 Common symptoms of a food-borne illness include fever, headache, nausea, vomiting and diarrhea. 1.3.2.4

5 Common types of food-borne illnesses may include: Campylobacter, Clostridium Perfringens, E-coli, Norovirus, Salmonella, Staphylococci, Hepatitis A, Botulism. 1.3.2.5

6 Populations at most risk: Young Children, Older Adults, and Immune Compromised. 1.3.2.6

7 Food will often look and smell normal even if unsafe. 1.3.2.7

8 When in doubt, throw it out. 1.3.2.8

3 Controlling time and temperature 1.3.3

1 Foods like milk/dairy, meat, fish, eggs, poultry, shellfish/crustaceans, baked potatoes, tofu, sprouts, cooked rice, beans and vegetables, sliced melons or tomatoes, and lettuce are susceptible to pathogens. These are known as TCS foods (Time/Temperature Control for Safety). 1.3.3.1

2 Temperature Danger Zone: 41-135 degrees 1.3.3.2

1 Foods held in the danger zone for longer than 4 hours should be thrown out. 1.3.3.2.1

1 Time in the danger zone includes shopping, transportation, preparation, and holding for service. 1.3.3.2.1.1

3 Frozen foods: 0°F 1.3.3.3

4 Refrigerator/Cold Food: 41°F or below 1.3.3.4

5 Holding Hot Foods: 135°F 1.3.3.5

6 Seafood, Beef, Pork, Lamb: 145°F 1.3.3.6

7 Ground Meats: 155° F 1.3.3.7

8 Whole Poultry and Reheated food: 165°F 1.3.3.8

9 Identify the ways to safely thaw TCS foods. 1.3.3.9

1 In the refrigerator. 1.3.3.9.1

2. In a sink of cold, running water or a sink/container full of cold water, change the water every 30 minutes. Prepare and use food immediately. 1.3.3.9.2
3. In the microwave. Prepare and use food immediately. 1.3.3.9.3
4. As part of the cooking process. 1.3.3.9.4

4. Preventing cross-contact and cross-contamination 1.3.4
    1. Cross-contact is when a food item containing an allergen comes in contact with another food. 1.3.4.1
5. The 9 major food allergens include: tree nuts, eggs, milk, soy, wheat, peanuts, fish, sesame, and shellfish 1.3.5
    1. Cross-contamination is the transfer of pathogens from people, surfaces, or food to food. 1.3.5.1
        1. Food should be stored 6 inches off the ground, label stored food correctly, and store ready-toeat (RTE) food separately or above raw food. 1.3.5.1.1
6. Equipment Storage: Store glasses and cups upside down on a clean, sanitized surface, and store utensils with handles up. 1.3.6
7. Food Preparation: clean and sanitize food contact surfaces and equipment, wash hands between task, never place cooked food on/in a container that has previously held raw meat, poultry or seafood. 1.3.7
8. Serving food: no bare-hand contact with RTE food. 1.3.8
    1. Cleaning and Sanitizing 1.3.8.1
        1. Cleaning: removes food and other dirt from surface. 1.3.8.1.1
        2. Sanitizing: reduces pathogens on surface. 1.3.8.1.2
        3. Steps to cleaning and sanitizing using a 3-compartment sink: 1.3.8.1.3
            1. Scrape, Wash, Rinse, Sanitize, Air dry 1.3.8.1.3.1
9. Clean and sanitize food contact surfaces and equipment after completing a task or after 4 hours of constant use. 1.3.9
10. Remove garbage from prep area as soon as possible. 1.3.10
11. To reduce pest/insects, avoid crumbs or spills, keep food in airtight containers and dispose ofgarbage properly. 1.3.11

Students will apply the skills of kitchen equipment and management. 2

1 **Standard 1** 2.1

1 Identify various types of kitchen equipment. 2.1.1

1 serrated knife 2.1.1.1

2 chef's knife 2.1.1.2

3 paring knife 2.1.1.3

4 strainer 2.1.1.4

5 cutting board 2.1.1.5

6 turner 2.1.1.6

7 straight edge spatula 2.1.1.7

8 colander 2.1.1.8

9 pastry blender 2.1.1.9

10 rubber scraper/spatula 2.1.1.10

11 tongs 2.1.1.11

12 whisk 2.1.1.12

2 Demonstrate basic knife skills, including safety and proper handling. 2.1.2

3 Identify the basic principles of cooking in a microwave. 2.1.3

1 Fat, sugar, and water molecules are most affected by microwaves. 2.1.3.1

2 Follow manufacturer instructions for microwave-safe cooking containers. 2.1.3.2

3 Shallow, round containers cook more evenly than square containers. 2.1.3.3

4 The amount of food in the microwave increases cooking and standing time. 2.1.3.4

5 Standing time is the time food continues to cook after the microwave has stopped. 2.1.3.5

6 Covering foods holds in moisture, helps foods cook more evenly, and prevents splattering. 2.1.3.6

7 Microwave cooking does not brown foods or give it a crispy crust. 2.1.3.7

2 **Identify abbreviation, food measurement terminology and demonstrate proper measuring techniques.** 2.2

1 Identify abbreviations. 2.2.1

1 Tablespoon = T. or Tbsp. 2.2.1.1

2 Teaspoon = t. or tsp. 2.2.1.2

3 Gallon = gal. 2.2.1.3

4 Quart = qt. 2.2.1.4

5 Pint = pt. 2.2.1.5

6 Cup = c. 2.2.1.6

7 Pound = lb. or # 2.2.1.7

8 Ounce = oz. 2.2.1.8

2 Identify measuring techniques and tools. 2.2.2

1 Use dry measuring cups for dry ingredients and level with a straight edge. 2.2.2.1

2 Use liquid measuring cups for liquid ingredients. Measure on a flat, level surface. 2.2.2.2

3 Brown sugar is packed and leveled in dry measuring cups. 2.2.2.3

4 Shortening is pressed into dry measuring cups and leveled or measured using the water displacement method. 2.2.2.4

5 Flour is spooned into a dry measuring cup and leveled off. 2.2.2.5

6 Sugar/Salt is scooped and leveled of 2.2.2.6

7 Butter is measured using the markings on the wrapper one stick/cube is generally ½ cup. 2.2.2.7

8 Eggs are measured one at a time in a separate container. 2.2.2.8

9 Use most effective tools for measuring. For example: use ¼ cup rather than 4 Tbsp. 2.2.2.9

10 Do not measure directly over the mixing bowl. 2.2.2.10

3 **Utilize equivalents and recipe adjustments.** 2.3

1 A Standard Set of Dry measuring cups includes: 1 Cup, ½ Cup, 1/3 Cup, ¼ Cup 2.3.1

2 A Standard Set of measuring spoons includes: 1 Tablespoon, 1 teaspoon, ½ teaspoon, and ¼ teaspoon. 2.3.2

1 Use measuring spoons for measurements less than a ¼ cup. 2.3.2.1

3 Identify equivalents. 2.3.3

1 3 t. = 1 T. 2.3.3.1

2 4 T. = 1/4 c. 2.3.3.2

3 16 T. = 1 c. 2.3.3.3

4 4 qt. = 1 gal. 2.3.3.4

5 16 c. = 1 gal. 2.3.3.5

6 8 fl. oz. = 1 c. 2.3.3.6

7 2 c. = 1 pt. 2.3.3.7

8 1 stick butter = ½ c. 2.3.3.8

9 16 oz. = 1 lb. 2.3.3.9

4 Adjust recipe size. 2.3.4

1 When adjusting a recipe, the cooking temperature will remain the same. 2.3.4.1

2 The amount of ingredients, overall length of cooking time and size or number of pans may be affected. 2.3.4.2

4 **Define cooking terms.** 2.4

1. Chop: to cut into pieces 2.4.1
2. Cream: Work sugar and fat together until the mixture is soft and fluffy 2.4.2
3. Cut-In: Cut fat into flour with a pastry blender or two knives 2.4.3
4. Fold-In: Mix ingredients by gently turning one part over another 2.4.4
5. Mince: to cut or chop food as finely as possible 2.4.5
6. Sauté: to brown or cook foods with a small amount of fat using low to medium heat 2.4.6
7. Simmer: to cook just below the boiling point 2.4.7
8. Steam: to cook by the vapor produced when water is heated to the boiling point 2.4.8
9. Whip: Beat rapidly to introduce air bubbles into food 2.4.9
10. Knead: To work dough until smooth and elastic which further mixes ingredients and develops gluten. 2.4.10
11. Dice: Cut into an equal sided cube of various sizes. 2.4.11
12. Dredge: To coat heavily with flour, breadcrumbs, or corn meal. 2.4.12
13. Flour: To sprinkle or coat with a powdered substance often with flour, crumbs or seasonings. 2.4.13
14. Peel/Pare: To remove the skin or rind off fruits or vegetables. 2.4.14
15. Mise en place: French for “to put into place”. Gathering all necessary tools and measuring/preparing ingredients for a recipe. 2.4.15

Students will identify the sources and functions of carbohydrates and apply appropriate food preparation techniques. 3

1. **Identify carbohydrates, their sources and functions and the importance of whole grains in the body.** 3.1
    1. Define types and functions of carbohydrates. 3.1.1
        1. Simple carbohydrates are sugars. 3.1.1.1
            1. These sugars include: glucose(grains, fruits & vegetables), lactose(dairy products), sucrose(table sugar), maltose(grains), and fructose(fruit). 3.1.1.1.1
                1. Glucose is also known as blood sugar 3.1.1.1.1.1
        2. These include natural sugars and refined sugar products. 3.1.1.1.2
        3. Added sugars should be limited in the diet. 3.1.1.1.3
    2. Complex carbohydrates are starches. These include whole grains, refined grains, cereal products, dried beans, rice and pasta. 3.1.1.2
        1. Complex starches break down into simple sugars during the digestion process. 3.1.1.2.1
        2. Refined grains should be limited in the diet. 3.1.1.2.2
        3. Fiber is a type of complex carbohydrate. 3.1.1.2.3
    3. The primary function of carbohydrates is to provide energy. 3.1.1.3
        1. Carbohydrates provide 4 calories per gram. 3.1.1.3.1
    4. The parts of a whole grain kernel and the nutrients provided are: 3.1.1.4
        1. Endosperm: starch and protein (in wheat this protein is called gluten) 3.1.1.4.1
        2. Germ: vitamins and minerals 3.1.1.4.2
        3. Bran: fiber 3.1.1.4.3

2. **Identify fiber, its sources and functions.** 3.2
    1. Fiber attracts water to the intestines and aids in digestion. 3.2.1
    2. Fiber helps to keep bowel movements soft and reduces constipation. 3.2.2
    3. Drink plenty of liquids, otherwise fiber can slow down or even block normal bowel function. 3.2.3
    4. The American Institute for Cancer Research recommends 30 grams of daily fiber. 3.2.4
    5. Fiber may reduce the risk of some diseases including colon and rectal cancer. 3.2.5
    6. Foods high in fiber: fruits and vegetables (especially the peels and skins), whole grains, legumes, nuts and seeds. 3.2.6

3 **Apply food selection and preparation guidelines related to quick & yeast breads, grains and pasta.** 3.3

1 Quick breads: Breads made using instant leavening agents and are mixed to create limited gluten development. 3.3.1

1 Use instant leavening agents (baking soda, baking powder, or air & eggs) 3.3.1.1

2 Examples of quick bread include: muffins, pancakes, waffles, biscuits, cornbread, and fruit bread. 3.3.2

3 Yeast Breads: Bread made using yeast as a leaving agent and are kneaded to create maximum gluten development. 3.3.3

1 Examples of yeast breads include: rolls, bread sticks, and bread. 3.3.3.1

4 Identify the function of each ingredient contained in breads. 3.3.4

1 Flour: structure. 3.3.4.1

2 Liquid: moisture. 3.3.4.2

3 Leavening Agents: makes the bread rise. Examples of leavening agents for quick breads include: baking powder, baking soda, eggs and steam. 3.3.4.3

4 Fat: tenderness, richness and some flavor. 3.3.4.4

5 Salt: flavor. 3.3.4.5

6 Sugar: flavor and browning. 3.3.4.6

5 Identify types of rice. 3.3.5

1 Brown rice is the whole grain form of rice. 3.3.5.1

2 Instant rice is precooked and then dehydrated. 3.3.5.2

3 Long-grain rice stays dry and fluffy. 3.3.5.3

4 Short grain rice sticks together and is also known as “sticky rice”. 3.3.5.4

6 Identify a cooking method for conventional (not instant) rice. 3.3.6

1 Bring water to a boil, add rice, cover the pan and reduce the heat to a simmer. 3.3.6.1

2 Preparation Ratio: 2:1 - 2 cups water to 1 cup rice. 3.3.6.2

3 Cooked Ratio: 1:3 - 1 Cup uncooked rice to 3 cups cooked rice 3.3.6.3

7 Types of pasta. 3.3.7

1 Fresh Pasta: made from scratch using a simple dough recipe, rolled and cut by hand or a pasta maker or mold. 3.3.7.1

2 Dry Pasta: dough pushed through a mold or cutter and dried for several days. 3.3.7.2

3 Pasta Substitutes: Pasta substitutes for dietary restrictions such as: vegetable pasta, quinoa, and chickpea etc. 3.3.7.3

8 Identify a cooking method for pasta. 3.3.8

1. Bring water to a boil, Slowly add pasta so the boiling does not stop, Cook uncovered until pasta is al dente (firm to the tooth), stirring occasionally. 3.3.8.1
2. Preparation Ratio: Use enough water to cover the pasta by several inches. 3.3.8.2

9. Cooked Ratio: 1:2 – 1 cup uncooked pasta to 2 cups cooked pasta. 3.3.9

Students will identify the sources and functions of proteins and lipids and apply appropriate food preparation techniques. 4

1. **Identify proteins, their sources, and functions.** 4.1
   1. The primary function of protein is to build and repair body tissues. 4.1.1
   2. Protein provides 4 calories per gram. 4.1.2
   3. Amino acids are the building blocks of protein. 4.1.3
   4. There are many amino acids, nine are essential. 4.1.4
      1. The body cannot manufacture essential amino acids so they must be obtained from food. 4.1.4.1
   5. Complete proteins contain all nine essential amino acids. Food sources from animals such as meat, chicken, fish and milk products are complete proteins. 4.1.5
      1. A plant source of complete proteins is soybeans/soy products. 4.1.5.1
   6. Incomplete proteins contain some, but not all, of the essential amino acids. These include but are not limited to grains, dried beans, nuts, and seeds. 4.1.6

---

2. **Identify function and preparation methods for eggs.** 4.2
   1. Eggs perform various functions in recipes such as adding texture, aeration, and formulation. This may affect substitution options for eggs in recipes. 4.2.1
   2. A few of the functions of eggs: 4.2.2
      1. Binder (Meat Loaf) 4.2.2.1
      2. Thickener (Pudding) 4.2.2.2
      3. Coating (Breading on Chicken) 4.2.2.3
      4. Leavening agent (Angel Food Cake) 4.2.2.4
      5. Emulsifier (Mayonnaise)Identify storage and preparation methods related to eggs. 4.2.2.5
   3. Store eggs in the original container in the refrigerator. When properly stored in the refrigerator, eggs may be stored for several weeks. 4.2.3
   4. Methods of cooking eggs include: boiled or steamed in shell, scrambled, fried, and poached. 4.2.4
   5. Eggs are toughened by high heat. 4.2.5

3 **Identify processing and preparation methods for milk and milk products.** 4.3

1 Discuss processing methods for milk. 4.3.1

2 Pasteurized milk has been heat treated to remove harmful bacteria. 4.3.2

1 Most of the nutritional benefits of drinking raw milk are available from pasteurized milkwithout the risk of disease that comes with drinking raw milk. 4.3.2.1

2 Some of the purported health benefits of raw milk are digestibility and gut health. Raw milk dairies need to meet state regulations in order to sell their product in Utah. 4.3.2.2

3 Homogenized milk has had the fat particles broken down and evenly distributed so the fat will not separate from the milk. 4.3.3

1 Milk is fortified with vitamins A and D. 4.3.3.1

4 Explain milk preparation principles. 4.3.4

1 Milk products scorch easily and need to be cooked at a low temperature with constant stirring. 4.3.4.1

2 Heating milk in the microwave can prevent scorching. 4.3.4.2

5 Milk replacements such as; almond milk, soy milk or rice milk are comparable with cow milk in regards to nutritional value and are a viable substitute for people with special dietary needs. 4.3.5

4 **Standard 4** 4.4

1 Lipids (fats & oils) provide 9 calories per gram. 4.4.1

2 Identify the functions of lipids: 4.4.2

1 Carrier for vitamins A, D, E, and K. 4.4.2.1

2 Reserve supply of energy. 4.4.2.2

3 Promotes healthy skin. 4.4.2.3

4 Satisfies hunger and helps one feel full longer. 4.4.2.4

5 Promotes normal cell growth. 4.4.2.5

6 Protects internal organs from shock and injury. 4.4.2.6

7 Heat regulation and insulation for the body. 4.4.2.7

8 Adds flavor to foods. 4.4.2.8

3 Explain the role of cholesterol, including HDL and LDL. 4.4.3

1 Cholesterol is essential for many body processes. Cholesterol produces hormones and bile acids. It is found in animal tissues, but is never present in plants. 4.4.3.1

2 HDL cholesterol is “good” cholesterol because it transports excess cholesterol found in the blood stream back to the liver. 4.4.3.2

3 LDL cholesterol is “bad” cholesterol because if too much LDL cholesterol is circulating in the- blood stream, it can be deposited in the arteries and increase the chance of heart disease or stroke. 4.4.3.3

4 Identify the differences between saturated, monounsaturated, and polyunsaturated. 4.4.4

1 Saturated: 4.4.4.1

1 Raises the LDL and HDL levels of cholesterol in the blood. 4.4.4.1.1

2 Examples: meat, poultry skin, whole milk, tropical oils, butter, shortening, and lard. 4.4.4.1.2

2 Polyunsaturated: 4.4.4.2

1 Lowers both the LDL and HDL cholesterol levels in the blood. 4.4.4.2.1

2 Examples: corn oil, soybean oil, and safflower oil. 4.4.4.2.2

3 Monounsaturated: 4.4.4.3

1 Lowers LDL and raises HDL levels of cholesterol in the blood. 4.4.4.3.1

2 Examples: olive oil, olives, avocados, peanuts, and canola oil. 4.4.4.3.2

Students will identify the sources and functions of select vitamins, minerals and water and apply appropriate food preparation techniques to foods high in these nutrients. 5

1. **Identify select vitamins, their food sources, functions and deficiencies in the body.** 5.1
    1. Identify water-soluble vitamins: 5.1.1
        1. Vitamin C: Helps to form collagen which holds the cells together and aids in healing. Prevents scurvy. Sources include citrus, strawberries, broccoli and peppers. 5.1.1.1
        2. Folate or Vitamin B9 is one of the B Vitamins. Folate helps tissue to grow and cells to work. Folate reduces the risk of neural tube birth defects. Sources include legumes, dark leafy greens,citrus, and eggs. 5.1.1.2
    2. Identify fat-soluble vitamins: 5.1.2
        1. Vitamin A: Maintains normal vision and immune system. Prevents night blindness. Sources: Orange and dark green vegetables. 5.1.2.1
        2. Vitamin D: Works with the body to build and maintain healthy bones and teeth. Prevents bonesoftening and loss. Sources include milk products. Manufactured by the body with exposure to sunlight. 5.1.2.2
        3. Vitamin K: Helps blood clot properly. 5.1.2.3
        4. Vitamin E: Protects membranes of white and red blood cells. 5.1.2.4

2. **Identify select minerals, their food sources, functions and deficiencies in the body.** 5.2
    1. Macro Mineral: Are needed in greater quantities in the body. 5.2.1
        1. Calcium(Macro mineral): Builds strong bones and teeth. Calcium deficiency causes bones to become weak this is called osteoporosis. Good sources are found in dairy products. 5.2.1.1
    2. Micro/Trace Mineral: Usually needed in small amounts but are critical to health. 5.2.2
        1. Iron(Micro/Trace mineral): Helps to form the hemoglobin in red blood cells which carry oxygen throughout the body. Prevents anemia. Sources include red meat, spinach, black beans and dried fruit. 5.2.2.1
    3. Electrolytes: Minerals that help maintain fluid balance in the body, maintain the heartbeat and help muscle and nerve action. 5.2.3
        1. Sodium(Electrolytes)Helps maintain the fluid balance and blood pressure in the body. Deficiency is not generally a concern, unless over-hydrating. Sources include salt and processed foods. 5.2.3.1
        2. Potassium(Electrolytes)Helps maintain a regular heartbeat. Prevents muscle cramps. Sources include bananas, potatoes, and nuts. 5.2.3.2

3 **Identify the functions and importance of water in the body.** 5.3

1 Carries water-soluble vitamins. 5.3.1

2 Carries waste through the body. 5.3.2

3 Regulates body temperature through perspiration. 5.3.3

4 Dehydration occurs from lack of water. 5.3.4

1 Thirst is an indicator of dehydration. 5.3.4.1

2 Urine should be a pale yellow color. Darker urine is another indication of dehydration. 5.3.4.2

5 Water is the most important of all the essential nutrients. 5.3.5

6 64 fl. oz. of water is recommended daily. 5.3.6

7 Athletes or anyone physically active needs to drink higher quantities of water, particularly in hot environments (heat of the day). 5.3.7

1 Electrolyte balance and carbohydrate replacement may needed for moderate to high-intensity activities lasting longer than 60 minutes. 5.3.7.1

4 **Apply food selection and preparation guidelines related to fruits and vegetables.** 5.4

1 Fruits and vegetables contain no cholesterol and are low in calories, fat, and sodium. 5.4.1

2 Always wash fresh produce to remove pesticides and dirt that may remain on the skin 5.4.2

3 Identify how to preserve nutrients in the preparation process of fruits and vegetables. 5.4.3

1 Air, heat and water can reduce nutrients in fruits and vegetables. 5.4.3.1

2 Eat raw. 5.4.3.2

3 Good cooking methods include microwave, steam, bake/roast, stir fry/sauté. 5.4.3.3

4 Cook in larger rather than smaller pieces when possible. 5.4.3.4

5 Use small amounts of water and cook only until fork tender. 5.4.3.5

4 Identify how to select fresh produce. 5.4.4

1 Select fresh produce that is firm, free from decay, crisp, smooth, dense (heavy for size), free from bruises and have good color. 5.4.4.1

2 Seasonal produce is lower in cost, plentiful and have better quality. 5.4.4.2

3 Room temperature is needed to ripen some fruits. 5.4.4.3

5 Discuss how to prevent enzymatic browning (oxidation) of fresh fruits. 5.4.5

1 Some produce will turn brown when cut and exposed to oxygen. 5.4.5.1

2 Prevent enzymatic browning of fresh produce by covering with liquid or dipping in an ascorbic acid liquid. 5.4.5.2

Students will explore healthy nutrition guidelines. 6

1 **Identify healthy nutrition guidelines.** 6.1

1 Follow a healthy eating pattern across the lifespan. 6.1.1

1 Choose a healthy eating pattern at an appropriate calorie level to help achieve and maintain a healthy body weight, support nutrient adequacy, and reduce the risk of disease. 6.1.1.1

2 Focus on variety, nutrient density, and portion sizes as defined by a nutrition facts label. Nutrition facts labels are based on a 2,000-calorie diet. 6.1.1.2

3 Nutrient-dense foods provide vitamins, minerals, and other beneficial substances with relativelyfew calories. 6.1.1.3

4 To meet nutrient needs within calorie limits, choose a variety of nutrient-dense foods across and within all food groups in recommended amounts. 6.1.1.4

5 50-60% Carbohydrates—4 calories per gram 6.1.1.5

6 10-20% Protein—4 calories per gram 6.1.1.6

7 No more than 30% lipids—9 calories per gram. 6.1.1.7

1 No more than 10% should be from saturated fats. 6.1.1.7.1

2 Limit calories from added sugars and saturated fats, and reduce sodium intake. 6.1.2

1 Reduce empty-calorie foods. Empty-calorie foods are those that are high in calories, sodium, and saturated fats with very little nutrient value. 6.1.2.1

3 Include physical activity as part of a healthy lifestyle. 6.1.3

1 Children and teens should be physically active for at least 60 minutes every day. 6.1.3.1

---

2 **Explore resources for nutritional recommendations.** 6.2

1 Identify the characteristics of MyPlate. “Make every bite count.” 6.2.1

1 Grains—Choose 100% whole grain. Make at least half of the grains consumed whole grain. 6.2.1.1

2 Protein—Choose a variety of foods from complete and incomplete protein sources. Keep portions small and lean. 6.2.1.2

3 Vegetable—Choose a variety including fresh, frozen, canned, or dried. Eat more red, orange, and dark green vegetables. 6.2.1.3

4 Fruit—Choose whole or cut-up fruits more often than fruit juice. Make half your plate fruits and vegetables. 6.2.1.4

5 Dairy—Choose a variety of dairy products. Check for added sugars in low fat dairy products. 6.2.1.5

6 Oils – Choose vegetable oils and naturally occurring oils in foods like seafood and nuts. 6.2.1.6