Dietary Preferences

Unit: Culinary Science

Problem Area: Dietary Plans

Lesson: Dietary Preferences

Student Learning Objectives.

Instruction in this lesson should result in students achieving the following objectives:

1. **Differentiate between dietary preference terminologies.**
2. **Summarize regional, cultural, and religious dietary preferences in the United States.**
3. **Analyze dietary preferences and their relationship to health.**

Resources.

The following resources may be useful in teaching this lesson:

E-unit(s) corresponding to this lesson plan. CAERT, Inc. http://www.mycaert.com.

"Charles Sanders Peirce Quotes," *Brainy Quote*®. Accessed Sept. 7, 2016. http://www.brainyquote.com/quotes/quotes/c/charlessan403084.html.

"Food-Based Dietary Guidelines," *Food and Agricultural Organization of the United Nations*. Accessed Sept. 7, 2016. http://www.fao.org/nutrition/education/food-dietary-guidelines/home/en/.

"Food: Food and Culture," *Net Industries.* Accessed Sept. 7, 2016. http://family.jrank.org/pages/639/Food-Food-Culture.html.

Gunnars, Kris. "Optimal Meal Frequencies: How Many Meals Should You Eat Per Day?" *Authority Nutrition.* Accessed Sept. 7, 2016. http://authoritynutrition.com/how-many-meals-per-day/.

Peirce, Charles S. "How to Make Our Ideas Clear," *Popular Science Monthly.* Accessed Sept. 7, 2016. http://www.peirce.org/writings/p119.html.

"Religion and Dietary Practices," *Diet.com.* Accessed Sept. 7, 2016. http://www.diet.com/g/religion-and-dietary-practices.

"What Does Kosher Mean?" *KIR.* Accessed Sept. 7, 2016. http://www.koshercertification.org.uk/whatdoe.html.

Equipment, Tools, Supplies, and Facilities

- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)
- ✓ Copies of sample test, lab sheet(s), and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with printers and Internet access
- ✓ Classroom resource and reference materials

Key Terms.

The following terms are presented in this lesson (shown in bold italics):

- belief
- carbohydrate loading
- cholesterol
- culture
- dietary cholesterol
- dietary preference
- ethnic groups
- habit
- heritage
- hyperkalemia
- hypokalemia
- ketosis
- kosher
- lactose intolerance
- meal patterns
- organoleptic
- osteoporosis
- psychological
- saturated fats
- sociological
- trans fats

Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

> *Look at the International Food Information Council Foundation Food & Health Survey questions and results at http://www.foodinsight.org/Content/10FHSFull.pdf. Project the PowerPoint, beginning on page 10. Discuss the questions asked. Have students answer questions individually or as a group. Discuss the purpose and types of questions. Then review the ways in which the survey data was presented: categories, pie charts, bar graphs, tables, etc. This is only one type of dietary preference survey. [NOTE: The class will be researching the USDA dietary preference survey, "What We Eat in America," in the lab sheet for this lesson.]*

CONTENT SUMMARY AND TEACHING STRATEGIES

Objective 1: Differentiate between dietary preference terminologies.

Anticipated Problem: What are some dietary preference terms?

I. Dietary preference terminology

A. ***Dietary preference*** is the staple foods a person routinely selects to eat. Dietary preferences include psychological and sociological aspects. ***Psychological*** are aspects that include mental awareness, feelings, and motivations. ***Sociological*** are aspects that include the origins and development of the society. Dietary preferences are:

1. An interdisciplinary concept that includes food politics and the economics of food
2. ***Organoleptic***—the sensory food qualities of taste, sight, smell, and touch
3. Influenced by cost, availability, and convenience

B. Culture and heritage differentiated

1. ***Culture*** is the shared attitudes, traditions, customs, and values of a group. Food and tastes are a subarea of culture.
   a. Culture changes over a lifetime.
   b. Technology changes cultures.
   c. Dietary preferences change with education and with the sampling of new foods.
   d. Food plays an important part in many cultures. Celebrations and holidays are often centered on food.

e. Every culture meets nutritional needs with different types of foods. For protein needs, different cultures eat soybeans (tofu), beef, pork, poultry, venison, horsemeat, intestines, dolphin, insects, squirrel, and dog. Depending upon a person's culture, even discussing these protein options can provoke emotional responses.

2. ***Heritage*** is the set of ethnic traits into which a person is born; it is based on traditions. Heritage is similar but not the same as ethnicity. ***Ethnic groups*** are those with similar traits and a common language from a specific geographic area. A person may have ancestors from a country with similar traits, but not speak the language or currently live in that country. Ethnic groups influence dietary preferences. For example:
   a. Immigrants brought food ingredients, preparation techniques, and recipes with them. Often the foods were adapted to include native foods.
   b. Personal heritage influences dietary preferences with fond memories of foods and recipes passed down from ancestors.

C. Belief and habit differentiated
   1. Belief: Charles Sanders Peirce is quoted as saying: "The essence of belief is the establishment of a habit; different beliefs are distinguished by the different mode of action to which they give rise." He said a person must begin with awareness, overcome doubt, and form a habit by taking action.
      a. Peirce was an American philosopher, mathematician, and scientist who lived from 1839 to 1914. He is known as "the father of pragmatism." Pragmatism is a practical way of solving problems using theories and principles. The scientific method is an example of pragmatism.
      b. A ***belief*** is an acceptance or spiritual sense that something is true or real. Dietary preferences are influenced by beliefs.
   2. Habit: A ***habit*** is a repeated behavioral action. A person is often unaware of a habit, and it may become a dietary preference.
      a. In the *American Journal of Psychology* in 1903, B.R. Andrews said: "A habit, from the standpoint of psychology, is a more or less fixed way of thinking, willing, or feeling acquired through previous repetition of a mental experience."
      b. Habit is related to food preferences. If a person has the habit of eating foods with specific tastes, those tastes are duplicated with available food items regardless of the geographic location. Food taste preferences are often acquired by the use of specific spices and food preparation techniques.

D. Meal patterns and preference
   1. ***Meal patterns*** are the daily routine of food consumption. Meal patterns have changed over history, and the number of meals has changed over time. For instance:
      a. Vikings ate two daily meals.
      b. Today, most cultures eat three meals a day.

c. There is controversy over eating five to six small meals per day to help with weight loss. However, weight loss is dependent upon the selection of food for those meals.

2. Desserts are a popular addition to the U.S. meal pattern. The 29th Annual "Eating Patterns in America" report found a decrease in the eating of dessert from 15 percent to 12 percent in the past 10 years in the United States. The trend is attributed to the focus on nutrition and one-dish meals.
3. Snacks have become a part of dietary preferences. Grazing and snacking have become part of the modern U.S. food pattern. [NOTE: Snacks can add excessive calories to a diet. Yet healthy snack options can add nutrients.]
4. Soft drink consumption is associated with increased calories and increased body weight. It is also associated with lower intakes of milk and calcium.

Teaching Strategy: *Many techniques can be used to help students master this objective. Use VM–A to review. Offer extra credit for research on Charles Sanders Peirce and his works. Find out why he is known as the "father of pragmatism."*

Objective 2:

Summarize regional, cultural, and religious dietary preferences in the United States.

Anticipated Problem: What are U.S. regional, cultural, and religious dietary preferences?

II. Regional, cultural, and religious dietary preferences

A. Regional

1. The U.S. regional and geographic customs are developed around the ethnic customs of the immigrants who settled in the area. Dietary preferences are seen in the regional popularity of certain foods. U.S. regional dietary preferences include:
   a. Deep South: Alabama, Arkansas, Florida, Georgia, and Mississippi are considered the Deep South. Popular foods are:
      (1) Hush puppies
      (2) Boiled peanuts
      (3) Sweet tea
      (4) Chitterlings
   b. Far West: California, Hawaii, and Nevada are considered the Far West. Hawaiian foods are different from other Far West foods. Popular foods are:
      (1) Hawaiian:
         (a) Spam musubi
         (b) Shaved ice
         (c) Saimin

(2) California:
    (a) Cobb salad
    (b) French dip sandwich
    (c) Cioppino

c. Midwest: The Midwest region is divided into the Great Lakes (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) and the Midwest Plains (Colorado, Iowa, Kansas, Missouri, Nebraska, North Dakota, Oklahoma, and South Dakota). Popular foods are:
    (1) Great Lakes:
        (a) Kringles
        (b) Horseshoe sandwich
        (c) Cheese curds
    (2) Plains:
        (a) Country fried steak
        (b) Gooey butter cake
        (c) Kansas City barbecue ribs

d. New England: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont are the New England region. Popular foods are:
    (1) Boston cream pie
    (2) Hasty pudding/Indian pudding
    (3) Journey cakes/johnny cakes
    (4) Fish and chips

e. Northwest (Pacific Northwest): Alaska, Oregon, Washington, Idaho, and Montana are the Northwest region. Popular foods are:
    (1) Berry pies
    (2) Sourdough pancakes
    (3) Salmon
    (4) Aplets candies

f. Southeast: Kentucky, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia are the Southeast region. Popular foods are:
    (1) Hoppin' John stew and New Brunswick stew
    (2) Country ham and red eye gravy
    (3) Club sandwich
    (4) Lady Baltimore cake
    (5) Pulled pork and Memphis-style ribs

g. Southwest: Arizona, New Mexico, Texas, and Utah are the Southwest region. Popular foods are:
    (1) Salsa, burritos, and nachos
    (2) Guacamole and tortillas
    (3) Fajitas, huevos rancheros, and tamales
    (4) Chili and barbecue

(5) Enchiladas, tacos, and Tex-Mex salad

h. South Central: Louisiana and Mississippi is the South Central region. Popular foods are:
   (1) Bananas Foster and beignets
   (2) Gumbo and jambalaya
   (3) Crawfish boil
   (4) Red beans and rice
   (5) Bread pudding and pralines

2. Retail supermarkets offer a wide availability of international and regional foods. The availability of a wide variety of foods allows a person the opportunity to experience international and regional foods.

B. National dietary preferences

1. Dietary preferences are often related to a country or a nation. This does not mean that every person prefers that food or that the people living in that country do not eat other things. Countries (e.g., the United States, China, Italy, and France) have different regional dietary preferences within regions.
2. An extensive list of typical foods from different countries is found on the following websites:
   a. Indiana Department of Education article "Serving Cultural Foods" at http://www.doe.in.gov/sites/default/files/nutrition/culturalfoods.pdf
   b. Dairy Council of California article "A Celebration of Culture" at http://www.healthyeating.org/Portals/0/Documents/Tip%20Sheets/CulturalFoodGuide.pdf
3. Some national food preferences are listed below:
   a. The United States is known for fast foods and for meat and potatoes.
   b. Italy is known for pasta and pizza.
   c. Germany is known for sausages.
   d. Mexico is known for corn tortillas, beans, and rice.
   e. Asia is known for noodles and rice.

C. Cultural dietary traditions and preferences in the United States: Cultural dietary traditions and preferences are often hybrid (a mixture or fusion) foods that developed over time. The following are ethnic American groups that have influenced U.S. dietary preferences.

1. African-American food preferences are found at http://news.nationalgeographic.com/news/2014/03/140301-african-american-food-history-slavery-south-cuisine-chefs/ (How Slaves Shaped American Cooking).
2. Asian-American food preferences are found at http://alicemclean.net/asian-american-food-culture-introduction.html (Asian-American Food Culture).
3. Greek-American food preferences are found at http://www.theatlantic.com/health/archive/2010/07/classic-greek-cuisine-not-so-classic/59600/ ("Classic" Greek cuisine: Not So Classic).

4. Irish-American food preferences are found at http://www.pbs.org/food/features/traditional-irish-food-america-accurate/ (Is Traditional Irish Food in America Accurate?).
5. Mexican-American food preferences are found at http://ohioline.osu.edu/hyg-fact/5000/pdf/5255.pdf (Cultural Diversity: Eating in America Mexican-American).
6. Slavic-American food preferences are found at http://www.slavicamericanfestival.com/food-and-beverages.html (Annual Slavic American Festival—Food and Beverages).

D. Religious beliefs and dietary preferences

1. Orthodox and conservative Jews follow Jewish religious dietary preferences. ***Kosher*** is a set of dietary laws describing the use and preparation of animal foods that follows Torah laws. Kosher foods carry a kosher certificate. Dietary laws include:
   a. Meat from animals with cloven hooves and those that chew the cud is allowed. No pork is allowed because pigs do not chew the cud. Camels are not allowed because they do not have split hooves.
   b. Special slaughtering rituals are performed. The animal is not allowed to feel pain. Forbidden fats and veins are removed. The animal is soaked in room temperature water for half an hour and then salted for one hour after slaughtering.
   c. Dairy and meats cannot be combined. Many Jewish kitchens have two refrigerators.
   d. Only fish with fins and scales are eaten, which excludes shellfish.
   e. Fruits, vegetables, and cereals are kosher. However, insects on the food products are not kosher. All insects must be removed.
2. Some Roman Catholic churches follow these dietary laws:
   a. No meat is eaten on Fridays. Other churches only restrict meat consumption on Ash Wednesday and Good Friday.
   b. Meat consumption is restricted (or some other form of restriction) during the Lenten season that begins approximately six weeks before Easter Sunday.
3. Ramadan is a Muslim holiday around the world. Islamic religion believes Ramadan to be when God gave the Islamic holy book to the Prophet Muhammad. Muslim dietary laws include:
   a. Fasting is required during daylight hours during the month of Ramadan. During this time, Muslims only eat and drink before daybreak and after sunset.
   b. No pork consumption is allowed. [NOTE: Find more information about the "Difference Between Islam and Muslim" at http://www.differencebetween.net/miscellaneous/difference-between-islam-and-muslim/.]
4. The Eastern Orthodox church is the second-largest Christian church that has restrictions on meat and fish. They fast on holy days.

5. Seventh-Day Adventists prohibit pork. Other meats and fish are also avoided. Some members are vegetarians.
6. Many believers who follow Buddhism, Hinduism, and Jainism are vegetarians. These religions follow a doctrine of nonviolence. Different branches of the religious groups of Buddhism and Hinduism eat meat. Hinduism considers the cow sacred, so it is not eaten. [NOTE: Find more information about Buddhist and Hindu meat eating at http://www.hinduwebsite.com/hinduism/concepts/meat-eating.asp.]

Teaching Strategy: *Many techniques can be used to help students master this objective. See the Diet Health, Inc. website at http://www.diet.com/g/religion-and-dietary-practices for a simplified table of the practice/restriction and rationale for many religions' dietary habits. An extensive list of typical foods from different countries is found on the "Serving Cultural Food" website at http://www.doe.in.gov/sites/default/files/nutrition/culturalfoods.pdf. Another website, "A Celebration of Culture," contains extensive dietary information at http://www.healthyeating.org/Portals/0/Documents/Tip%20Sheets/CulturalFoodGuide.pdf. Consider assigning additional student reports to include research and a presentation about ethnic American foods. The reports might include typical ethnic American foods and how to make that regional or ethnic diet healthier. Use VM–B thru VM–E to facilitate a discussion.*

Objective 3: Analyze dietary preferences and their relationship to health.

Anticipated Problem: How do different dietary preferences relate to health?

III. Dietary preferences and health

A. Carbohydrates

1. Carbohydrates are macronutrients that include sugars and starches. They break down into energy for people and animals. Simple carbohydrates contain two sugars. In contrast, complex carbohydrates contain three or more sugars and are fiber rich. [NOTE: Find more information about scientific examples of carbohydrates and food examples at http://examples.yourdictionary.com/examples-of-carbohydrates.html.]
2. Many cultures have dietary preferences that include a large amount of carbohydrates.
   a. Mexican-Americans have a diet high in complex carbohydrates (e.g., corn, rice, and beans).
   b. Mexican-Americans have a high prevalence of obesity. Three-fourths of all adult Mexican-American men and women are overweight.
   c. Mexican-Americans have a higher rate of diabetes than other cultures. [NOTE: Find more information about the Mexican-American diet, health issues, and how to make the diet healthier at http://ohioline.osu.edu/hyg-fact/5000/pdf/5255.pdf.]

3. Many diet plans restrict carbohydrates.
    a. Advantages: Restricting carbohydrates causes fast weight loss, lowers the risk of heart disease, reduces blood pressure, and temporarily reduces cholesterol and blood sugar levels. [NOTE: Find more information about the advantages and disadvantages of restricting carbohydrates at http://www.mayoclinic.org/healthy-lifestyle/weight-loss/in-depth/low-carb-diet/art-20045831?pg=1.]
    b. Disadvantages: Restricting carbohydrates can cause fatigue, irritability, headaches, and constipation or diarrhea. ***Ketosis*** is a metabolic process in which the body is not getting enough glucose to burn for energy and begins breaking down stored fat for energy. Ketosis can cause dehydration and change the chemical balance in the blood. [NOTE: Find more information about ketosis on the WebMD website at http://www.webmd.com/diabetes/type-1-diabetes-guide/what-is-ketosis.]
4. ***Carbohydrate loading*** (carb-loading) is a training technique to increase the amount of fuel stored in muscle to improve an athlete's performance for an endurance event. The process begins three or four days before the athletic event.
    a. Carb-loading is only beneficial to some endurance athletes and has little effect on other athletic competitions.
    b. It is used by athletes to increase performance. The athlete increases carbohydrate levels and decreases training activities during the three or four days before the event.
    c. Carb-loading can be a disadvantage due to weight gain, digestive discomfort, and changes in blood sugar levels. [NOTE: Find more information about carbohydrate loading at http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/carbohydrate-loading/art-20048518?pg=1.]

B. Proteins
1. Proteins are macronutrients that help build and repair tissue and provide calories for energy. All cells in the human body contain protein: skin, muscles, organs, and glands. Meat, fish, poultry, eggs, and some dairy foods are complete proteins, as is soy (a plant protein).
2. Low protein diets have the following risks:
    a. Negative impact on immune health
    b. Decreased muscle tissue
    c. Inability to absorb minerals
    d. Reduced calcium, which can produce loss of bone health
    e. Reduced iron, which can increase risk of anemia [NOTE: Find more information about low protein diets at http://healthyeating.sfgate.com/consequences-low-protein-daily-intake-6330.html.]
3. Research on high protein diets has shown the following risks:
    a. Higher risk of heart disease
    b. Relationship to kidney disease

c. Changes in sugar and insulin metabolism
d. Changes in blood fat [NOTE: Find more information about the risks of high protein diets at http://www.webmd.com/heart/news/20150508/high-protein-diet-may-be-dangerous-for-those-at-risk-of-heart-disease.]

4. Smoked and grilled meats are related to increased cancer risk. For example:
   a. Heterocyclic amines (HCAs) are formed when meat is cooked at high temperatures.
   b. Polycyclic aromatic hydrocarbons (PAHs) are formed when meat is charred.
   c. HCAs and PAHs increase the risk of cancer. [NOTE: Find more information about cancer risk from smoked and grilled meats at http://www.cancer.gov/about-cancer/causes-prevention/risk/diet/cooked-meats-fact-sheet.]

C. Milk products

1. ***Lactose intolerance*** is a condition causing diarrhea, gas, and bloating from the sugar in milk. (Lactose is a sugar in milk.) People with lactose intolerance have low amounts of lactase, which is an enzyme found in the small intestines. The risk of lactose intolerance increases with age, ethnic background (e.g., African, Asian, and Hispanic), premature birth, and certain cancer treatments. [NOTE: Find more information about lactose intolerance at http://www.mayoclinic.org/diseases-conditions/lactose-intolerance/basics/preparing-for-your-appointment/con-20027906.]
2. ***Osteoporosis*** is the loss of bone mass. A study of 1,500 teens, "Eating Among Teens" (EAT), found an adequate amount of calcium, protein, and vitamin D in the teenage years helps prevent osteoporosis in later life. A person's peak bone mass is achieved by 30 years of age. [NOTE: Find more information about osteoporosis at http://www.sciencedaily.com/releases/2009/06/090615102032.htm.]

D. Oils and fats

1. ***Cholesterol*** is a waxy fatlike substance found among lipids in the bloodstream and in all body cells: serum cholesterol (blood cholesterol produced by the body). ***Dietary cholesterol*** is a fatlike substance found in the animal food sources (e.g., meat, poultry, seafood, and dairy) consumed. Plants do not produce cholesterol. Dietary cholesterol becomes a contributing factor to elevated blood cholesterol levels if too much is consumed.
   a. Low-density lipoproteins or LDL (bad type) is found in trans fats and saturated fats.
   b. ***Trans fats*** are fats that contain partially hydrogenated oil. ***Saturated fats*** are fats found in certain high-fat foods (e.g., red meat, butter, cheese, and ice cream) and, like trans fat, are known to increase cholesterol. Trans fats and saturated fats increase the body's production of LDL. [NOTE: Find more information about dietary cholesterol at http://www.heart.org/HEARTORG/Conditions/Cholesterol/AboutCholesterol/About-Cholesterol_UCM_001220_Article.jsp#.VpB3TfkrLIV. The site also contains animated slides about cholesterol.]

2. A Mediterranean diet is a plant-based diet using olive oil as the fat preference. Mediterranean diets reduce the risk of heart disease by using legumes, fish, and poultry as the primary protein sources. [NOTE: Find more information about the Mediterranean diet at http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/mediterranean-diet/art-20047801.]
3. Vitamins A, D, E, and K are fat-soluble vitamins that dissolve in fat and are stored in fat in the body. Toxic levels can accumulate if a person eats too many.

E. Potassium intake, both low and high, can cause risks. The body uses potassium for the proper function of nerves and muscles.
   1. ***Hypokalemia*** (low potassium levels) is a decreased level of potassium that can cause weakness and cramps in arm and leg muscles. [NOTE: Find more information about hypokalemia at http://www.mayoclinic.org/symptoms/low-potassium/basics/definition/sym-20050632.]
   2. ***Hyperkalemia*** (high potassium levels) is an elevated level of potassium (an electrolyte) in the blood. Potassium is a chemical critical to proper functioning of nerve and muscle cells, especially heart muscle cells. The relationship of potassium to kidney health includes:
      a. Healthy kidneys flush excess potassium out of the body.
      b. A common cause of high potassium is kidney failure.
      c. The reduction of potassium-rich foods (e.g., bananas, nuts, beans, and milk) is recommended for those with kidney issues. [NOTE: Find more information about hyperkalemia at http://www.healthline.com/health/high-potassium-hyperkalemia#Overview1.]

F. Spicy food
   1. The positive effects of eating spicy food are:
      a. It reduces the risk of death (e.g., based on a study of one-half million people).
      b. Spicy food speeds up metabolism and controls weight.
      c. It relieves sinus congestion.
      d. Spicy food improves cardiac blood vessel strength.
      e. It provides anti-inflammatory and antibacterial advantages.
      f. Spicy food cools the body temperature.
   2. The negative effects of spicy foods are:
      a. Potentially, burns to skin and irritation to eyes may occur.
      b. Heartburn and reflux disease may result.
      c. Irritable bowel syndrome (IBS) may worsen. [NOTE: Find more information about the pros and cons of eating spicy foods at http://www.today.com/health/spicy-food-pros-cons-added-heat-your-meal-t38181.]

G. Soft drink consumption
   1. Excessively sugar-loaded soft drinks increase obesity. Many cultures drink more than three to five soft drinks or sugar-flavored drinks per week.

2. Research continues on fructose (fruit sugar) consumption and the development of insulin resistance. [NOTE: Find more information and the full research findings on fructose and insulin resistance and obesity at http://ajcn.nutrition.org/content/76/5/911.]
3. Osteoporosis is linked to soft drink consumption. Drinking soda tends to decrease milk consumption, and the excessive phosphorus in soft drinks depletes bone density. [NOTE: Find more information about the link between soft drinks and osteoporosis at http://www.webmd.com/osteoporosis/features/soda-osteoporosis?page=2.]
4. Excessively sugar-loaded soft drinks are related to dental cavities. Additional research finds that sugar-free soft drinks and candies that have high levels of acids can strip away the surface enamel. [NOTE: Find more information about the link between sugar-free soft drinks and dental cavities at http://www.sciencealert.com/sugar-free-candy-and-soft-drinks-are-just-as-bad-for-your-teeth-warn-dental-experts.]

Teaching Strategy: *Many techniques can be used to help students master this objective. Use VM–F and VM–G to review. Assign LS–A.*

Review/Summary.

Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle. If a textbook is being used, questions at the ends of chapters may be included in the Review/Summary.

Application.

Use the included visual master(s) and lab sheet(s) to apply the information presented in the lesson.

Evaluation.

Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.

Answers to Sample Test:

Part One: Matching

1. h
2. b
3. e
4. d
5. i
6. c
7. j
8. a

9. f
10. g

Part Two: True/False

1. T
2. F
3. F
4. F
5. T
6. F
7. T
8. F
9. T
10. F

Part Three: Short Answer

1. Answers will vary but should be similar to the following ways psychological and sociological aspects impact your dietary preferences with an example.
   a. Psychological aspects include mental awareness, feelings, and motivations. Dietary preferences may be impacted by religion, education, or food politics.
   b. Sociological aspects include the origins and development of the society. Heritage or ethnic group may impact dietary preferences.
2. Answers will vary but should include five of the following regional cuisine locations in the United States:
   a. Deep South, Far West, Midwest, New England, Northwest, Southeast, Southwest, and South Central
   b. Examples of popular foods from those regions are found in the Content Summary: II.A.1.a.–h.
3. Answers will vary but should include four of the following six ethnic groups that have influenced America's dietary preferences. [NOTE: Other regional cuisines may be added based on local impact.]
   a. African-Americans
   b. Asian-Americans
   c. Greek-Americans
   d. Irish-Americans
   e. Mexican-Americans
   f. Slavic-Americans
   g. Other

Sample Test

Name _____

Dietary Preferences

Part One: Matching

Instructions: **Match the term with the correct definition.**

a. carbohydrate loading
b. cholesterol
c. culture
d. dietary preference
e. ethnic groups
f. heritage
g. ketosis
h. kosher
i. lactose intolerance
j. meal patterns

_____1. A set of dietary laws describing the use and preparation of animal foods that follows the laws of the Torah

_____2. A fatlike substance found in the animal food sources a person consumes

_____3. Those with similar traits and a common language from a specific geographic area

_____4. The staple foods a person routinely selects to eat

_____5. A condition causing diarrhea, gas, and bloating from the sugar in milk

_____6. The shared attitudes, traditions, customs, and values of a group

_____7. The daily routine of food consumption

_____8. A training technique to increase the amount of fuel stored in muscle to improve an athlete's performance for an endurance event

_____9. The set of ethnic traits into which a person is born

____10. A metabolic process in which the body is not getting enough glucose to burn for energy and begins breaking down stored fat for energy

Part Two: True/False

Instructions: **Write *T* for true or *F* for false.**

_____1. Consuming soft drinks is associated with increased calories and body weight and lower levels of calcium.
_____2. The Roman Catholic religion does not allow dairy and meats to be combined.
_____3. Organoleptic are the daily routine of food consumption during the day.
_____4. Hyperkalemia is a decreased level of potassium in the blood.
_____5. Smoked and grilled meats are related to increased cancer risk.
_____6. Trans fats and saturated fats increase the body's production of HDL.
_____7. Culture changes over a lifetime.
_____8. Buddhists fast during daylight hours during the month of Ramadan.
_____9. Many cultures have dietary preferences with a large amount of carbohydrates.
____10. A habit is an acceptance or spiritual sense that something is true or real.

Part Three: Short Answer

Instructions: **Answer the following.**

1. How do psychological and sociological aspects impact your dietary preference? List one example of how each impacts your dietary preferences.

2. List five of the eight regional cuisine locations in the United States. Then list two popular dietary food preferences from each regional location.

3. List four ethnic American groups that have influenced America's dietary preferences.

REVIEW DIETARY PREFERENCE TERMS

Dietary preference terms

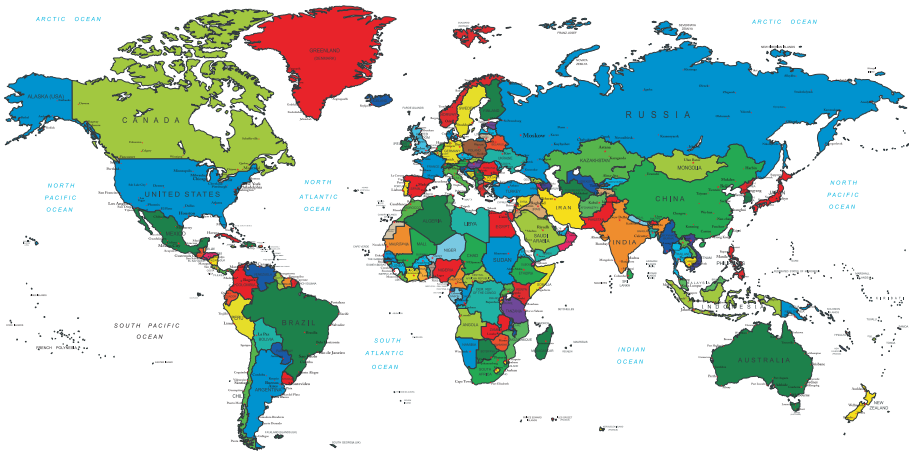
- Dietary preference
- Psychological
- Sociological
- Organoleptic
- Culture
- Heritage
- Ethnic groups
- Meal patterns

U.S. REGIONAL DIETARY PREFERENCES

What are the dietary preferences of each region of the United States? Where would you draw the lines for each region? In which region are Alaska and Hawaii?

- Deep South
- Far West
- Midwest
- New England
- Northwest

WORLD DIETARY PREFERENCES



We often think of a certain country or nation in terms of certain dietary preferences. This does not mean that every person prefers that food or that the people living in that country do not eat other things.

What is your perception of the national dietary preferences of the following nations?

- United States
- Italy
- Germany
- Mexico
- Asian Continent
- France

CULTURAL DIETARY TRADITIONS

Cultural dietary traditions and preferences in America are often hybrid foods that developed over time. The following are resources for ethnic American groups that have influenced American dietary preferences. Find more.

Ethnic-American Group	Web Resources
African-American	National Geographic: How Slaves Shaped American Cooking http://news.nationalgeographic.com/news/2014/03/140301-african-american-food-history-slavery-south-cuisine-chefs/
Asian-American	Asian American Food Culture http://alicemclean.net/asian-american-food-culture-introduction.html
Greek-American	Classic Greek Cuisine: Not So Classic http://www.theatlantic.com/health/archive/2010/07/classic-greek-cuisine-not-so-classic/59600/
Irish-American	PBS: Is Traditional Irish Food in America Accurate? http://www.pbs.org/food/features/traditional-irish-food-america-accurate/
Mexican-American	Ohio State: Cultural Diversity: Eating in America Mexican-American http://ohioline.osu.edu/hyg-fact/5000/pdf/5255.pdf
Slavic-American	Annual Slavic American Festival—Food and Beverages http://www.slavicamericanfestival.com/food-and-beverages.html

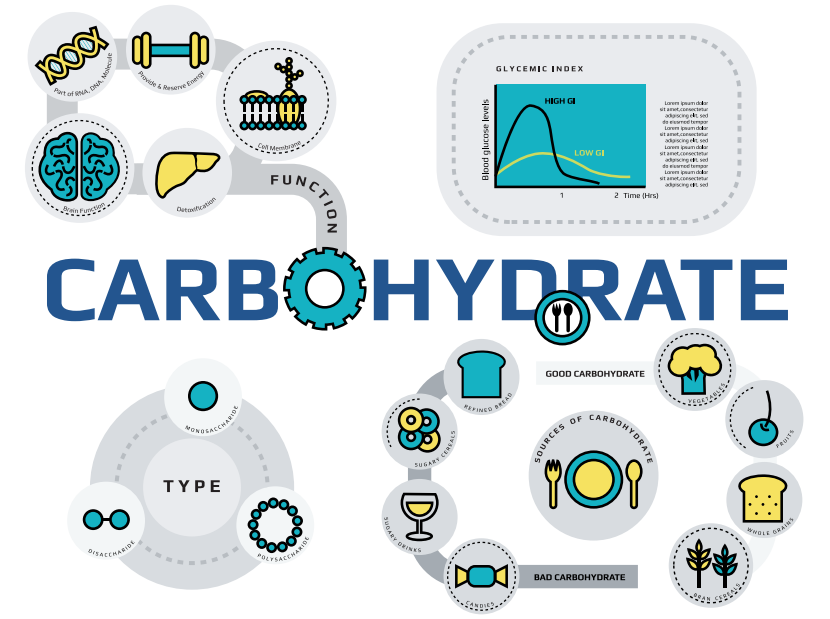
RELIGIOUS CUSTOMS AFFECTING DIETARY PREFERENCES

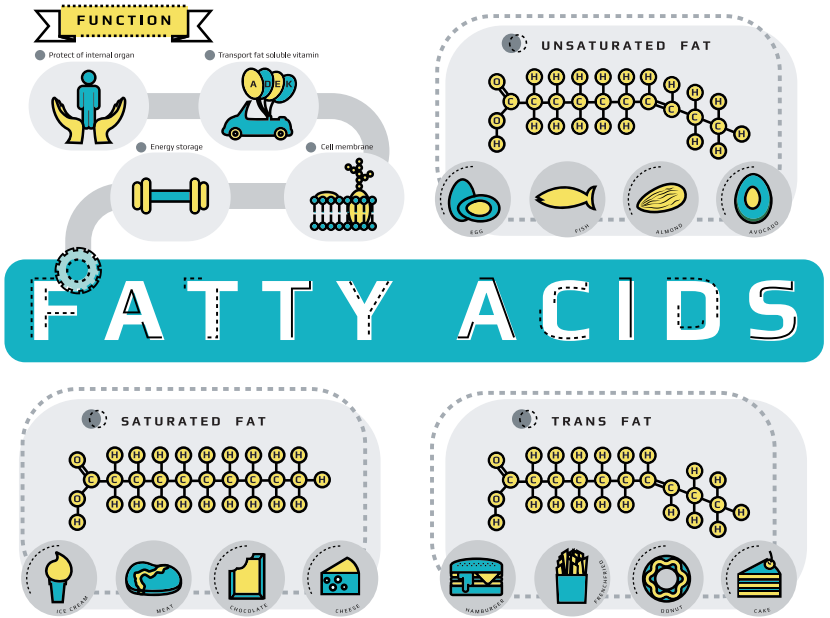
What effect does each religion have on dietary preferences of members?

- Jewish
- Roman Catholic
- Islamic
- Eastern Orthodox Christianity
- Seventh-Day Adventist
- Buddhism
- Hinduism
- Jainism

CARBOHYDRATE AND OIL AND FAT INTAKE IMPACTS YOUR HEALTH

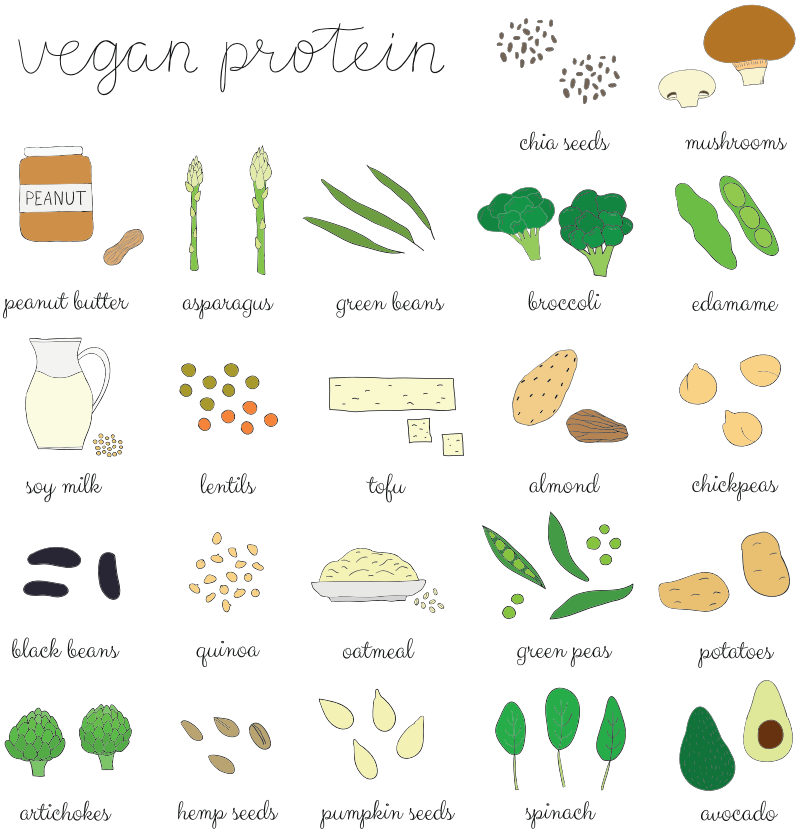
What are the pros and cons of carbohydrate and fatty acid consumption? How does the level of intake affect your health?





PROTEINS INTAKE AFFECTS YOUR HEALTH

Proteins are macronutrients that help build and repair tissue and provide calories for energy. All cells in the human body contain protein: skin, muscles, organs, and glands. Meat, fish, poultry, eggs, and some dairy foods are complete proteins, as is soy (a plant protein). Recall that some religions recommend a vegetarian or vegan diet as part of the member's lifestyle.



LS–A

Name _____

Local Food Preference Survey: "What We Eat in America"

Purpose

The purpose of this activity is to conduct a food preference survey similar to the USDA's "What We Eat in America" survey.

Objectives

1. Research food preference survey questions and procedures.
2. Design the survey for a target audience.
3. Conduct the survey.
4. Tally the survey data.
5. Analyze the data collected from your survey.
6. Share the survey results with the target audience.

Materials

- lab sheet
- device with Internet access
- printer
- paper
- writing utensils
- recording device

Procedure

1. Review the information and the data collected in the USDA's survey, "What We Eat in America (WWEIA)," at the following USDA websites:

   a. Read the overview of the WWEIA survey and the data collection questions at http://www.ars.usda.gov/Services/docs.htm?docid=13793.

b. Review the dietary data intake categories for WWEIA at http://www.ars.usda.gov/SP2UserFiles/Place/80400530/pdf/1112/wweia_2011_2012_data.pdf.

c. Review the questions asked in the WEEIA food categories, salt adjustments, and water intake at http://www.ars.usda.gov/Services/docs.htm?docid=23887.

2. As a class, design a survey similar to the USDA survey, "What We Eat in America," for a local target audience. Discuss your options of the survey target audience. Then list your target audience in the space provided.

3. Based on your research in Procedure 1, and using the WWEIA informational interview categories shown below, design the survey questions for your target audience.

Information Collected During Interview

For each food and beverage consumed during the previous 24-hour period	Detailed description
	Additions to the food/beverage
	Amount consumed
	What foods/beverages were eaten in combination
	Time eating occasion began
	Name of eating occasion
	Food/beverage source (where obtained)
	Whether food/beverage was eaten at home
	Amounts of energy and 60 nutrients/food components provided by the amount of food/beverage (calculated)
For each respondent on each day	Day of the week
	Amount and type of water consumed, including total plain water, tap water, and plain carbonated water
	Source of tap water
	Daily intake usual, much more or much less than usual
	Use and type of salt at table and in preparation (Day 1 only)
	Whether on a special diet and type of diet (Day 1 only)
	Frequency of fish and shellfish consumption (respondents 1 year of age and older, Day 1 only)
	Daily total intakes of energy and 60 nutrients/food components (calculated)

4. Design the survey.

   a. What is the name of the survey? (e.g., A Food Preference Survey of Lincoln High School Students)
   b. How many participants will be interviewed? (Think about how many people each class member would interview. For example, if the survey is to be conducted over the course of three days, each class member would interview six members of the target audience.)

      The number to be interviewed is: _____
   c. What are the questions that will be asked? (A place to start: Each class member lists the five topics that should be asked in the survey based on the information in Procedure 3 and the review of the USDA websites in Procedure 1. Think about what food types you wish to survey: meats, vegan foods, water consumption, soft drink consumption, etc. Then report that data to your instructor who would tally the information and facilitate a class discussion of the final category questions.)
   d. What website data would be used for analysis of the nutrition data collected? Review the USDA choices from Procedure 1, or find a statewide or locally conducted survey with which to compare your survey results.

      The source of nutrition comparison is: _____
   e. What type(s) of charts or graphs will be used to analyze data? Your instructor will facilitate a discussion of the various types of chart and graph options: bar, pie, line, table, infographic, etc. Based on your target audience, which data analysis type(s) would be most appropriate? (NOTE: Consider the regional, cultural, and religious demographics of your audience. Would it be interesting to write and then "pull out" some data specific to your target audience?)

      The data analysis would be reported as: _____
   f. Write the survey questions. (Attach a separate document, and/or a link, showing the survey questions. Indicate on the survey which questions are required to be answered by all participants. For example, you may decide that the "day of the week" or the "source of the tap water" would be two questions all must answer.)
   g. Post or print the survey. Post the survey to an online survey tool on your school website, or print copies for use in the interviews. Determine the timeframe for data collection (e.g., "All surveys to be included in the data analysis are conducted between October 3 and 6 and completed by October 6 at noon.").

      The timeframe for data collection is: _____

5. Conduct interviews. (NOTE: If you are conducting online surveys, you need to know the URL for login and have devices available. For paper survey conduction, collect enough copies for your interviews. For oral survey conduction, a device to record the questions and answers is needed, or a tally sheet to "mark" each respondent's answer is needed.)

6. Analyze the data. For example, first, tally your survey data. Then analyze the data by item, by respondent, by food category, etc. Finally, compare your target audience data with that of another set of food preference survey results.

7. Create a table or graph that represents the outcome of your survey. Create another table or graph that compares your survey results to that of another food preference survey on the same variables (e.g., food type or age group).
8. Present your survey data to your instructor and to the target audience via paper copies, presentations, and/or the school website, the local city or town website, the local health department website, etc.

Local Food Preference Survey: "What We Eat in America"

1. There are several indications in the lab sheet of your facilitation involvement. It will be especially important to facilitate the group and elicit the true purpose and intent of the survey (e.g., Avoid having your preferences overly influence the survey document.).
2. Your local or state curriculum websites may offer access to an online survey tool, such as Survey Monkey®. NOTE: Online tools often conduct item analysis automatically. Should you wish your students to tally and calculate the items, a paper or oral survey would be best.
3. For surveys of this type, it will be important to gauge the number of questions based on the audience. For example, the length of any survey:
   a. For a high school audience: Typically, 15 or fewer questions are acceptable. This ensures that the time to complete the survey is less than 10 minutes. Some questions should be open ended.
   b. For an adult audience: The length is approximately the same, with the possibility of more open-ended questions. The timeframe should remain less than 10 minutes.
   c. For younger audiences: It is recommended to keep the survey length less than 10 questions and the time to complete it less than 5 minutes.
4. This lab activity can be as long or as short as needed. The number of questions asked and the number of foods analyzed will change the length of the activity.