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| **TEXAS CTE LESSON PLAN**[www.txcte.org](http://www.txcte.org) |
| **Lesson Identification and TEKS Addressed** |
| **Career Cluster** | Agriculture, Food, & Natural Resources |
| **Course Name** | Food Technology and Safety |
| **Lesson/Unit Title** | Labeling Red Meat, Poultry, and Fish |
| **TEKS Student Expectations** | **130.15. (c) Knowledge and Skills**(4) The student analyzes the nutritive value of food constituents. (A) The student is expected to define the terms used in food technology(6) The student identifies safety and governmental regulations involved in the processing and labeling of foods.(B) The student is expected to describe packaging, labeling, and storage requirements for red meat, poultry, and fish |
| **Basic Direct Teach Lesson**(Includes Special Education Modifications/Accommodations and one English Language Proficiency Standards (ELPS) Strategy) |
| **Instructional Objectives** | The student will be able to:* Explain the importance of labeling red meat, poultry, and fish.
* Identify federal statutes impacting the labeling of red meat, poultry, and fish
* Identify and explain the role of government agencies in the labeling of red meat, poultry, and fish
* Identify and discuss product label requirements
* Identify and discuss required components of the Principal Display Panel, Information Panel, and Nutrition Facts panel
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| **Rationale** | Through this lesson, students will explore labeling of red meat, poultry, and fish. Students will be expected to explain the importance of labeling red meat, poultry, and fish, identify federal statutes impacting the labeling of meats, explain the role of government agencies in the labeling of meats, and identify labeling requirements. |
| **Duration of Lesson** | Teacher’s Discretion |
| **Word Wall/Key Vocabulary***(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* | * FMIA
* PPIA
* NLEA
* USDA
* FSIS
* FDA
* Principal Display Panel
* Information Panel
* Nutrition Facts panel
* Daily Value
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| **Materials/Specialized Equipment Needed** | * Examples of different types of canned tuna (i.e. tuna packed in olive/vegetable oil, tuna packed in brine, tuna packed in spring water, very low sodium tuna in water, etc.)
* PowerPoint Presentation: Labeling Red Meat, Poultry, and Fish
* Copies of the nutrition labels from the various canned tuna used in the Interest Approach/Anticipatory Set
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| **Anticipatory Set**(May include pre-assessment for prior knowledge) | Bring in examples of different types of canned tuna (i.e. tuna packed in olive/vegetable oil, tuna packed in brine, tuna packed in spring water, very low sodium tuna in water, etc.) that contain variations in the different components of the nutrition label.**Ask** students to select the tuna they would most prefer to eat.**Ask** students to describe the factors that influenced their decision to pick one type over the others. Use student responses that involve looking at the nutrition label to make their decision to lead into the importance of properly labeling red meat, poultry, and fish. |
| **Direct Instruction \*** | Using the PowerPoint presentation as a guide, teach the material allowing time for discussion on each slide.1. Importance of Food Labels
	1. Food labels are important to:
	2. Producers:
	3. Food labels are the most direct, and sometimes only, way for a company to communicate with consumers
	4. Consumers:
	5. Food labels inform purchasing decisions
	6. Let consumers know what they are purchasing
	7. Inform consumers about the nutrition of the product
2. Statutes
	1. Federal Meat Inspection Act (FMIA)
	2. Poultry Product Inspection Act (PPIA)
	3. Agricultural Marketing Act (AMA)
	4. Federal Food, Drug, and Cosmetic Act (FFDCA)
	5. Fair Packaging and Labeling Act
	6. Nutrition Labeling and Education Act (NLEA) of 1990
		1. Provides for uniform nutrition labels on products
		2. Passed in 1990 and implemented in 1994
		3. Required for all meat and poultry products intended for human consumption and offered for sale, except single-ingredient, raw products, and other exempt products including those produced by small businesses, products intended for further processing, products not for sale to consumers, products prepared and sold at retail, and products in small packages (individually wrapped packages of less than ½ ounce net weight)
	7. Food Allergen Labeling and Consumer Protection Act of 2004
3. Regulatory Agencies
	1. United States Department of Agriculture (USDA)
		1. Food Safety Inspection Service (FSIS)
			1. Has primary responsibility for the regulation of meat and poultry products under the FMIA and PPIA
			2. Authorized to regulate food labeling for exotic animals under the AMA of 1946
	2. Food and Drug Administration (FDA)
		1. Has primary authority to establish labeling requirements for foods and food ingredients under the FFDCA and FPLA
	3. The USDA-FSIS reviews and approves labels for all products that contain at least 2 percent poultry and 3 percent meat; labels for other products are approved by the FDA
4. Product Label Requirements
	1. There are up to 8 specific requirements for each product label:
		1. Product name
		2. Inspection legend and establishment number
		3. Handling statement
		4. Net weight statement
		5. Ingredients statement
		6. Address line
		7. Nutrition facts
		8. Safe handling instructions
	2. Placement and prominence of required elements is specified by regulation
5. Principal Display Panel (PDP)
	1. “The part of the label most likely to be displayed, presented, shown, or examined under customary conditions to the consumer” (USDA, 2007, p. 24)
	2. The PDP must include:
		1. The name of the product
		2. Net quantity of the contents
		3. The official inspection legend
		4. Number of the official establishment
		5. A handling statement (if necessary)
			1. Include statements such as “Keep Refrigerated,” “Keep Frozen,” or “Perishable – Keep Refrigerated or Frozen”
			2. Safe handling instructions are required if the meat or poultry component of a product is raw or partially cooked and destined for household consumers or institutional uses; should not be used on ready-to-eat products
				1. Under the heading “Safe Handling Instructions,” the safe handling information must appear on the label as follows:

This product was prepared from inspected and passed meat and/or poultry. Some food products may contain bacteria that could cause illness if the product is mishandled or cooked improperly. For your protection follow these safe handling instructions. * + - * 1. The statement is followed by additional required statements and graphics. For more information on these, see page 52 of the USDA (2007) guidelines.
	1. For rectangular packages, the PDP is defined as one entire side of the package, the area of which is at least the product of height times the width of that side
	2. For cylindrical packages, the PDP is defined as the area that is 40% of the product at the height of the container times the circumference of the container or a panel, the width of which is one-third of the circumference and the height of which is as high as the container.
	3. For any other shaped package, the PDP is defined as 40% of the total surface area of the container.
1. Information Panel
	1. “Typically, is that part of the label immediately contiguous and to the right of the PDP” (USDA, 2007, p. 25)
	2. The Information Panel includes:
		1. An ingredient statement
			1. An ingredient statement is required when a product is made from two or more ingredients
			2. All ingredients must be declared by common or usual names and in descending order of prominence by weight as added to the formulation
			3. Major food allergens must be declared
				1. Identifies eight foods (milk, eggs, fish, crustacean shellfish, tree nuts, wheat, peanuts, and soybeans) or any ingredient containing a protein derived from one or more
				2. Shown either in parenthesis following the common or usual name of the major food allergen in the ingredients list or in a separate line under the ingredient list beginning with “Contains”
		2. The name and address of the manufacturer or distributor
			1. Includes the name/trade name and place of business of the manufacturer, packer, or distributor
				1. If a distributor, must be preceded by “Prepared for \_\_\_\_” or “Distributed by \_\_\_\_”
			2. City, state, and ZIP code is sufficient if the business is listed in the telephone or city directory, otherwise the street address must also be included
		3. Nutrition labeling (if required)
2. Nutrition Facts
	1. Mandated by the NLEA
	2. Tells the consumer what nutrients are present in the food and what percent of the recommended Daily Value of that nutrient the food provides
	3. Presents information on a per serving basis
		1. Makes it easier to compare one product to another (tie back to Interest Approach/Anticipatory Set)
		2. NLEA defines serving size as the amount of food customarily eaten at one time; serving sizes that appear on food labels are based on FDA-established lists
	4. Mandatory and voluntary components are listed
		1. Total calories – how much energy is in a serving of food
		2. Calories from fat
		3. Calories from saturated fat (voluntary)
		4. Total fat
		5. Saturated fat
		6. Trans fat
		7. Polyunsaturated fat (voluntary)
		8. Monounsaturated fat (voluntary)
		9. Cholesterol
		10. Sodium – should be limited to reduce risk of high blood pressure and certain chronic diseases
		11. Potassium (voluntary)
		12. Total carbohydrate – important source of energy for the body; includes dietary fiber, sugars, and sugar alcohol (if declared)
		13. Dietary fiber
		14. Soluble fiber (voluntary)
		15. Insoluble fiber (voluntary)
		16. Sugars
		17. Sugar alcohol (voluntary)
		18. Other carbohydrates (voluntary)
		19. Protein – supplies energy and amino acids
		20. Vitamin A
		21. Vitamin C
		22. Calcium
		23. Iron
		24. Other essential vitamins and minerals (voluntary)
	5. Mandatory components are printed in boldface
	6. Declared as percentages of the daily values (DVs)
		1. Daily Values (DVs) – information listed on the Nutrient Facts panel that helps determine how the nutrients in a food serving fit with that you can or should have for the day
		2. The amount in grams or milligrams may be listed, but percentages are required

*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **Guided Practice \*** | Give each student a copy of the Nutrition Facts panel from each of the cans of tuna used in the Interest Approach/Anticipatory Set. Have students create a data table to record the mandatory and any voluntary information present on the Nutrition Facts panel for each variety.Have students use the data table they created to answer the following questions:* + Is there a difference in serving size for the different products?
	+ Which is highest in calories? Lowest?
	+ Which is highest is total fat? Lowest?
	+ Which is the highest is Cholesterol? Lowest?
	+ Which is highest in sodium? Lowest?
	+ Which is the highest in Potassium? Lowest?
	+ Which do you think has the highest overall nutritional value? Why?

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| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **Lesson Closure** | None |
| **Summative / End of Lesson Assessment \***  | Ask the following questions:* + Name three important statutes impacting the labeling of red meat, poultry, and fish.
	+ What was the result of the Nutrition Labeling and Education Act (NLEA) of 1990?
	+ What is the role of the USDA-FSIS is overseeing the labeling of red meat, poultry, and fish?
	+ What is the role of the FDA?
	+ What is the Principal Display Panel and what must be included on it?
	+ What is the Information Panel and what must be included on it?
	+ How is information presented on the nutrition facts panel?
	+ What information is included on the nutrition facts panel and how is it presented?

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| **References/Resources/****Teacher Preparation** | Mehas, K. Y., & Rodgers, S. L. (2006). *Food science: The biochemistry of food and nutrition* (5th ed.). New York, NY: Glencoe/McGraw Hill.Romans, J. R., Costello, W. J., Carlson, C. W., Greaser, M. L., & Jones, K. W. (2001). *The meat we eat* (14th ed.). Danville, IL: Interstate Publishers, Inc.United States Department of Agriculture, Food Safety Inspection Service. (2007). In R. Post, C. Budak, J. Canavan, T. Duncan-Harrington, B. Jones, S. Jones, R. Murphy-Jenkins, T. Myrick, M. Wheeler, P. White, L. Yoder, & M. Kegley (Eds.), *A guide to federal food labeling requirements for meat, poultry, and egg products.* Washington, DC: Hogan & Hartson, LLP. Retreived from <http://www.fsis.usda.gov/shared/PDF/Labeling_Requirements_Guide.pdf> Ward, J. D. (2015). *Principles of food science* (4th ed.). Tinley Park, IL: The Goodheart-Wilcox Company, Inc. |
| **Additional Required Components** |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** |  |
| **Recommended Strategies** |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy****Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** |  |
| **Writing Strategies****Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication****90 Second Speech Topics** |  |
| **Other Essential Lesson Components** |
| **Enrichment Activity**(e.g., homework assignment) |  |
| **Family/Community Connection** |  |
| **CTSO connection(s)** | FFA |
| **Service Learning Projects** |  |
| **Lesson Notes** |  |

1. Visit the Texas College and Career Readiness Standards at <http://www.thecb.state.tx.us/collegereadiness/CRS.pdf>, Texas Higher Education Coordinating Board (THECB), 2009. [↑](#footnote-ref-1)