

Activity 6.1

Unit Word Search

Name _____ Date _____ Hour _____

Student Materials

Pencil

Directions

Fill in the blank with the correct term from the word bank. Find the answer within the word search.

- _____ 1. The application of food science to the selection, preservation, processing, packaging, distribution, and use of safe, wholesome food is _____.
- _____ 2. _____ is a gentle method of food preservation with little adverse effects on the quality of food.
- _____ 3. _____ is the exposure of food to low levels of radiation.
- _____ 4. The amount of time that a food product will remain suitable for sale or consumption is known as the _____.
- _____ 5. _____ is the use of technology to produce useful products or improve existing products through the manipulation of living organisms.
- _____ 6. Product _____ can be very costly and must be evaluated at every step to determine if the product will make a sufficient financial return for the time and money invested.
- _____ 7. _____ is an edible part of a plant, such as a potato, onion or cauliflower.
- _____ 8. The _____ is the portion of the plant where seeds are present.
- _____ 9. A variety of plant is also known as the _____.
- _____ 10. _____ refers to the skeletal muscle of animal carcasses.
- _____ 11. The process of harvesting animals for meat is called _____.
- _____ 12. During harvest the internal organs are known as _____.
- _____ 13. A _____ is the body of meat that remains after non-meat materials have been removed.
- _____ 14. _____ is the non-meat material which can be made into by-products.

- _____ 15. _____ cuts are the major subdivisions of a carcass.
- _____ 16. _____ cuts are the cuts which are sold to the consumer.
- _____ 17. The amount of internal fat in the meat is called _____.
- _____ 18. _____ is evaluated by examining the characteristics of the skeleton and meat that indicate the approximate age of the animals.
- _____ 19. _____ meat products are raw products that are changed or enhanced to increase the value.
- _____ 20. Meat from animals that are grown _____, without the use of antibiotics or growth hormones, can be sold at a premium.
- _____ 21. The tenderness, juiciness, and flavor of the meat make it _____.
- _____ 22. _____ cooking methods are used for naturally tender cuts of meat that have more moisture and less collagen.
- _____ 23. _____ cooking methods are used to help tenderize tougher cuts of meat that have less moisture and larger amounts of collagen and connective tissue.
- _____ 24. Raw meats are highly _____, which means they will decay or go bad quickly.

Activity 6.1 Word Bank

biotechnology

marbling

retail

carcass

maturity

shelf life

cultivar

meat

slaughter

development

offal

value added

dry heat

organically

vegetable

food technology

palatable

viscera

fruit

perishable

wet heat

irradiation

refrigeration

wholesale

P T J R Z S P Q M U F Z B K Y D D S E G V Q
 B I O T E C H N O L O G Y G I E J L L N I P
 R R A D H F W E I H I E O M D V V A B I S B
 R E A Q R E R Y L R L L O D G E B U A L C D
 M V M V T Y T I R F O E A K G L E G H B E F
 W W O H I I H A G N L E B E L O Q H S R R Y
 M T E B R T D E H E U I T Q A P G T I A A Z
 R A I U T I L C A L R A F C F M W E R M A D
 T J T U A H E U A T B A E E F E N R E Q L E
 M A J T R T Q V C L P I T Q O N O B P Q V S
 M N I U D F X G E B Y L Z I U T B N S A L I
 O O U O Y L L A C I N A G R O C A R C A S S
 N H O P A L A T A B L E J Y P N P S J D I O
 A F E L A S E L O H W W S F X A A Z V U J P
 L I A T E R L U V T K S Y A X L G V N Y G U

Activity 6.2

Research and Development: Product Development

Name _____ Date _____ Hour _____

Student Materials

Pencil
Research resources

Directions

In an ever-changing market, food manufacturers are constantly researching and developing new food products. Product development can be costly and time consuming. The process begins by brainstorming ideas for a new product or reformulations of a current one. These ideas are based on the needs and wants of a target market. Once a product is determined to be worth pursuing, it then enters the laboratory development stage. The product will be formulated during this stage. In this activity, you will be responsible for developing a new food product. It will be important that you research products already on the market. You will need to complete a written proposal as well as an oral presentation. You will actually make your product and have samples for your class. The requirements for the product proposal are outlined below.

- | | |
|--------------------------------------|--------------------|
| 1. Written Proposal (3 pages max) | 50 points possible |
| a. Product Name | 5 points |
| b. Product Description | 10 points |
| c. List of Ingredients | 5 points |
| d. Target Market Description | 10 points |
| e. Label and Package Design | 10 points |
| f. Marketing Plan | 10 points |
|
 | |
| 2. Presentation (5-10 minutes) | 50 points possible |
| a. Product Overview | 10 points |
| b. Target Market Requirements | 10 points |
| c. Product Formulation (ingredients) | 10 points |
| d. Label and Package Explanation | 10 points |
| e. Marketing Strategy | 10 points |

- Students can utilize any resources (PowerPoint, video, etc.) necessary to present the product.
- Students need to provide enough product samples for evaluation by the class. Product evaluation will take place in the following activity.

Note During the presentations, students need to take notes about each product to use in the next activity.

Activity 6.3
Research and Development: Market Testing and Evaluation

Name _____ Date _____ Hour _____

Student Materials

Pencil

Directions

Once a new product has completed the formulation stage and pilot plant stage, it goes into test marketing. In the previous activity, you and your classmates developed a new product and presented the idea to the class. Today, you will be sampling and then evaluating those products. After sampling the products, answer the questions below.

1. Which product did you feel met the needs of the target market best? Explain.

2. Which product was the most unique? Explain.

3. Which label and package marketed the product the best? Explain.

4. Which product has the best marketing strategy? Explain.

5. Which product would you most likely purchase in a store? Explain.

Activity 6.4

Processing Vegetables: Fresh Salsa

Name _____ Date _____ Hour _____

Student Materials

2 medium ripe tomatoes
½ small onion
¼ cup cilantro
1 jalapeno
1 tablespoon lime juice
¼ teaspoon salt
Canning jar with lid
Measuring cups
Measuring spoons
Cutting board
Knife
Cloth towels

Recently there has been research that has linked foodborne illnesses to salsa and guacamole in restaurants and delis. Nearly 1 in every 25 outbreaks may have been caused by contaminated salsa or guacamole. To reduce the occurrence of foodborne outbreaks, it is important to follow proper safety techniques when preparing and storing food. Hands should be washed for 20 seconds with warm water and soap before and after preparing food. All ingredients, even those that will be peeled, should be washed with water. It is important to prevent cross contamination if other foods such as meats are being prepared. Use separate knives and cutting boards and make sure those utensils are also clean. Lastly, food should be stored in the refrigerator until being served. Food should not be left out more than 2 hours and only 1 hour if the temperature is over 90 degrees Fahrenheit.

Procedure

In this activity you will be making fresh salsa. As you prepare the salsa, follow food safety procedures carefully.

1. Wash all produce well.
2. Dice tomatoes, finely chop onion and mince cilantro.
3. In the jar, combine tomatoes, onion, and cilantro.
4. Add lime juice and salt.
5. Mix and store in refrigerator.

Activity 6.5

Wholesale and Retail Cuts of Meat

Name _____ Date _____ Hour _____

Student Materials

Pencil

Directions

Using the information on page 89 of your text, answer the questions below about cuts of meat.

1. Name one cut that comes from the rib of a beef carcass. _____
2. T-bone Steaks come from which wholesale cut on a beef carcass? _____
3. List two retail cuts that are derived from the chuck of a beef carcass.

4. Which wholesale cut contains the round tip roast? _____
5. Which wholesale cut contains blade chops in a lamb carcass? _____
6. List two retail cuts that are derived from the leg on a lamb carcass.

7. A rib roast comes from which wholesale cut on a lamb carcass? _____
8. List two types of ham. _____
9. What is the neck area of a hog carcass called? _____
10. List two cuts that are derived from the loin of a hog carcass.

Activity 6.6

Understanding a Meat Label

Name _____ Date _____ Hour _____

Student Materials

Pencil

A system known as the Uniform Retail Meat Identity Standards (URMIS) was established so supermarkets would be able to use a labeling system that would be consistent. The system provides simple, yet complete information for the consumer. The label contains important information that will inform the consumer as to what is contained in the package. Three important pieces of information are required on the label; the species or kind of meat, the wholesale cut name, and the retail cut name. The label also includes the net weight, unit price and total price.

There are several items that are optional. These items are additional information to assist the consumer. Many times a recommended cooking method is listed as well as safety and handling information. A “use by” or “sell by” date is also usually present on the package. In stores that have the ability to electronically scan meat packages, the label also includes a Universal Product Code (UPC). This code corresponds to a specific cut.

Directions

Identify parts of a meat label by writing its description next to the arrow.



Questions

1. What is the system that established meat label requirements and recommendations?

2. What are the three names required on the meat label?

3. Is it required to have the “use by” or “sell by” date on the package?

4. What does the UPC code correspond to?

5. Name two additional pieces of information that may be present on the label.

Activity 6.7

Unit Review Crossword

Name _____ Date _____ Hour _____

EclipseCrossword.com

Across

2. Skeletal muscle of animal carcasses
3. Application of food science to the selection, preservation, processing, packaging and distribution
6. Meat grown without the use of antibiotics or growth hormones
10. Agency that inspects meat and poultry
12. Process of harvesting animals
14. Internal organs
16. Portion of plant that contains the seeds
17. Edible part of a plant
18. Tenderness, juiciness and flavor
19. Use of technology to produce useful products through manipulation of living organisms
22. Method of cooking - slow cooking
23. Product that will decay or go bad quickly

Down

1. Cold storage
3. Agency that regulates food derived from biotechnology
4. Body of meat that remains after the removal of all non-meat materials
5. Method of cooking - grilling
7. Cuts that are major subdivisions of a carcass
8. Approximate age of the animal
9. Internal fat
11. Exposure of food to low levels of radiation
12. Amount of time that a food product will remain suitable for consumption
13. Cuts sold to the consumer
15. Variety of plant
20. Agency that regulates the natural pesticides that are a result of biotechnology
21. Non-meat materials that can be made into by-products