8

TECHNOLOGY AND LIVELIHOOD EDUCATION

___ QUARTER

LEARNING ACTIVITY SHEET

DepED
DEPARTMENT OF EDUCATION

Republic of the Philippines
Department of Education
REGION II – CAGAYAN VALLEY

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Learning Activity Sheet in TLE
(Grade 8)

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Technology and Livelihood Education
FOOD PROCESSING
Fermentation and Pickling
Grade 8

Name of Learner: _____ Grade Level: _____

Section: _____ Score: _____

LEARNING ACTIVITY SHEETS

TOPIC: PREPARE EQUIPMENT, TOOLS AND UTENSILS

Background Information for Learners

Basic equipment, tools and utensils used in fermenting fruits and vegetables are very important for the job. Each tool is precisely designed for a specific purpose, so choosing the correct tool will also decrease the amount of effort required to get a job done right without causing damage to either the equipment or the surface being worked on. It is important to prepare, clean and sanitize equipment, tools and utensils in processing foods by fermentation and pickling. In so doing, you can avoid contamination, save time and energy.

Learning Competency with code

1. Prepare Equipment, and Utensils **(TLE_AFFP9-12 FR-IIh-i)**
    - Select equipment, tools and utensils for fermentation and pickling are according to requirements
    - Check and calibrate equipment, tools and utensils in accordance with manufacturer's specifications
    - Prepare and sanitize equipment/utensils for the above food processing methods are according to manufacturer's specifications

Activity 1. Identify Me!

Direction: Identify the following equipment and tools needed in fermentation and pickling.

1. 	2. 	3. 
4. 	5. 	6. 
7. 	8. 	9. 

10.  1.	11.  2.	12. 
13. 	14 	15. 

Activity 2. Multiple Choice.

Direction: Read and understand the following questions. Select the best answer by writing your answer on the space provided.

_____1. Which of the following is the best step in sanitizing utensils?
A. Rinse thoroughly with tap water. C. Immerse utensils in hot water
B. Dry under the sun after washing D. Wipe the utensils with clean cloth

_____2. What utensil is used to separate coarse particles in the ingredients?
A. colander B. strainer C. basin D. mixing bowl

_____3. Which of these tools is used to prepare and slice fruits and vegetables?
A. table knife B. paring knife C. kitchen knife D. slicing knife

_____4. What do you call the container that is used to ferment fruits and vegetables?
A. casserole B. basin C. steamer D. fermentation vat

_____5. What is used to check the salinity of the brine solution?
A. Thermometer B. Refractometer C. Salinometer D. Jelly thermometer

Activity 3 Fact or Bluff

Direction: Write the word **FACT** if the statement is correct and **BLUFF** if the statement is not correct.

_____1. Sanitizing aids to increase the number of microorganisms on the surface where food comes in contact.

_____2. Soaking processing implements in 500-600ppm chlorinated water.

_____3. Calibrating equipment is necessary to test the accuracy of certain device.

_____4. Example of equipment to be calibrated is weighing scale.

_____5. Sanitize the equipment and prepare a solution as prescribed on the recommended dosage.

_____6. Calibrating is the practical application of sanitary measures in handling food.

_____7. Close your mouth when working because saliva might drop the food when cooking.

_____8. Cutting implements must be rinse and dip in sanitizing solutions.

_____9. Turn on and leave unplug electrically operated tools and equipment from outlet when not in use.

_____10. Always ask for the assistance of the person who is not knowledgeable in manipulating the equipment if you want to use them.

Reflection:

What have you learned in this activity?

_____

_____

What are some issues or questions you would like to explore further?

_____

_____

References:

- Competency- Based Learning Materials in Food Processing NC II, pp. 1-50
- K-12 Basic Education Curriculum

  Technology and Livelihood Education

  Learning Module Food (Fish) Processing

  Exploratory Course Grade 7&8

- Most Essential Learning Competency
- Training Regulation for Food Processing NC II

ANSWER KEY:

Activity 1

1. Refrigerator
2. Pressure canner
3. Strainer
4. Vegetable slicer
5. Digital weighing scale
6. Measuring spoon
7. Diatetic weighing scale
8. Plastic sealer
9. Sauce pan
10. Peeler
11. Colander
12. Knife
13. Mixing bowl
14. Measuring cup
15. Heavy duty weighing scale

Activity 2

1. B
2. B
3. D
4. D
5. C

Activity 3

1. Bluff
2. Bluff
3. Fact
4. Fact
5. Fact
6. Bluff
7. Fact
8. Fact
9. Bluff
10. Bluff

Technology and Livelihood Education
FOOD PROCESSING
Fermentation and Pickling
Grade 8

Name of Learner: _____ Grade Level: _____

Section: _____ Score: _____

LEARNING ACTIVITY SHEETS

TOPIC: PREPARE RAW MATERIALS

Background Information for Learners

In sorting and grading of raw materials needed in processing food by fermentation and pickling, the following qualities should be observed:

A. Good quality

B. Free from bruises and blemishes

C. Nutritive value

D. Fresh and firm

Sorting and grading practices vary on different areas. Classification is based on size and ripeness. After harvest, the fruits and vegetables must be brought to a shaded area. Sort the fruit according to the size, color, and rind quality. Discard fruits that are injured, bruised and misshapen.

In the manufacturing process ~~of~~ fish and other marine products, local manufacturers vary their use of raw materials. Few proccesor prefer the fresh catch and some make use of fish offal (head, tail viscera and fins) in their production. Whether preserved for future use or cooked for meals they must be preserved properly to avoid undesirable taste or odor.

Learning Competency with code

Prepare Raw Materials (**TLE_AFFP9-12FR-IIj-II)**

- Sort and grade raw materials according to approved criteria and enterprise requirements
- Prepare the sorted and graded fresh fruits and vegetables according to required sizes and shapes
- Prepare fish and other marine products according to specifications

Activity 1 Choose Me!

Direction: Read the following statement carefully. Select the correct answer inside the box and write it on the space provided.

_____1. Any group of things having something in common is_____.

- Grade
- Classify
- Sort

_____2. One quality of fruits/vegetables that must be observed when sorting and grading.

- Bruise
- Fresh
- Blemishes

_____3. Part of fruits/vegetables that must be removed when preparing them.

- Odor
- Dry leaves
- Spoiled portion

_____4. What tool is used to get the exact weight of the raw materials for pickling?

- Weighing scale
- Measuring spoon
- Measuring glass

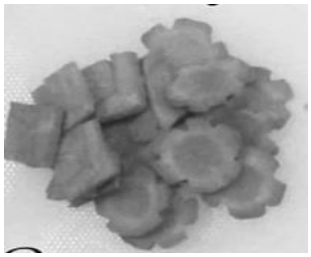
_____5. In selecting good quality of raw materials, what is to be considered?

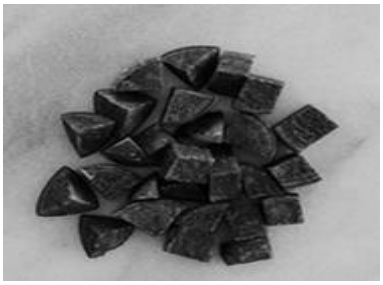
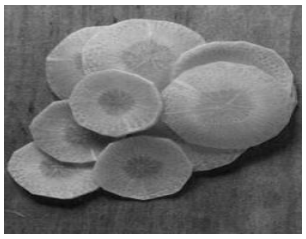
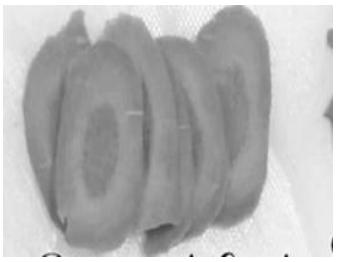
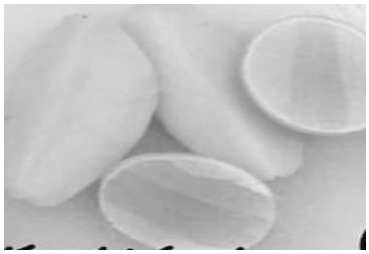
- Price
- Kind
- Grade

Activity 2. SLICE ME NICE!

Direction: Identify the following cutting techniques of fruits and vegetables. Choose the correct answer on the box that best described.

Chiffonade	Juvennielle
Chop	Pasaynne
Cubes	Roundelle slice
Diagonal/oval	Slice
Dice	Wedge

1. 	2. 
3. 	**4.** 

5. 	**6.** 
7. 	8. 
9. 	10. 

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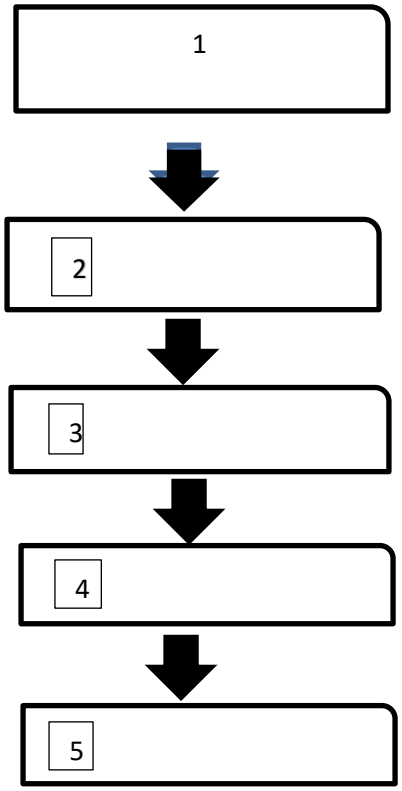
Activity 3. Flowy!

Direction: Inside the box are methods in manufacturing fish and other marine products. Identify the correct sequence and write it in the flow chart.

Drain off	Mixed with salt
Washed and drained	Washed and drained
Ferment in jars	



Reflection:

Answer the Following:

What have you learned in this activity?

_____

_____

What are some issues or questions you would like to explore further?

_____

_____

References:

- Competency- Based Learning Materials in Food Processing NC II, pp. 1-50
- K-12 Basic Education Curriculum

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  Learning Module Food (Fish) Processing

  Exploratory Course Grade 7&8

- Most Essential Learning Competency
- Training Regulation for Food Processing NC II

ANSWER KEY:

Activity 1

1. sort

2. fre

3. spoiled portion

4. weighing scale

5. kind

Activity 2

1. Chop

2. Dice

3.Juvenielle

4. pasaynne

5. cubes

6. Slice

7. Roundelle

8. Diagonal/oval

9. Chiffonade

10. Wedge

Activity 3

1. Fresh fish

2. Washed and drained

3. Mixed with salt

4. Ferment in jars

5. Drain off

Technology and Livelihood Education
FOOD PROCESSING
Fermentation and Pickling
Grade 8

Name of Learner: _____ Grade Level: _____

Section: _____ Score: _____

LEARNING ACTIVITY SHEETS

TOPIC: PERFORM ALCOHOLIC FERMENTATION OF FRUITS AND VEGETABLES

Background Information for Learners

Alcohol fermentation, also known as ethanol fermentation, is the anaerobic pathway carried out by yeasts in which simple sugars are converted to ethanol and carbon dioxide. The process of alcohol fermentation allows yeasts to break down sugar in the absence of oxygen and results in byproducts that humans benefit from.

Wine processing is a product or partial or complete fermentation of the juice of grapes. In our country, we are substituting our native fruits in place of grapes. The Bureau of Plant is producing kasoy wine from the juice of kasoy fruits in a semi pilot plant scale. The nuts of the kasoy fruits command high commercial value while the fruit are just thrown away, so we utilize the fruits by processing it into wine.

Wine processing consists of several steps:

First Step-Extraction

Second Step- Fermentation

Third Step-Ageing

Fourth Step- Clarification

Learning Competency with code

Perform alcoholic fermentation of fruits and vegetables (**TLE_AFFP9-12FR-IIIb-d-3**)

- Mix prepared fruit with water according to specifications
- Boil mixture in accordance with specifications and enterprise requirements
- Extract juice in accordance with specifications and enterprise requirements
- Cool and mix extracted juice with other ingredients like yeast and sugar in accordance with specifications
- Ferment juice for 1/2 weeks as required

- Filter and heat fermented juice according to specifications

Activity 1. Multiple Choice.
Direction: Read the following sentences carefully and choose the correct answer by writing the letter on the space provided.

_____1. Which of these refers to the decomposition of simple sugars into alcoholic and carbon dioxide using of enzymes and yeast?
A. pasteurization C. lactic acid fermentation
B. alcoholic fermentation D. acetic acid fermentation

_____2. Which of the following is a product of partial or complete fermentation of the juice of native fruits?
A. buro B. wine C. pickles D. vinegar

_____3. What is the second step in winemaking?
A. ageing B. extraction C. clarification D. fermentation

_____4. What process of removing any solid particle from the juice?
A. boiling B. filtering C. sterilizing D. pasteurizing

_____ 5. Which of the following can be used to clarify wines?
A. juice B. yeast C. egg yolk D. egg white

Activity 2 Identify Me!
Direction: identify the process involved in wine processing that described below. Choose the correct answer on the box and write your answer on the space provided each number.

Zymology	Extraction
Wine	Ageing
Yeast	Oenology
Clarification	Filter
Fermentation	Decant

_____1. It is a product of partial or complete fermentation of the juice of grapes.
_____2. This method is used by force or application of pressure to remove or strain the solid particles.
_____3. It is known as the science of fermentation.
_____4. It is the process brought by the addition of yeast where the sugar and carbohydrates are converted to alcohol and carbon dioxide.
_____5. The most important phase of wine making.
_____6. It is the process of using clarifying agent to produce a sparkling wine.
_____7. The science of wine or winemaking.
_____8. The process to pour off gently not to disturb the sediment to pour one container into another.
_____9. The method of separating solid particles, impurities from fluid by passing it through a porous substance.
_____10. It is a yellow frothy substance consisting of a mass of minute fungi which germinate and multiply in the presence of starch and sugar.

Activity 3. Wine-a holic!
Direction: Perform alcoholic fermentation of fruits in season, by following the correct procedure.

Below are procedures in alcoholic fermentation of different fruits in season. Choose a fruit that is available in your location. If you have smartphones, take a video while performing the task, if none, you can still perform the given task and give your output to your teacher.

A. Bignay Wine

Materials

Bignay fruits
Yeast
Sugar

Procedure:

1.Select sound ripe berries and wash.

2.Boil the berries with an equal part of water to get the extract.

3.Strain and measure.

4.For every 5 part(cup) of the extract, add 1 part(cup) of sugar.

5.Stir and boil. Transfer to a stoppered (with cotton plug) container and cool.

6.Inoculate with 1 tablespoon yeast to every 20 liters extract.

7.Ferment or a month.

8.Decant the clear liquid into sterilized oak barrels. Age for 2 years.

9.Clarify wine with egg white; proceed as in the clarification of banana wine.

10.Filter the wine and bottle by siphoning into clear sterilized bottles.

B. Pineapple Wine

Materials
Ripe pineapple

Water
Refine sugar
Yeast

Procedure:

1. Pare the pineapple and chop.

2. Measure and add water (1cup water to every cup of pineapple).

3. Boil until the fruits are soft. Cool and strain.

4. Add sugar to the extract (1/4 cup sugar to every 4 cups extract).

5. Stir and boil.

6. Cool and place in a glass container or demijohn (with cotton plug)

7. Inoculate with yeast (1 table spoon yeast to every 40 liters of the juice).

8. Decant into wine barrels and age for 2 years.

9. Clarify with the use of egg white (8 egg whites for every 30 liters of wine).

10. Proceed as in the clarification of Pineapple wine. Siphon into demi-jhon

11. Filter wine and bottle.

C. Banana Wine

Material**:**

Banana Fruit (Saba)
Refine sugar
Yeast
Water

Procedure:

1. Peel the ripe banana and slice thinly. To every cup of sliced bananas add 1 ½ cup of water.
2. Boil for 30 minutes or longer depending upon the quality of pulp. Strain.
3. Add sugar to the extract (1cup to every 3cup extract). Stir and boil to dissolve the sugar.
4. Allow to cool. Place in clean glass containers or demi-john.
5. Inoculate with yeast (1 tablespoon yeast to every 40 liters of boiled sweetened juice).
6. Plug mouth of demi-john with a clean piece of cloth, loosely cover with a piece of paper to protect from dust. Ferment for a month.

7. Siphon out the clean fermented liquid, filter and transfer to sterilized jars for ageing. Age for 2 years or longer.
8. Clarify the wine with egg whites (8 egg whites for every 30liters of wine) by heating the aged wine in a double boiler and add the well beaten egg whites.
9. Stir to maintain the temperature for 15-20 minutes and cool.
10. Filter the wine and bottle by siphoning into clean and sterilized bottles.

Scoring Rubrics

Name of the Student: _____ Date: _____

Performance Activity: _____ Yr.&Sec._____

Rubrics	Points	Total
1. Workmanship • **All the steps and procedure are followed according to standard procedures.** • **Demonstrate the skills with speed and accuracy.**	**20**	
2. Accuracy • **Selection of raw materials.** • **Appropriate selection of equipment/tools/utensils.** • **Measurement of materials** • **Cooking/heating and temperature requirement.**	**10**	
3. Work habits • **Carefulness in handling materials.** • **Consciousness in doing task** • **GMP and SSOP are followed.** • **Wearing of PPE's**	**10**	
4. Quality of Finished Product • **Appearance and Color** • **Taste/Flavor**	**10**	

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Reflection:

Direction:

Answer the following:

What have you learned in this activity?

_____

_____

What are some issues or questions you would like to explore further?

_____

_____

References:

- Competency- Based Learning Materials in Food Processing NC II, pp. 1-50
- K-12 Basic Education Curriculum

  Technology and Livelihood Education

  Learning Module Food (Fish) Processing

  Exploratory Course Grade 7&8

- Most Essential Learning Competency
- Training Regulation for Food Processing NC II

ANSWER KEY:

Activity 1	**Activity 2**	
1.A	1. Wine	6. Clarification
2.C	2. Extraction	7. Oenology
3.D	3. Zymology	8. Decant
4.B	4. Fermentation	9. Filter
5.D	5. Ageing	10. Yeast

Technology and Livelihood Education
FOOD PROCESSING
Fermentation and Pickling
Grade 8

Name of Learner: _____ Grade Level: _____

Section: _____ Score: _____

LEARNING ACTIVITY SHEETS

TOPIC: PERFORM ACETIC ACID/LACTIC ACID FERMENTATION/PICKLING OF VEGETABLES

Background Information for Learners

Fermented foods are rich in probiotics, beneficial microorganisms that help maintain a healthy gut so it can extract nutrients from food.

3 Types of Fermentation

1. **Fermentation of Acetic Acid**- is a chemical reaction caused by an *Acetobacter aceti* to produce vinegar after alcoholic fermentation. The keeping quality of vinegar lies mainly in the aseptic effect of the acetic acid. The most essential use of the preservative effect of acetic acid is the preservation of numerous food products, like pickles, relishes, and "acharas".

2. **Fermentation of Lactic acid**- lactic acid fermentation is used widely in the preservation of "buro", dill pickles, and similar products. Materials that have been subjected to lactic acid fermentation must be kept tightly sealed to exclude air to check the growth of acid destroying aerobics organisms. It would, therefore, be necessary to seal sauerkraut,"buro" and other lactic acid fermented products from the air.

3. **Fermentation of Alcohol**- the alcoholic fermentation by yeast results in the decomposition of simple sugar called "hexose" into alcohol and carbon dioxide.The keeping quality of alcohol beverages depends mainly upon the existence of alcohol. Pickling is the method of processing food in brine(salt) or vinegar with or without bacterial fermentation.

Learning Competency with code

Perform acetic acid/lactid fermentation/pickling of vegetables (**TLE_AFFP9-12FR-IIIe-g-4)**

- Mix alcoholic liquid with mother vinegar according to specifications
- Ferment mixture for 2-4 weeks according to standard procedures
- Filter mixture and clarify filtrate according to specifications

- Heat acetous liquid according to specifications

Activity 1.

Direction: Arrange the following process of making pickled vegetables. Use A for the first step, B for second and so on. Write your answer on the space provided.

_____1. Cutting
_____2. Selecting good quality raw material
_____3. Washing/peeling
_____4. Cooking of pickling solution
_____5. Preparing of pickling solution
_____6. Pouring of pickling solution
_____7. Arranging of vegetables in jars
_____8. Pasteurizing
_____9. Packing
_____ 10. Cooling
____ _11. Labeling

Activity 2 Remember Me!

Direction: Read the sentences carefully. Choose the letter of the correct answer and write the letter on the space provided.

_____1. What is a white gummy mass that usually forms in vinegar?
A. Acetic acid B. lactic acid C. mother vinegar D. native vinegar
_____2. Which of the following ingredients is used to make sour pickles?
A. Less sugar B. more sugar C. less salt D. more salt
_____3. What ingredients that gives flavor to the pickles?
A. Salt B. sugar C. spices D. curing salt
_____4. Which fermentation is caused by lactic acid bacteria?
A. Alcoholic fermentation C. Lactic acid fermentation
B. Acetic acid fermentation D. Acetobacter xylinum
_____5. Which of these is present in vinegar?
A. Acetic -acid B. sugar C. molds D. bacteria
_____6. Which of these solutions is made by dissolving salt and water?
A. Brine solution C. Pickling solution
B. Syrup solution D. Wine solution
_____7. What do you call the solution of vinegar, sugar and spices as main ingredients?
A. Pickling solution C. Syrup solution
B. Syrup solution D. all of these

_____8. Which solution is made by heating sugar and liquid together?

A. Syrup B. brine C. pickling D. all of these

_____9. What do you call the combination of fruits and vegetables preserved in vinegar with or without spices?

A. Pickling B. Jams C. Jellies D. Marmalade

_____10. Which of the following ingredients extracts the juice from the shredded vegetables and controls the growth of putrefactive and other spoilage bacteria?

A. Salt B. sugar C. vinegar D. Water

Activity 3

Directions. Below are products of acetic and lactic acid fermentation. Perform two methods depending on the availability of materials in your location.

A. Preparing Coco Vinegar (Quick method)

Materials:

8 cups of coconut water
1teaspoon of yeast
1 cup refined sugar

Procedures:

1. Strain the coconut water thru muslin cloth.
2. Measure 1 cup of refined sugar for every 8 cups of coco water.
3. Stir until sugar is dissolved.
4. Add 1 teaspoon of yeast and stir. Cover.
5. Fermentation takes place from three to four weeks, and on the third week, rotate container for aeration.
6. After four weeks, siphon the liquid to separate the dead cells and filter.
7. Pasteurize and bottle almost full.

B. Chayote Mixed Pickles (Quick method)

Materials:

1kg chayote
2 regular size carrots
1 red sweet pepper
2/12 cup vinegar
2 cups refined sugar
1 green sweet pepper
3 medium native onions
1 small piece ginger
1 cup salt
black pepper

Procedures:

1. Wash, peel and cut the vegetables into long, thin strips.
2. Work the vegetables separately with salt and set aside for 1- and 2 hours to wilt.
3. Press to remove part of the juice.
4. Mix the vegetables and pack in a clean dry glass jar.
5. Pour the hot pickling solution, remove air bubbles, and seal tightly.

C. Korean Kimchi

Materials

1kl. Nappa cabbage	3/4 cup chili powder
8 cloves garlic	1/4 cup white sugar
1/2 cup spring onion	1/4 cup fish sauce
1 pc. medium onion	1/4 cup salt
1tbsp. Ginger	1/4 cup glutinous flour
1pc. medium carrots	1 1/2 cup water
1 cup radish	

Procedure:

1. Slice cabbage into 4 parts then cut into square, wash and drain.
2. Soak the cabbage with salt for 30 minutes. Set aside.
3. Mix water, glutinous flour, and sugar ~~together~~ and cook until it becomes a sticky sauce.
4. Prepare other vegetables. Blend onions, garlic, ginger with patis.
5. Combine blended onions with the cooked sauce and chili powder and mix well..
6. Wash the cabbage 3 times to remove the salt. Drain well.
7. Add all the vegetables with the prepared cook sauce and mix well.
8. Pack in a glass or plastic container and ferment for 2-3 days.

Reflection:

What have you learned in this activity?

_____

_____

What are some issues or questions you would like to explore further?

_____

_____

References:

- Competency- Based Learning Materials in Food Processing NC II, pp. 1-50
- K-12 Basic Education Curriculum

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  Learning Module Food (Fish) Processing

  Exploratory Course Grade 7&8

- Most Essential Learning Competency
- Training Regulation for Food Processing NC II

ANSWER KEY:

Activity 1		**Activity 2**	
1. C	**6. G**	**1. C**	**6. A**
2. A	**7. F**	**2. A**	**7. A**
3. B	**8. I**	**3. C**	**8. A**
4. E	**9. H**	**4. C**	**9. A**
5.D	**10. J**	**5.A**	**10. A**

Scoring Rubrics

Name of the Student: _____ Date: _____

Performance Activity: _____ Yr.&Sec._____

Rubrics	Points	Total
5. Workmanship • **All the steps and procedure are followed according to standard procedures.** • **Demonstrate the skills with speed and accuracy.**	**20**	

6. Accuracy • **Selection of raw materials.** • **Appropriate selection of equipment/tools/utensils.** • **Measurement of materials** • **Cooking/heating and temperature requirement.**	**10**	
7. Work habits • **Carefulness in handling materials.** • **Consciousness in doing task** • **GMP and SSOP are followed.** • **Wearing of PPE's**	**10**	
8. Quality of Finished Product • **Appearance and Color** • **Taste/Flavor**	**10**	

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Technology and Livelihood Education
FOOD PROCESSING
Fermentation and Pickling
Grade 8

Name of Learner: _____ Grade Level: _____

Section: _____ Score: _____

LEARNING ACTIVITY SHEETS

TOPIC: FERMENT FISH AND OTHER MARINE PRODUCTS

Background Information for Learners

Fermented fish products are commonly used as food condiment in the Philippines and other Asian countries. Most of the fermented products are traditional with a great percentage of the finished products distributed in foreign markets.

Two important fermented fish products are *Bagoong* (fish paste) and *Patis* (fish sauce). The major factor that brings about fermentation is the enzyme in the fish flesh and intestines. Various fish species are used for fish paste and fish sauce production which includes: young herring, anchovy, round scad, and fresh water porgy. For shrimp bagoong, tiny shrimps (*alamang*) are used. The method of preparation consists basically of mixing fish with solar salt in the proportion of 3:1 or 1:2 (by weight) and allowed to ferment for a few weeks or more than a year. During fermentation, the fish or shrimp's meat is partially or completely digested.

Learning Competency with code

Ferment fish and other marine products (**TLE_AFFP9-12FR-IIIh-i-5)**

- Mix fish and other marine with required salt according to mixing requirements
- Ferment the mixture of fresh and other marine products for 1-2 weeks in fermentation vat/vessels according to standard procedures
- Heat fish paste/fish sauce according to standard procedures

Activity 1. Let's do it right!

Direction: Perform fermentation of fish particularly the making of fish paste (bagoong) and burong isda by following the steps.

A. Fish Paste (Bagoong)

Raw Materials:

Dilis, sapsap, and ayungin can be made into bagoong

Utensils: wooden spoon, steel barrels or earthen pots.

Procedure:

1. Wash the fish with clean fresh water.
2. To every 3 cups of fish, add 1 cup of salt and mix well.
3. Place the fish and salt mixture in earthenware pots.
4. Cover the containers tightly to keep flies and other insects away.
5. Let it stand for 2 weeks to 1 year to develop its characteristics aroma and flavor.

B. Burong Isda

Materials and Equipment

Milk fish ~~or card or~~ mudfish, or tilapia
Salt
Bottles
Mixing bowls
Cooked rice

Procedure:

1. Scale and split the fish into butterfly fillet.
2. Remove the gills and fins.
3. Wash thoroughly and drain.
4. Pack in bottles alternately with mixture of cooked rice (5 cups) and salt (8tsp). Use 400 cleaned fish for every 3 3/4 cups cooked rice mixture.
5. Allow fermenting for seven days at room temperature.
6. Saute in cooking oil, garlic, and onion before serving.

Activity 2

Direction: Complete the table by writing the correct answer. Write your answer ~~.~~in column B

A	B
1. What products are commonly used as a food condiment in the Philippines and other Asian countries?	
2. Which product is a mixture of small fresh fish or shrimps, salt condiments, flavoring materials which have undergone partial or complete fermentation?	
3. Which are suitable raw materials for bagoong and patis?	
4. What is the liquid formed from bagoong?	

5. What is the ratio of fish to salt in making bagoong?	
6. What is the local term for fermented fish with rice?	
7. What is the 3rd general procedure in making bagoong and patis/	
8. What is the other local term for fermented shrimps with rice?	
9.What certain fish is suitable for making burong isda?	
10. Which kitchen utensil is used in mixing salt and fish and other marine products?	

Reflection:

Direction: Write your reflection in this activity.

What have you learned in this activity?

_____

_____

What are some issues or questions you would like to explore further?

_____

References:

- Competency- Based Learning Materials in Food Processing NC II, pp. 1-50
- K-12 Basic Education Curriculum

  Technology and Livelihood Education

  Learning Module Food (Fish) Processing

  Exploratory Course Grade 7&8

- Most Essential Learning Competency
- Training Regulation for Food Processing NC II

ANSWER KEY:

Activity 2

1. Fermented fish
2. Bagoong
3. Anchovy
4. Patis
5. 3:1 to 5:1
6. Burong isda
7. Fermentation
8. Burong alamang
9. Tilapia/Sapsap
10. Wooden spade

Scoring Rubrics

Name of the Student: _____ Date: _____

Performance Activity: _____ Yr.&Sec._____

Rubrics	Points	Total
9. Workmanship • **All the steps and procedure are followed according to standard procedures.** • **Demonstrate the skills with speed and accuracy.**	**20**	
10. Accuracy • **Selection of raw materials.** • **Appropriate selection of equipment/tools/utensils.** • **Measurement of materials** • **Cooking/heating and temperature requirement.**	**10**	
11. Work habits • **Carefulness in handling materials.** • **Consciousness in doing task** • **GMP and SSOP are followed.** • **Wearing of PPE's**	**10**	
12. Quality of Finished Product • **Appearance and Color** • **Taste/Flavor**	**10**	

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