

TVL - Home Economics  
**Bread and Pastry Production**

First Quarter-Module 4  
Mixing Techniques, Formulation, and  
Procedures in Bakery Products



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Mayroong pag-asa dahil sa iyo, dahil sa inyong mga kabataan. Ang iyong mga ngiti, tawa, sigla, at likas na kabutihan ang inspirasyon naming mga magulang at guro upang pagbutihin ang pag-aalaga sa iyo, nang maipagpatuloy mo ang iyong pag-aaral at mga libangan.

Lagi ka sanang maging malusog, masayahin, masipag, at mapagmahal.

Ako ay sabik na maghihintay sa iyong pagbabalik sa paaralan sa hinaharap.

*- Mayor Marcy*







## Paano iniwasan ng ating pamilya ang COVID-19?



Inaalagaan ba natin ang ating kalusugan sa pamamagitan ng **sapat na tulog, ehersisyo, at masustansyang pagkain?**



Lagi ba tayong **naghuhugas ng kamay** gamit ang sabon at tubig o mga alcohol-based na produkto?



Pinapanatili ba natin ang kalinisan sa pamamagitan ng **palagiang pagdi-disinfect ng bahay?**



Binubuksan ba natin ang mga bintana para **makadaloy ang hangin** (natural ventilation)?



Iniiwasan ba natin ang **paglabas ng bahay at pagpapapasok ng bisita** kung hindi naman kailangan? Kung may lalabas man, tayo ba ay nagsusuot ng **face mask at face shield**?



Nagbabasa o nakikinig ba tayo sa mga **balita at bagong impormasyon** tungkol sa COVID-19?



Tinatandaan ba natin ang mga **karaniwang sintomas** ng COVID-19? At alam ba natin kung saan tatawag kung sakaling mayroong may sintomas sa pamilya?



Tinuturuan ba tayo ng ating mga magulang at nagiging mabuti ba silang modelo ng mga nabanggit na health at safety protocols?

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**Make Marikina COVID-19 Free**  
Stay safe, stay healthy!



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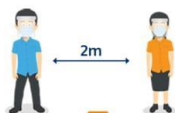
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## MGA PAALALA UPANG MAIWASAN ANG COVID-19



Laging magsuot ng face mask at face shield.



Practice Social Distancing  
(Dumistansya ng 2 metro kapag nakikipag-usap)



Laging maghugas ng kamay at gumamit ng alcohol.



Kumain ng masustansyang pagkain at uminom ng maraming tubig.



Uminom ng bitamina.



Panatilihing malinis ang kapaligiran.



Manatili lamang sa bahay kung walang mahalagang aasikasuhin at panatilihing ligtas ang tahanan sa COVID-19.



Agad sumangguni sa inyong doktor o pinakamalapit na health center kapag nakaramdam ng mga palatandaan ng COVID-19.

### Marikina COVID-19 Hotlines:



0926 626 3695  
0927 456 6682  
0961 470 3326  
0961 470 3327

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Stay safe, stay healthy!



# HINDI PA TAPOS ANG LABAN SA COVID-19: MGA PAALALA LABAN SA FAMILY CLUSTER INFECTION

Iwasan ang hawaan sa pamilya, gawing ligtas ang tahanan. TANDAAN:



**MARIKINA COVID-19  
CALL CENTER**

**HOTLINE:**

0926-626-3695

0927-456-6682

0961-470-3326

0961-470-3327

**SWAB  
TEST**



## GAWING LIGTAS ANG TAHANAN.



- Huwag balewalain ang sintomas ng COVID-19
- Sundin ang quarantine protocols
- Huwag munang mag-dine in sa mga kainan/café
- Iwasan ang selebrasyon, inuman, at pagtambay
- Iwasan ang pulutong ng mga tao
- Huwag huhubarin ang face mask kapag nakikipagusap at panatilihin ang 2 meters na distansya
- Iwasan magpapasok ng mga bisita na hindi essential sa loob ng bahay
- Palaging maghugas ng kamay

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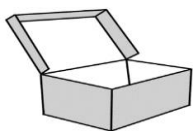
Hindi kaya ng pamahalaan lamang.  
Magkakasama nating talunin ang COVID-19 sa Marikina.

**PARA SA LIGTAS NA MARIKINA**



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## What I Need to Know

This module was designed and written with you in mind. It is here to help you develop knowledge, skills, and attitudes in the performance of Bread and Pastry tasks. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

Quarter I – L.O.1 Prepare and Produce bakery Products

L.O.2 Decorate and present Bakery Products

L.O.3 Store bakery products

**Learning Outcomes:** At the end of the lesson the students are expected to do the following:

L.O.1. Prepare bakery products:

1.4 Mixing Techniques, Formulation, and Procedures in Bakery Products

### Baking Terminologies

As you wish to pursue baking as a career, you should familiarize yourself with the common preparation and baking terminologies that come across in the process.

**Bench proofing** rounded dough must be rest at least 10 to 20 minutes.

**Creaming** fat and sugar are beaten cream together until light and fluffy.

**Cutting – in** mixing fat and flour with the use of pastry blender

**Cut and fold** a combination of two motions cutting vertically.

**Laminating** fat is repeatedly folded into the dough.

**Proofing** this is a continuing process of fermentation.

**Scaling** all ingredients must be weighed accurately.

**Sponge** yeast pre-ferment with a hydration (water content).

**Stirring** is a mixing the mixture in circular motion with the use of a wooden spoon.

**Straight dough** a method of mixing dough that combines all the ingredients at one time.





## What I Know

Give at least five (5) mixing techniques employed in cooking and baking. Explain your answer. (2 points each)

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3. \_\_\_\_\_  
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4. \_\_\_\_\_  
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5. \_\_\_\_\_  
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 \_\_\_\_\_

## How Well Did You Perform?

Your performance will be rated using the rubrics below.

### Rubrics for Scoring:

1	Able to discuss comprehensively the significant task.
2	Able to discuss appropriately the task with 1 or 2 errors.
3	Able to discuss appropriately the significant task with 3 to 5 errors.
4	Able to discuss appropriately the significant task with 6 to 8 errors.

Scale	Description	Points
4	Excellent	93 - 100
3	Good	86 - 92
2	Fair	79 - 85
1	Poor	78 - below



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## Lesson 4

# Mixing Techniques, Formulation and Procedures in Bakery Products

In this module the students will give knowledge understanding and hands on activities on working with the ingredients and different mixing techniques and methods of preparing quick breads and yeast breads.

Mixing methods greatly affects the flour mixtures and the results of the baked goods. It is very important that you do the proper mixing techniques to avoid over mixing and under mixing of the flour mixtures.



### What's In

Following the proper techniques, formulation, procedures, and methods will help a lot to prepare a good quality baked product. Variety of bread need different method of mixing it, so it is important that you guided accordingly.

#### ***Notes to the Teacher***

In this lesson, the learners are expected to apply different mixing techniques, formulation, procedures, and methods of preparing quick and yeast breads, but as a teacher always remind them to practice safety measures, sanitation at all times.



### What's New

Search a video clip about mixing techniques. After viewing the video, give your own reactions below.

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## How Well Did You perform?

Your performance will be rated using the rubrics below.

### Rubrics for Scoring:

Criteria	5	3	1
<b>Level of understanding</b>	The presentation was very much understood	The presentation was slightly understood	The presentation was not understood
<b>Degree of importance</b>	Importance of the presentation was stated at the fullest degree	Importance of the presentation was stated at the moderate degree	Importance of the presentation was not clearly stated.
<b>Maximum score</b>			

### Score Equivalent

7 - 10	Very good
4 - 6	Good
1 -3	Fair



## What is It

### Mixing techniques

Mixing methods greatly affect flour mixtures and its resulting product. Various techniques have been developed for efficiency and convenience. Some of them are as follows:

- **Beating** is done to incorporate air in a mixture by mechanical agitation. It could be done with the aid of special gadgets like wire whips, eggbeaters, or electric food mixers or with a fork.
- **Creaming** is a rubbing one or two ingredients in a bowl with the help of a wooden spoon or electric mixer to make a soft fluffy mixture. The creamed mixture should have both smooth and grainy particles.
- **Cut and Fold** is a combination of two motions cutting vertically through the mixture and turning over and over by gliding the spoon or rubber scraper across the bottom of the mixing bowl at each turn.
- **Cutting in** is mixing fat and flour with the use of a pastry blender or two knives in a scissor-like manner. This method cuts fat into small pieces, coating them with flour to form coarse, granular mixtures for pastries and biscuits.



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- **Folding** this is working with two ingredients very gently to retain air in the mixture. It often involves one delicately textured ingredient such as beaten egg white or whipped cream, which would be reduced to nothing if handled crudely, and a batter type mix.
- **Kneading** used in dough making to develop, consist of pressing, folding, and stretching of the dough to develop the desired formation of gluten.
- **Laminating** is the process of inserting or locking a butter into the dough.
- **Sifting** is a separating coarse particle in the ingredients by passing this through a sieve or a sifter and in one way of incorporating air into the mixture.
- **Stirring** is mixing the ingredients in circular motion until well blended.
- **Whipping** is a form of beating as in beating eggs or cream to incorporate air in the mixture to make it light and fluffy.

### Three Methods of mixing dough

1. **Straight dough method** all ingredients are mixed in one operation or at one time to make the dough. This is kneaded and set aside to rise.
2. **Sponge dough method** the sponge process involves a two-stage mixing method; first, a sponge is made of water, flour, and yeast and allowed to ferment. Then the dough is made by mixing in the remaining ingredients.
3. **No knead method** is faster because breads are made from batter instead of a dough, however the texture of the finish product is not fine as that kneaded dough.

## 12 Basic Steps in the production of Yeast Breads

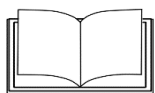
1. **Scaling/ measuring ingredients** all ingredients must be weighed accurately.
2. **Mixing** when flour and other dry ingredients are hydrated or combined with Liquid ingredients. Mixing yeast dough's has three main purposes:
  - To combine all ingredients into a uniform, smooth dough.
  - To distribute the yeast evenly throughout the dough.
  - To develop the gluten.
3. **Bulk fermentation** is the process by which yeast acts on the sugars and starches in the dough to produce carbon dioxide gas (CO<sub>2</sub>) and alcohol
4. **Folding** during fermentation, the dough rises, or increases in bulk. When the dough has approximately doubled in bulk, it is folded. Folding is usually called punching.



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5. **Dividing** (scaling or portioning of dough) is using a baker's scale; divide the dough into pieces of the same weight, according to the product being made.
6. **Pre shaping or rounding** the goal is to form the dough into a fairly smooth, regular piece that, after resting, can easily be made into the final shape. Many bakers pre shape all their dough into smooth, round ball process is called rounding.
7. **Bench-proofing or intermediate proofing** portions of dough are allowed to rest for 10 to 20 minutes in the bench. This relaxes the gluten to make final shaping of the dough easier. Also, fermentation continues during this time.
8. **Makeup and panning** the dough is shaped into loaves or rolls and then placed in pans or on baking sheets.
9. **Proofing** is a continuation of the process of yeast fermentation increases the volume of the shaped dough. Bakers use two terms so they can distinguish between fermentation of the mixed dough and proofing of the made-up product before baking. Proofing temperatures are generally higher than fermentation temperatures.
10. **Baking** is the rapid rising in the oven due to production and expansion of trapped gases as a result of the oven heat.
11. **Cooling after** baking, bread must be removed from the pans and cooled on racks to allow the escape of the excess moisture and alcohol created during fermentation.
12. **Storing breads** to be served within eight hours may be left on racks. For longer storage, wrap cooled breads in moisture proof bags to retard staling. Note, however, that bread must be thoroughly cool before wrapping, or moisture will collect inside the bags.



## What's More

Match **Column A** with **Column B**. Choose the correct answer.

- | <b>A</b>   | <b>B</b>        |
|--|-----------------|
| _____ 1. Working with two ingredients in a bowl with the tip of the wood spoon or electric mixer | a. Knead        |
| _____ 2. Fat is repeatedly folded into the dough   | b. Creaming     |
| _____ 3. Working with the dough using the heel or hands.   | c. Folding      |
| _____ 4. Mixing fat and flour using a pastry blender   | d. Laminating   |
|  | e. Sifting      |
| _____ 5. Separate coarse particles in the ingredients  | f. Cutting – in |



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## What I Have Learned

In two sentences, answer what is asked in the question. (5 points each)

1. Why do we have to follow proper techniques in mixing dough and batter? Explain your answer.

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2. Discuss the 3 methods of mixing dough.

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3. How will you make batter mixture lighter? Explain your answer.

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### How Well Did You Perform?

Your performance will be rated using the rubrics below.

#### Rubrics for Scoring:

1	Able to discuss comprehensively the significant task.
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1	Poor	78 - below



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## What I Can Do

**Online learners:** Make a Chocolate Brownies, then take a video while doing the steps and techniques in baking.

**Offline learners:** Perform Chocolate Brownies using different mixing techniques in baking. Make an observation report about the finished product signed by the parent or guardian.

### Chocolate Brownies

#### Ingredients:

- 1 cup sifted all-purpose flour
- 1 cup sugar
- 1/8 cup teaspoon salt
- 1 egg
- 1/2 cup butter or margarine
- 2squares (2 ounces) unsweetened chocolate, melted
- 1/2 teaspoon vanilla
- 1/2cup chopped nuts

#### Procedure:

1. Sift together flour and salt.
2. Cream butter until light and fluffy. Mix in vanilla. Add sugar gradually.
3. Add eggs one at a time beating well after each addition. Blend in melted chocolate. Add flour mixture gradually and blend in nuts.
4. Pour into prepared pan. Bake.
5. Cool and cut into 16 squares.

Baking temperature: 350 °F for 25- 30 mins.

Pan: 8 inch or 9 inches square pans, greased.

#### How Well Did You Perform?

Your performance will be rated using the rubrics below.

#### Rubrics for scoring

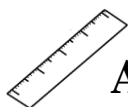
4	Can perform this skill without supervision and with initiative and adaptability to problem situation.
3	Can perform this skill satisfactorily without assistance or supervision.
2	Can perform this skill satisfactorily but requires some assistance and or supervision.
1	Can perform this skill satisfactorily but requires considerable assistance and or supervision.

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## Assessment

Identify the baking process in yeast bread. Choose the correct answer on the choices provided below.

**Folding  
Baking**

**Fermentation  
Bench Proofing**

**Mixing  
Make-up and Panning**

**Scaling**

**Rounding  
Proofing**

- \_\_\_\_\_ 1. It is cutting the dough into desired size or weight.
- \_\_\_\_\_ 2. This is a continuing process of fermentation.
- \_\_\_\_\_ 3. Sometimes it is called punching
- \_\_\_\_\_ 4. This is the process by which yeast acts on the sugars and starches in the dough to produce carbon dioxide gas (CO<sub>2</sub>) and alcohol.
- \_\_\_\_\_ 5. Rounded or pre-shaped portions of dough are allowed to rest for 10 to 20 minutes.
- \_\_\_\_\_ 6. It is to combine all ingredients into uniform smooth dough.
- \_\_\_\_\_ 7. This is the first step in the baking process.
- \_\_\_\_\_ 8. It is the next process after dividing in which it is shape into smooth round ball.
- \_\_\_\_\_ 9. The process where the dough is shaped and molded then placed into the pan.
- \_\_\_\_\_ 10. This is the rapid rising in the oven due to production and expansion of trapped gases as a result of the oven heat.



## Additional Activities

### Preparing Banana Muffins

Prepare Banana Muffins using creaming methods and muffin methods. Identify the difference between the texture, color, and crust.

### Banana Muffins

#### Ingredients:

- ½ c. shortening
- 1 ½ c. sugar
- eggs
- ½ cups sifted cake flour
- ½ teaspoon baking powder
- ¾ teaspoon baking soda
- ½ teaspoon salt
- 1 teaspoon vanilla
- ½ cup sour milk (½ c. whole milk plus 1 ½ teaspoon vinegar)
- ½ cup mashed bananas (about 2 – 3 pieces lakatan)
- 1/3 c. chopped nuts



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**Procedure:**

1. Cream shortening until light and fluffy; add sugar gradually.
2. Blend in eggs one at a time, beating well after each addition.
3. Sift together flour, baking powder, baking soda, and salt.
4. Add vanilla to milk.
5. Alternately add flour mixture and liquid ingredients to creamed mixture.
6. Blend in bananas and nuts.
7. Pour into prepared pan. Bake as directed.

Baking time: 15- 20 minutes. – Muffin pan Greased and floured, or paper lined.

**How Well Did You Perform?**

Your performance will be rated using the rubrics below.

**Rubrics for scoring**

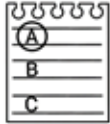
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## Answer Key

Assessment	Assessment	1. Dividing	1. C	What's More	What I Know
2. Proofing	2. Proofing	2. D			Answers may vary.
3. Folding	3. Proofing	3. A			Beat – to mix egg by incorporating air with the use of electric mixer or wire whisk.
4. Bulk	3. Folding	4. F			Cream – to rub one or two ingredients with a wooden spoon or electric mixer.
5. Bench	4. Bulk	5. E			Knead – to mix the dough with pressing, folding and stretching.
6. Mixing	5. Bench				Sift – to separate coarse particles.
7. Scaling	6. Mixing				Stirring – the methods of mixing in circular motion.
8. Rounding	7. Scaling				
9. Make – up	8. Rounding				
10. Baking	9. Make – up				
	10. Baking				





## References

### Book

Arcos, Cristeta; Domo, Anecita P.; Kong, Anecita S.; Dogelio, Maila A. ,(2016) Bread and Pastry Production Manual, 3 F. Maine City Tower, 236, Tomas Morato Avenue, Brgy. South Triangle, Quezon City, Philippines

Basbas, Leonora D.( 2016) Bread and Pastry Production (Volume I ). P. Florentino St., Sta. Mesa Heights, Quezon City, Philippines

Dayrit, Pat L.1985. Favorite Filipino Recipes. Quezon City, Le Cordon Bleu.

Department of Education, Bread and Pastry Production, Learning Module, K-12 Basic Education Curriculum, Technology and Livelihood Education, Deped Complex, Meralco Avenue, Pasig City, Philippines 1600.

Gisslen, Wayne (2013) Professional Baking ( Sixth Edition ) Hoboken, New Jersey, U.S.A., John Wiley & Sons, Inc.,

Robles, Cynthia, N.( 1976) Philippine Economics Baking Basics ( First printing).Wheat Associates, U.S.A. P.O. Box 146, Makati Metro Manila

Teoh, Debbie.2009.Asian Tidbit, Singapore: Marshall Cavendish Cuisine.

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