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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for TLE

Quarter 3
Lesson
8

Lesson Exemplar in TLE Grade 7
Quarter 3: Lesson 8 (Week 8)
SY 2024-2025

Development Team

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TLE /QUARTER 3/ GRADE 7

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	Demonstrate an understanding of the fundamentals of the hospitality and tourism industry.
B. Performance Standards	The learners apply skills in food preparation and services following safety precautions.
C. Learning Competencies and Objectives	**Learning Competency** Convert unit of measurement. **Lesson Objectives:** After the day's lessons, the learners are expected to: 1. Identify the units of measurement for food materials and distinguish the various food material measuring techniques; 2. Demonstrate appropriate measurement of dry and liquid ingredients using the measuring techniques; 3. Execute basic calculation and conversion of food materials using the English and Metric system; and *4.* Value the significance of measuring food materials appropriately.
D. Content	Kitchen Math • English and Metric System
E. Integration	***SDG 4: Quality Education.*** 4.6 Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy. ***SDG 12: Responsible Consumption and Production***. 12.8 Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature. Acquiring knowledge of the unit of measurement for kitchen ingredients is highly beneficial for daily life, particularly in cooking and meal preparation. By integrating knowledge of units of measurement into our daily lives, we not only enhance our culinary skills but also make the cooking process more efficient, enjoyable, and tailored to our specific needs and preferences.

II. LEARNING RESOURCES

Fayed, S. (2022). *Cooking techniques and tips: Metric conversion.* The Spruce Eats. https://www.thespruceeats.com/metric-conversions-for-cooking-2355731

Tan, N. (2013, August 22). *K to 12 basic education curriculum TLE learning module: Commercial cooking.* SlideShare. https://k-to-12-commercial-cooking-learning-module

The Fisher Village College. (n.d.). *Measuring techniques in food selection and preparation.* Studocu. https://www.studocu.com/ph/document/the-fisher-valley-college/hotel-and-restaurant-management/food-selection-and-preparation-part1/55535045

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	**DAY 1** **1. Short Review** **Identification** **Direction:** Identify each picture based on our previous lesson. 1.  https://www.freepik.com/premium-photo/hand-oven-muffins-baking-food-cooking-sweet-delicious-cakes-tray-home-kitchen-hands-baker-taking-hot-muffin-baked-meal-treat-delight-pastry-making-house_37463500.htm 2.  https://www.britannica.com/quiz/from-athena-to-zeus-basics-of-greek-mythology 3.  https://www.youtube.com/watch?v=1TAMKPySBro 4.  https://www.quora.com/What-are-your-best-simple-recipes-for-baking-grilling-broiling-or-pan-searing-salmon-Minimal-preparation-under-30-minutes-Prefer-to-cook-fresh-wild-caught-salmon-with-skin-on-one-side 5.  https://www.quora.com/What-is-the-difference-between-grilling-and-baking 6.  https://www.onceuponachef.com/how-to/how-to-make-soft-boiled-eggs.html **2. Feedback** Do you still have other queries or clarification about our previous lessons?	The teacher will ask the students to analyze the photos and identify the names of the cooking methods as shown in the picture. **Answer key:** 1. Baking 2. Sautéing 3. Deep-frying 4. Pan-frying 5. Grilling 6. Boiling

B. Establishing Lesson Purpose	**1. Lesson Purpose**  https://m.facebook.com/womanofskillhub/photos/a.102407601266467/5490029732732 73592/?type=3&locale=ms_MY **A**  https://www.quora.com/When-a-chicken-is-removed-from-an-oven-its-temperature-is-measured-at-300-F-Three-minutes-later-its-temperature-is-200-F-How-long-will-it-take-for-the-chicken-to-cool-off-to-a-room-temperature-of-70-F **B**  https://cemas.global/en/cemas-magazine-12/ **C** **2. Unlocking Content Area Vocabulary** • **Calculation is** the process of performing mathematical operations to determine a result or solve a problem. It involves manipulating numerical or symbolic information according to predefined rules or algorithms for a meaningful outcome. • **Conversion –** refers to changing something from one form, use, or state to another. This could include converting units of measurement, transforming data from one format to another, or changing the purpose or function of something. • **Dry ingredients –** typically refer to solid, non-liquid components used in cooking and baking. These ingredients are measured by volume or weight and include various items commonly found in the kitchen. • **English System –** the term "English system" can refer to various systems, but one common interpretation is the system of units used in the United States and some other countries. • **Food Material –** generally refers to the raw or unprocessed substances used to prepare food. These are the basic ingredients that form the foundation of dishes and recipes. Food materials can be of plant, animal, or mineral origin and are transformed into finished meals through various cooking and culinary processes. • **Kitchen Mathematics –** refers to applying mathematical principles and concepts in cooking and food preparation. It involves using mathematical skills to measure ingredients, adjust recipe quantities, understand cooking times, and make conversions.	The teacher will ask the students to describe the photos posted showing the possible effects of miscalculating food ingredients. Then, connect the photos described on the day's topic/lesson.

	• **Liquid ingredients –** are substances that are in a fluid state and are commonly used in cooking and food preparation. These ingredients contribute moisture, flavor, and sometimes nutritional value to recipes. • **Measuring Techniques –** refer to the methods and procedures used to quantify and accurately determine the quantity of ingredients in cooking and baking. These techniques are essential for achieving consistent and successful results in the kitchen. Different ingredients, such as dry and liquid components, require specific measuring approaches. • **Metric System –** is an international decimal measurement system widely used worldwide for scientific, industrial, and everyday purposes. It provides a consistent and logical framework for expressing measurements, and its units are based on powers of ten, making conversions between different units straightforward. The metric system is also known as the International System of Units (SI), the modern form of the metric system. • **Unit of Measurement –** is a standardized quantity used to express a physical quantity. It provides a reference for comparing and quantifying the magnitude of a particular attribute, such as length, mass, time, temperature, electric current, and more.	
C. Developing and Deepening Understanding	**SUB-TOPIC 1: Kitchen Math – English and Metric System** (Good for two meetings) **1. Explicitation:** What is kitchen Math all about? **2. Worked Example:** Present and discuss to the class the techniques for measuring food materials and convert them using English and Metric Systems. **The English and Metric System** The ***English system*** of kitchen measurement, also known as the Imperial system, is a set of units used for measuring ingredients in cooking and baking. While many countries, including the United Kingdom, have transitioned to the metric system, the Imperial system is still used in some places, especially in traditional recipes and the United States. Here are some common units in the	The teacher will discuss the measuring techniques for food materials and the conversions of units from the English/US System to the Metric System with the class.

	English system of kitchen measurement: a) Volume: • Teaspoon (tsp) • Tablespoon (tbsp or T) • Fluid ounce (fl oz) • Cup (c) • Pint (pt) • Quart (qt) • Gallon (gal) b) Weight: • Ounce (oz) • Pound (lb) c) Dry Measure: • Ounce (oz) • Pound (lb) The ***Metric system***, also known as the International System of Units (SI), is a decimal-based system of measurement used globally in most countries. It provides a straightforward and consistent way to measure quantities. In the metric system, there are base units for different types of measurements, and multiples or submultiples of these units are used for larger or smaller quantities. Here are some common units in the metric system, particularly those relevant to kitchen measurements: a) Volume: • Milliliter (ml) • Liter (L) b) Weight: • Gram (g) • Kilogram (kg) c) Length: • Millimeter (mm) • Centimeter (cm) • Meter (m)	*(Continuation of discussion)*

In the metric system, conversions between units are based on powers of 10, which makes calculations and conversions relatively easy. For example, there are 1,000 milliliters in a liter and 1,000 grams in a kilogram.

When using the metric system in the kitchen, ingredients are typically measured in grams or milliliters. For example, a recipe might call for 250 grams of flour or 500 milliliters of water. The metric system is widely used in the culinary world because of its precision and simplicity in scaling recipes.

It's important to note that the conversion factors between units are not always straightforward (e.g., fluid ounces to ounces in weight), so using the correct unit for the measured ingredient is essential. Additionally, when following recipes, it's advisable to use the system of measurement specified in the recipe to ensure accuracy.

English to Metric Volume Conversions

US Customary Quantity (English)	Metric Equivalent
1 teaspoon	5 ml
1 tablespoon	15 ml
2 tablespoons	30 ml
1/4 cup *or* 2 fluid ounces	60 ml
1/3 cup	80 ml
1/2 cup *or* 4 fluid ounces	125 ml
2/3 cup	160 ml
3/4 cup *or* 6 fluid ounces	180 ml
1 cup *or* 8 fluid ounces *or* 1/2 pint	250 ml
1 ½ cup *or* 12 fluid ounces	375 ml
2 cups *or* 1 pint *or* 16 fluid ounces	500 ml
3 cups *or* 1 ½ pints	700 ml
4 cups *or* 2 pints *or* 1 quart	950 ml

(Continuation of discussion)

4 quarts *or* 1 gallon	3.8 L
1 ounce	28 grams
1/4 lb. (4 ounces)	112 grams
1/2 lb. (8 ounces)	225 grams
3/4 lb. (12 ounces)	337 grams
1 lb. (16 ounces)	450 grams

When a high level of precision is not required, basic equivalents may be used as follows:1 cup ≈ 250 mL1 pint ≈ 500 mL1 quart ≈ 1 L1 gallon ≈ 4 L

US to Metric Weight Conversions

US Customary Quantity (English)	Metric Equivalent
1 ounce	28 grams
4 ounces *or* ½ lb.	113 grams
1/3 lb.	150 grams
8 ounces *or* ½ lb.	230 grams
2/3 lb.	300 grams
12 ounces *or* ¾ lb.	340 grams
16 ounces *or* 1 lb.	450 grams
32 ounces *or* 2 lbs.	900 grams

The ounces referred to in this weight conversion table are not fluid ounces.

The teacher can also make use of this conversion table: https://www.thecookierookie.com/wp-content/uploads/2017/07/kitchen-conversions-chart-pic-768x991.png

DAY 2

Measuring Food Materials

Using standard measuring equipment and standard measuring techniques will help ensure successful products. To achieve consistent results each time a particular recipe is used, identical measuring procedures must be followed. Every major ingredient, dry or liquid, requires a special measuring technique. Liquids are measured in standard glass or clear plastic cups with the exact

	capacity specified in a recipe. If it is necessary to weigh foods, use a weighing scale. **Measuring Techniques** **(a)** **How to measure Liquids**: Place a liquid measuring cup on a level surface. Have the measuring line at eye level to ensure the exact measurement. **(b)** **Dry Ingredients or Powdered Materials**: Gently spoon the ingredients into the cup, piling high or filling the cup to overflowing; then level off with a metal spatula or straight-edged knife. Powdered materials, such as baking powder, baking soda, salt, etc., must be stirred first to break up any lump. Dip a dry spoon in the powder and level off with the edge of the spatula or the knife. **(c)** **Sugar:** Sift granulated or refined sugar if lumpy. Spoon into the measuring cup and level off. Do not pack or tap the sugar down. Brown sugar is packed firmly into the cup with a finger until even with the rim. When the cup is inverted, brown sugar will hold its shape. **(d)** **Solid shortening:** With a rubber spatula, pack into the cup. Run spatula through shortening to release air; fill again and level off. **(e)** **Butter or margarine:** Cut the desired amount when using a bar or stick of butter. Use these equivalents: 1/2 lb. — 1 cup; 1/4 lb. — 1/2 cup. **(f)** **Shredded cheese:** Lightly place the shreds in a dry measuring cup until even with its rim. Do not pack the cheese into the cup. **(g)** **Spices:** To measure less than 1/4 teaspoon, use your finger or divide 1/4 teaspoon in half. This is usually referred to as a dash or a pinch. **Abbreviations used in measuring ingredients.** **a)** t or tsp. (teaspoon) **b)** lb. (pound) **c)** T or tbsp. (tablespoon) **d)** oz. (ounce) **Measurements and Conversions**	*(Continuation of discussion)*

Heat	Fahrenheit	Centigrade/Celsius
Very Cool	230	110
Cool or Slow	275-300	135-150
Moderate	350	175
Hot	425	220
Very Hot	450	230

Conversion of Temperature Measurement:

- CENTIGRADE = 5/9 (°F – 32) or (°F – 32) x 5 9
- FAHRENHEIT = (9 x °C)/5 + 32 or 1.8 x °C – 32

Weight and Measure Equivalent:

- Dash = less than 1/8 teaspoon
- 3 Teaspoons (tsp.) = 1 Tablespoon (Tbsp.)
- 2 Tbsp. = 1/8 cup (1 fl. oz)
- 4 Tbsp. = 1/4 cup (2 fl. oz)
- 8 Tbsp. = 1/2 cup (4 fl. oz)
- 16 Tbsp. = 1 cup (8 fl. oz)
- 1 gill = 1/2 cup
- 2 cups = 1 pint
- 2 pints = 1 quart
- 4 quarts = 1 gallon
- 8 quarts = 1 peck
- 4 pecks = 1 bushel

Approximate Mass and Measures

Ingredients	Handy Measures (Rounded)	
	1 Teacup	1 Tablespoon
Flour	100 grams	25 grams
Raisins	100 grams	25 grams
Corn flour (cornstarch)	100 grams	25 grams
Rice	100 grams	25 grams
Cheese (grated)	50 grams	25 grams

Liquid (milk, water)	150 ml.	15 ml.

DAY 3-4

3. Lesson Activity:

The teacher will teach the class how to measure dry and liquid ingredients appropriately. Once the teacher is done, it's the students' turn to perform the following tasks:

Task 1: Measuring Dry ingredients such as:

a. Brown Sugar
b. White Sugar
c. All-purpose Flour
d. Baking Soda
e. Milk Powder

Task 2: Measuring Liquid ingredients such as:

a. Cooking Oil
b. Concentrated Milk
c. Water
d. Soy Sauce
e. Melted Butter

Scoring Rubric:

Dimensions	Outstanding (10)	Very Satisfactory (8)	Satisfactory (6)
Correct usage of measuring tool	All tools used in measuring ingredients are correct	One or two tools are mistakenly used in measuring ingredients	Three or more tools are mistakenly used in measuring ingredients
Execution of appropriate and accurate measurement	All ingredients were measured appropriately and accurately	One or two ingredients were not measured appropriately and accurately	Three or more ingredients were not measured appropriately and accurately
Use of measuring technique	A measuring technique is used when measuring all the ingredients.	One or two ingredients were measured without the use of a measuring technique	Three or more ingredients were measured without the use of a measuring technique
Total			

The teacher will first demonstrate how to appropriately measure the liquid and dry ingredients. Once the teacher is done, the students will be tasked to perform the said tasks. It's up to the teacher if he/she will group the students during the performance or let them perform individually.

Important reminders:

- The teacher must first secure the necessary measuring tools to perform the tasks.
- The teacher may opt to provide the necessary ingredients to be measured (Ingredients specified in the tasks are subject to change depending on availability).

	(To apply what the students learned during the lesson, an additional activity will be given. See worksheet for the activity which students will accomplish.)	The teacher may create their scoring rubric or use the sample to rate students during the performance task.
D. Making Generalizations	**1. Learners' Takeaways** This can be done by asking the students to share their key takeaways from the discussion through oral recitation. **2. Reflection on Learning** Important questions to reflect on. 2.1. Why do we need to learn the kitchen unit of measurement? 2.2. What do you think will be the consequence/s if you mistakenly measure or convert a certain measurement of an ingredient? 2.3. As an individual, what do you think is the significance of acquiring knowledge on appropriately measuring and converting measurements of ingredients in your day-to-day living?	The teacher will ask the students about their key takeaways from the discussions. The teacher may also ask about the importance of the topics/ lessons in daily life.

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		**NOTES TO TEACHERS**
Evaluating Learning	**1. Formative Assessment** **A. Conversion** **Direction:** Convert the following units of measurement from English to Metric system and vice versa.	**Answer key: (A)** 1. 15 ml 2. 2 tablespoons 3. 340 grams 4. 16 ounces or 1 lb. 5. 125 ml 6. 2/3 cup 7. 180 ml 8. 1/4 lb. (4 ounces) 9. 225 grams 10. 3/4 lb. (12 ounces) **Answer key: (B)** 1. Pounds

No.	English System	Metric System
1.	1 tablespoon	
2.		30 ml
3.	12 ounces *or* ¾ lb.	
4.		450 grams
5.	1/2 cup *or* 4 fluid ounces	
6.		160 ml
7.	3/4 cup *or* 6 fluid ounces	
8.		112 grams
9.	1/2 lb. (8 ounces)	
10.		337 grams

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<tr>
<td></td>
<td>
B. Spell it Out
Direction: Spell out the following abbreviations
<table>
<tr><td>1. lbs</td><td>2. oz</td><td>3. ml</td><td>4. t</td><td>5. T</td></tr>
<tr><td>6. c</td><td>7. Tbsp</td><td>8. tsp</td><td>9.g</td><td>10. L</td></tr>
</table>
2. Homework
The teacher will assign the students to list all the measuring tools available in their homes and cite the ingredient/s they usually measure them with.
</td>
<td>
2. Ounce
3. Milliliter
4. Teaspoon
5. Tablespoon
6. Cup
7. Tablespoon
8. Teaspoon
9. Grams
10. Liter
</td>
</tr>
<tr>
<td>B. Teacher's Remarks</td>
<td>
<table>
<tr><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
</table>
</td>
<td>The teacher may take note of some observations related to the effective practices and problems encountered after utilizing the different strategies, materials used, learner engagement and other related stuff.
Teachers may also suggest ways to improve the different activities explored/ lesson exemplar.</td>
</tr>
<tr>
<td>C. Teacher's Reflection</td>
<td>
Reflection guide or prompt can be on:
• <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?
• <u>students</u>
What roles did my students play in my lesson?
What did my students learn? How did they learn?
• <u>ways forward</u>
What could I have done differently?
What can I explore in the next lesson?
</td>
<td>Teacher's reflection in every lesson conducted/ facilitated is essential and necessary to improve practice. You may also consider this as an input for the LAC/Collab sessions.</td>
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