



TECHNOLOGICAL UNIVERSITY OF THE PHILIPPINES  
TAGUIG CITY

<b>Teacher:</b>	James Reniel G. Bambao	<b>Grade Level:</b>	Grade 8
<b>Learning Area:</b>	Home Economics (Caregiving)	<b>Date:</b>	12/03/2023
<b>Learning competency:</b>	Perform simple calculation conversion	<b>Quarter</b>	3 <sup>rd</sup> Quarter
<b>Topic:</b>	Perform Calculation (Caregiving)	<b>Section:</b>	ELEXT-3A
		<b>Time:</b>	1pm-1:45pm

Objectives	
	At the end of the lesson, the learners should be able to: <ul style="list-style-type: none"><li>• Learners will be able to recall and explain the basic arithmetic principles and conversion factors used in medication and mensuration.</li><li>• Learners will be able to apply the principles of proportion and conversion factors to calculate medication dosages and prepare solutions of the correct concentration.</li><li>• Learners will be able to evaluate the accuracy and effectiveness of their measurement techniques in Caregiving.</li></ul>
<b>Content Standard</b>	Students should be able to compute and calculate accurately and precisely the common units used in medication and mensuration of the used of proportion.
<b>Performance Standard</b>	The proper procedure of computation of proportion and conversion of units of measurements.
<b>Content</b>	<b>Perform Calculation and Mensuration in Caregiving</b>
<b>Learning Resources</b>	K to 12 Basic Education Curriculum Technology and Livelihood Education Learning Module (34-53 pages), <a href="https://www.youtube.com/watch?v=6N0m3Q_82oY">https://www.youtube.com/watch?v=6N0m3Q_82oY</a> ,
<b>Additional Materials from Learning Resource (LR) Portal.</b>	PowerPoint, Learning Materials Modules, Laptop, Video, Website for resources.

Procedures	
I. Introductory Activity	
Teacher's Activity	Students' activity
<b>1. Opening prayer</b> <i>*Class, please stand for a short prayer. Who would like to lead?"</i> <i>Reynard can you please read the prayer?</i>  <i>- Thank you, Reynard, for that wonderful prayer.</i>	<i>* Reynard will volunteer to lead the prayer.</i>



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<p><b>2. Greetings</b> <i>*Good afternoon, class! How are you today? I hope all of you were doing well in your studies. Please don't be noisy and listen to our discussion later.</i> <i>* Please pick up the scattered pieces of plastic and paper under your chair/table.</i></p> <p><b>3. Checking of Attendance</b> <i>*Secretary, I'd like to know how many absentees we have today?"</i> <i>- "That's good to know, class! Keep it up!"</i></p> <p><i>* Before we proceed for our discussion class, I want you to pick first a piece of paper or trash that you will see on the floor and arrange your chair properly.</i> <i>- "Good job, class! Isn't it easier to think in a clean environment?"</i></p>	<p><i>*Make comfortable themselves.</i></p> <p><i>*"Good morning, Sir! We're glad to say that there are no absentees in our class today.</i></p> <p><i>* The students will properly arrange their seats and dispose any pieces of trash they may find.</i> <i>-Yes sir!</i></p> <p><i>*(Students pick up the trash and arrange the chair properly.)</i></p>
<b>II. Review of the Previous Lesson</b>	
<b>Teacher's Activity</b>	<b>Students' activity</b>
<i>*In home economics, what are those field are you familiar? Can you guess at least 2 field?</i>	<i>*Learners insights*</i>
<b>III. Motivation</b>	
<b>Teacher's Activity</b>	<b>Students' activity</b>
<p><i>Preparation of PowerPoint presentation</i> Objective: Familiarization of the important unit in Caregiving</p> <p>Instruction: This is just multiple choices if the student got wrong their answer their classmates can steal the question if it's wrong again facilitator should give the correct answer.</p> <p>1.) What is the unit Equivalency of 1 pint? a.) 1 cup (c) b.) 1000 milliliters (ml) c.) 10 millimeters d.) 500 milligrams (mg)</p> <p>2.) What is the equivalent of 1 ounce (oz)? a.) 1 cubic centimeter (cc) b.) 30 milliliters (ml) c.) 1 cup (c) d.) 12 ounces</p> <p>3.) What is the equivalent of 1 inch (in)? a.) 1 cubic centimeter (cc) b.) 30 milliliters (ml) c.) 1 cup (c) d.) 12 ounces</p>	<p><i>* Participation of learner</i></p> <p><i>* Guessing the answer to question 1</i></p> <p><i>* Guessing the answer to question 2</i></p> <p><i>* Guessing the answer to question 3</i></p>



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<p>4.) What is the equivalent of 2.2 pounds?</p> <p>a.) 1000 micrograms (mcg)</p> <p>b.) 1 milligram (mg)</p> <p>c.) 2 milligrams (mg)</p> <p>d.) 1000 grams (g)</p> <p>5.) What is the unit Equivalency of 2 tablespoons (tbsp)?</p> <p>a.) 1 cup (c)</p> <p>b.) 1000 milliliters (ml)</p> <p>c.) 10 millimeters</p> <p>d.) 1 ounce (oz)</p>	<p><i>* Guessing the answer to question 4</i></p> <p><i>* Guessing the answer to question 5</i></p>
<b>IV. Analysis</b>	
<b>Teacher's Activity</b>	<b>Students' activity</b>
<p><i>* Before we begin for our discussion, In your opinion what our discussion for today?</i></p> <p><i>* Very good. it is all about calculation and mensuration.</i></p> <p><i>*In caregiving, why calculation and mensuration are essential?</i></p> <p><i>* Very good.</i></p> <p><i>Thank you for participation.</i></p>	<p><i>* I guess it's all about calculation in Mensuration sir.</i></p> <p><i>* Their insights.</i></p>
<b>V. Abstraction</b>	
<p>Content of HE - Perform calculation and mensuration.</p> <p>Introduction:</p> <p>Performing calculations and measurements are essential skills for caregivers in providing safe and effective care to their patients. Caregivers must be able to calculate medication dosages, prepare solutions of the correct concentration, and measure vital signs accurately. They also need to be able to perform measurements such as height, weight, and body mass index (BMI), as well as take circumferences for fitting medical equipment.</p> <p>This is the table of conversion unit make that you prepare ½ piece of yellow paper for the seatwork later on.</p> <p>Make sure that you take notes this conversion because it is guide for your solving.</p> <p><i>*Can anyone please read the statement on the slide.</i></p> <p><i>*Thank you</i></p>	<p><i>* The students are listening.</i></p> <p><i>* PROPORTIONS</i></p> <p><i>* A glance at numerical relationships</i></p>



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<p>* Explanation of teacher</p> <p>*Next can any of you read the slide.</p> <p>A proportion is an equation of two ratios which can also be expressed as two fractions.</p> <p>Explanation about the solving of proportion and the proper execution of it.</p> <p>Steps in Solving the Value of X Using Ratios in Proportion</p> <ol style="list-style-type: none"><li>1. Prepare the equation.</li><li>2. Start with the solution by doing a multiplication.</li></ol> <p>Note: The product of the means is equivalent to the product of the extremes. Means are the middle quantities while the extremes are the external quantities.</p> <ol style="list-style-type: none"><li>3. Solve for the value of X.</li><li>4. Double check your work by completing the equation.</li></ol> <p>* Okay, let's have a seatwork #1</p> <p>*After the seatwork, solving the questions with explanation.</p> <p>Okay let's proceed.</p> <p>Anyone please read the statement on the slide.</p> <p>* Explanation to every subtopic with solving.</p> <p>* Explanation to every subtopic with solving.</p> <p>* Explanation to every subtopic with solving.</p>	<p><i>* Ratios, fractions, and proportions describe relationships between numbers. Ratio is a quick way to compare numbers. It uses a colon between the numbers in relationship.</i></p> <p><i>*RATIOS AND FRACTIONS</i></p> <p><i>Ratios and fractions are numerical ways to compare anything. We can't simply ignore them. We use them every day, whether we realize it or not.</i></p> <p><i>* the learners answering the question of seatwork</i></p> <p><i>* Checking their papers.</i></p> <p><i>* Methods to calculate pediatric doses</i></p> <p><i>* 1.) Body Surface Area (BSA)</i></p> <p><i>- Also called as the dosage-per-kilogram-of-body weight method.</i></p> <p><i>- Most accurate and safest method in calculating pediatric dose.</i></p> <p><i>- A nonogram is a graphical calculating device, a two-dimensional diagram designed to allow the approximate graphical computation of a function to determine the child's BSA.</i></p> <p><i>* 2.) Clark's Rule</i></p> <p><i>- It uses child's weight to calculate approximate dosage.</i></p> <p><i>- It uses weight in lbs., Never in kg</i></p> <p><i>* 3.) Young's Rule</i></p> <p><i>- It normally applies to children who are two years of age and above.</i></p> <p><i>- The word "young" refers to the age.</i></p>
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<p>* <i>Explanation to every subtopic with solving.</i></p> <p>* Okay let's have a seatwork #2.</p> <p>*After the seatwork, solving the questions with explanation.</p> <p>That's all class, please pass forward your papers I'll record it and make your grade.</p>	<p>* 4.) <i>Fried's Rule</i></p> <p>- <i>It calculates doses for children who are two years of age and less.</i></p> <p>- <i>It uses age in months.</i></p> <p>* <i>The learners answering the question of seatwork</i></p> <p>* <i>Checking their papers.</i></p>
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**VI. Application**

Teacher's Activity	Students' activity
<p><i>Administration and Dosage Calculation Exercise</i></p> <p><i>Objective: To apply principles of arithmetic and conversion factors to calculate medication dosages and prepare solutions of the correct concentration.</i></p> <p><i>Materials: Medication administration equipment (e.g., syringes, IV bags, medication cups), medication orders, medication labels, conversion tables.</i></p> <p><i>Procedure:</i></p> <ol style="list-style-type: none"><li><i>1. Provide learners with medication orders and medication labels for different medications.</i></li><li><i>2. Ask learners to calculate the correct dosage for each medication, based on the patient's weight, age, or other relevant factors, using arithmetic and conversion factors.</i></li><li><i>3. Ask learners to prepare the correct concentration of medication solution using medication cups or IV bags, based on the calculated dosage and the volume of fluid to be administered.</i></li><li><i>4. Ask learners to label the medication solution with the correct dosage, concentration, and patient information.</i></li><li><i>5. Ask learners to demonstrate the correct technique for administering the medication to a mannequin or simulated patient.</i></li></ol>	<p>* <i>Making the application activity</i></p>

**VII. Generalization**

Teacher's Activity	Students' activity
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Performing calculations and mensuration in caregiving involves the application of mathematical principles and measurement techniques to assess and manage patient care. By mastering these skills, caregivers can accurately measure and record vital signs, calculate medication dosages, prepare solutions of the correct concentration, and make clinical decisions based on the results. This can help ensure safe and effective patient care and improve patient outcomes. In addition, these skills can help caregivers communicate effectively with other healthcare professionals and ensure accurate and complete documentation of patient care. Ultimately, the ability to perform calculations and mensuration in caregiving is a critical component of providing high-quality, patient-centered care.

\* *Listening*

### VIII. Assessment

#### Teacher's Activity

#### Students' activity

*Only 20 minutes to answer this Evaluation test.*

Question 1:

A patient is prescribed 5mg of medication per kg of body weight. If the patient weighs 80kg, how many milligrams of medication should they receive?

- A) 200mg
- B) 400mg
- C) 500mg
- D) 800mg

Answer: D) 400mg (Calculation:  $5\text{mg/kg} \times 80\text{kg} = 400\text{mg}$ )

Question 2:

A caregiver needs to administer 250mg of medication to a patient. The medication is available in a concentration of 50mg/5ml. How many milliliters of medication should the caregiver administer?

- A) 2.5ml
- B) 5ml
- C) 10ml
- D) 25ml

Answer: B) 5ml (Calculation:  $250\text{mg} \div 50\text{mg/5ml} = 5\text{ml}$ )

Question 3:

A caregiver is preparing a solution of 0.9% sodium chloride for a patient. If the caregiver needs to prepare 500ml of solution, how many grams of sodium chloride should they add?

- A) 0.45g
- B) 4.5g
- C) 45g
- D) 450g

\* *Answering the question*



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<p>Answer: B) 4.5g (Calculation: <math>0.9\%</math> of <math>500\text{ml} = 4.5\text{g}</math>)</p> <p>Question 4: A caregiver is measuring a patient's temperature with a digital thermometer that reads in Celsius. If the thermometer reads <math>38.5^{\circ}\text{C}</math>, what is the equivalent temperature in Fahrenheit?</p> <p>A) <math>98.6^{\circ}\text{F}</math> B) <math>99.5^{\circ}\text{F}</math> C) <math>101.3^{\circ}\text{F}</math> D) <math>103.1^{\circ}\text{F}</math></p> <p>Answer: C) <math>101.3^{\circ}\text{F}</math> (Calculation: <math>(38.5 \times 1.8) + 32 = 101.3^{\circ}\text{F}</math>)</p> <p>Question 5: A caregiver needs to measure the circumference of a patient's arm for a blood pressure cuff. If the arm has a diameter of <math>10\text{cm}</math>, what is the circumference of the arm?</p> <p>A) <math>20\text{cm}</math> B) <math>31.4\text{cm}</math> C) <math>62.8\text{cm}</math> D) <math>100\text{cm}</math></p> <p>Answer: C) <math>31.4\text{cm}</math> (Calculation: <math>2 \times \pi \times 5\text{cm} = 31.4\text{cm}</math>)</p>	
<b>IX. Assignment</b>	
<b>Teacher's Activity</b>	<b>Students' activity</b>
<i>Don't forget to bring calculator next week for pre-test evaluation and review the learning materials that I'll send on google classroom later on.</i>	* Taking notes

Prepared by:

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