



LESSON PLAN STUDY

LESSON INFORMATION					
Subject Area	Mathematics				
Topic or Unit of Study	Place Value and Problem Solving with Units of Measurement				
Lesson Focus	Worth the Weight				
Sequence in Unit	End of the unit				
Allotted Time for Lesson	30 minutes				
Instructional Setting (Check all that apply)					
<table border="1"> <tr> <td>Whole group: ____</td> <td>Small group: X</td> <td>One-on-one: ____</td> <td>Other: ____</td> </tr> </table>		Whole group: ____	Small group: X	One-on-one: ____	Other: ____
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Instructional Group:					
<table border="1"> <tr> <td># of students in the classroom: 22</td> <td># of students engaged in the lesson: 4</td> </tr> </table>		# of students in the classroom: 22	# of students engaged in the lesson: 4		
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Notes:					

Stage 1 - DESIRED RESULTS	
Standards	<p>3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.</p> <p>SMP.1 Make sense of problems and persevere in solving them. SMP.2 Reason abstractly and quantitatively. SMP.4 Model with Mathematics. SMP.5 Use appropriate tools strategically. SMP.6 Attend to precision</p>
Essential Questions/ Enduring Understanding	<p>How do we choose the appropriate unit of measurement? How do units within a system relate to each other?</p>
Mastery Objectives	<p>SWBAT:</p> <ul style="list-style-type: none"> - Students will be able to differentiate between different units of measurement. - Students will be able to measure and estimate of objects using grams and kilograms. <p>Objectives:</p> <ul style="list-style-type: none"> - Using the scales, the students will be able to measure the provided items

- correctly 100% of the time.
- Students will be able to choose the correct unit of measurement for the provided item 80% of the time.
- Students will be able to sort real-life objects that cannot be shown in the classroom by the unit of measurement with 100% accuracy.

Essential Vocabulary and Language Objectives

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Essential Vocabulary:

- mass
- volume
- grams
- milliliters
- liters
- kilograms

Students will be able to discuss the difference between kilograms and grams. Students will be able to record their estimations and the actual weight of the objects. Students will be able to follow directions of first estimating the weight of an object and then weighing it for the actual weight.

Language Domain(s): Type an "X" in the box to the left of the language domain(s) addressed in this lesson.

Language Domain(s)	
X	Speaking
X	Reading
	Writing
X	Listening

LANGUAGE SUPPORTS: Identify the types of supports provided in the lesson

SENSORY SUPPORT		GRAPHIC SUPPORT		INTERACTIVE SUPPORT	
X	Real-life object	X	Charts		In pairs or partners
	Manipulates		Number Lines	X	In triads or small groups
X	Pictures & Photographs		Graphs		Using cooperative group structures
	Magazines & newspapers		Timelines		Using the Internet or software programs
	Physical activities		Graphic organizers		
	Videos & films				
	Broadcasts				In the native language
	Models & figures				With mentors
	Other		Other		Other

The students will be given a worksheet with charts that help them write down their estimations and actual weight in order to keep them organized. We will be using real-life objects that are used in and out of the classroom to show the students how they are incorporated in the lesson. The flapbook has pictures of different items that cannot be brought into the classroom that the students can use as a reference for the activity and future work. The students will make their estimations on their own, but weigh the objects together.

Misconceptions

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Misconception #1 - Students often confuse the units of measurement and their size (kilograms and grams). Students get easily confused when working with both of these

	<p>units of measurement and mistakenly labels the weight with the wrong unit. Additionally, students may not include a label.</p> <p>Source: https://www.georgiastandards.org/Georgia-Standards/Frameworks/3rd-Math-Unit-6.pdf</p> <p>Misconception #2 - Confusion occurs in using the terms weight and mass. A 180-pound person has more mass than a 100 pound person. The 180-pound person's mass remains the same whether on Earth, the moon or Mars. Weight does change depending upon the amount of gravitational pull upon the object. For example, the 180-pound person would weigh 1/6 as much on the moon as the Earth or about 60 pounds.</p> <p>Source: https://www.georgiastandards.org/Georgia-Standards/Frameworks/3rd-Math-Unit-6.pdf</p>
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Stage 2 - ASSESSMENT EVIDENCE (Evidence of Assessment that guides instruction)	
DESCRIPTION OF ASSESSMENT PRIOR TO LESSON	
Prerequisite Knowledge --	<p>Students must be familiar with the metric units used to measure the mass of an object, grams and kilograms.</p> <p>In order to understand the difference between a gram and a kilogram students must have knowledge that one kilogram is equal to 1,000 grams and 1 gram is equal to about one large paperclip. I will either bring in items I won't be using in the activity or I will provide the students of a common object that is measured in grams and kilograms.</p>
Pre- Assessments --	I will use my prior knowledge from the first 2 visits to increase the difficulty with the assigned activity. Also, I have an extension activity for the students that finish early.
DESCRIPTION OF ASSESSMENT TASKS/TOOLS TO BE USED FOR THIS LESSON	
Formative Assessment	Students will match items to the definition of units of measurement, which will show their understanding of the terms.
Criteria to assess understanding --	I will assess the students while they make estimations for the weight of items from around the classroom. I will do this during the activity, but also collecting the estimation sheets at the end. My partner will keep track of how many of the sorting cards that the students got correctly, so that they can keep it, but I still have a record of how they performed.
Other Assessment Evidence	

Stage 3 – Lesson Plan LESSON DELIVERY – INSTRUCTIONAL STRATEGIES AND TIME FRAME			
Materials and Resources	<table border="1" style="width: 100%;"> <tr> <td style="width: 40%;">For the teacher:</td> <td> <ul style="list-style-type: none"> - flapbook - kilogram scale - gram scale - paper clip </td> </tr> </table>	For the teacher:	<ul style="list-style-type: none"> - flapbook - kilogram scale - gram scale - paper clip
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For the students:	<ul style="list-style-type: none"> - pencil/pen - glue sticks 				
Technology or Media	No technology will be used				
Role of Partner	My partner will assist with the activity by answering any questions that the students have. She will help me pass out materials and help when it is needed.				
Classroom Management, Classroom Routines, Transitions and Layout Considerations --	Students who finish early will be provided with the opportunity to estimate and weigh objects of their choice. If the students are not engaged in the lesson or being disruptive I will focus on that child and walk them through the steps if they cannot stay focused. Also, I can have the students do the work completely on their own if they cannot work in a group without creating distractions.				
Differentiation --	<p>For students who might be below grade level or struggle with differentiating estimating items that would be weighed grams or kilograms, I will provide them with an example of an everyday item that is measured in grams and kilograms to give them an idea.</p> <p>For students that might be above grade level or exceeding I will let the student weigh items of their choice.</p>				
PROCEDURES OR DELIVERING THE LESSON: Sequence					
Motivation and Introduction (Hook) --	The opening activity is going over the vocabulary words that we will come across during the main part of the lesson. This will be a helpful review of the difference of volume, mass, grams, kilograms and liters because it is providing the students with the definition as well of matching an example to the term. Although, volume and liters are not being used in this specific lesson it will be a useful tool for the students to reference and it goes along with the standard.				
Lesson Structure and Procedures (Step-by-Step Plan)	<p>Before</p> <p>“Hi friends! It’s so nice to see you again! Today we are going to do a few activities that have to do with with measurement, but first let’s reintroduce ourselves. Let’s go around in a circle and say our names and a fun fact about you.”</p> <p>“Now that we have reintroduced ourselves, were going to use our knowledge about units of measurement to make a flapbook, which you can refer to if you ever need to!”</p> <p>The students will first make the “I Can Statement and Vocabulary Flapbook”. This will allow the students to review a few of the vocabulary words with the definition and also an illustration.</p> <p>Students will each be given a flap book that is already made out of construction paper and the students must then match the picture to the unit of measurement. The students will then glue down the pictures once their choices are checked to make sure that it is a good resource with correct answers. This will be done collectively, but each student will have their own flapbook.</p> <p>“Now that we have reviewed the vocabulary words, let’s put our knowledge to the test!”</p> <p>During</p> <p>First, the students will be given a worksheet which has 2 charts on it, one for grams and one for kilograms where they will record their estimations and actual weight. I will provide the students with 5 objects of each measurement that are measured in grams and kilograms, but I will not tell the students which item is measured by which unit. Once given the item the students will be able to interact with the item and then independently make the decision if it is measured by grams or kilograms. They will write the object in the chart along with their estimation.</p>				

	<p>When each student had made their estimations the students will take turns on measures the items on one of the scales, the scale that corresponds to the measurement they are using. If the students chose both grams and kilograms then we will discuss why one unit is better than the other and then show it on both scales to prove it.</p> <p>After each item is measured then the students will find the difference between their estimation and the actual weight. If a student does finish before the allotted time is over then I will allow them measure items of their choice that are in the classroom.</p> <p>https://docs.google.com/document/d/1-YxK4FdPS1yRjrdGQH39v297_uzipDGgeFd9x3pUbM/edit?usp=sharing</p> <p>After The students will complete an exit activity where the students have to sort items based on if they would be measured in grams or kilograms. They will be provided with a worksheet that has pockets already made for them and different sorting cards with different items on them. If there are students that struggle I will work with the student and pose the question "Do you think it weighs more like 10 paper clips or 10 books?"</p>
<p>Cognitive Closure of Lesson / Student Reflection on Lesson</p> <p>justify closing</p>	<p>This closing activities wraps up the main lesson by tying in real-life objects that cannot be brought into the classroom. This will also have the students revisit the idea of choosing the appropriate unit to measure items, whether it is grams or kilograms.</p>

ASSESSMENT of ON-GOING LEARNING	
<p>What evidence do you have that students did or did not meet your objectives?</p> <p>--</p>	<p>Collect and analyze student worksheets in order to assess student performance.</p>

3MD2 I can measure and estimate liquid volumes and masses of objects using standard units. I can solve word problems involving masses or volumes.

3MD2 Vocabulary	Volume
	Mass
	Grams
	Kilograms
	Liters



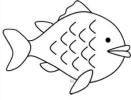

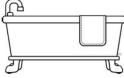
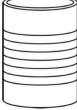
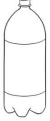


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VOCABULARY DEFINITIONS DIRECTIONS:
Cut out the definitions around the perimeter. Glue the entire page in your notebook. Paste the vocabulary flaps on top, along the narrow side tab. Illustrate each term in the space provided.

the capacity of a container, how much it can hold	Illustrate it:
a measure of how much matter is in an object	Illustrate it:
a unit for measuring mass, "g"	Illustrate it:
a unit for measuring mass, "kg"	Illustrate it:
a unit for measuring liquid volume, "L"	Illustrate it:





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WHICH UNIT? SORTING CARDS/POCKETS PAGE 1 DIRECTIONS:
 Cut out each card. Determine which unit would be the best to measure each and sort them into the correct pockets on page 2.

		
The mass of a basketball	How much water a glass can hold	The mass of a goldfish
		
The weight of a bookshelf	The amount of water a bathtub can hold	The capacity of a soup can
		
The amount of soda in a large bottle	How heavy a hot dog is	The mass of a third grader

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WHICH UNIT? SORTING CARDS/POCKETS PAGE 2 DIRECTIONS:
 Cut out each card on page 1. Determine which unit would be the best to measure each and sort them into the correct pockets. Cut out the pockets and glue them into your notebook on the bottom and sides.

 grams g	 kilograms kg
 liters L	 milliliters ml

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