Curriculum Sample Template
Max. 8 Pages

Grade Level	3	**Content Area**	**Mathematics**
Course Title (grades 9-12 Only)			
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	Students are familiar with one step word problems and making estimates. They will use this prior knowledge to apply it to solving word problems involving mass and volume.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	• Direct Instruction: Direct Instruction includes features which support the other instructional elements, such as the ability grouping through the multi-age multi-grade classroom. Students are grouped and re-grouped based on their rate of progress through the program. Frequent assessment is imbedded in direct instruction where curriculum-based assessments help place students in ability groups and identify students who require additional intervention. • Hands-On Project-Based Methods: Hands-On Project-Based Methods with tangible hands-on materials will be applied to relate the curriculum and standards to real life and make them functional. • Cooperative Learning Groups: Students of different abilities will work together in small groups of 2-5 children. They will be taught to learn from one another and share ideas and responsibilities. *Students who are on IEPs may receive modifications or accommodations as stated or may need a slower pace of instruction with more repetition. Students may be given supplementary curriculum and various modalities to assist in grasping the concepts such as visuals, manipulatives, or a task-analysis that will break down the steps needed to assist in comprehension and application of the concept. This also may include those students who may have a difficult time grasping the concepts who are not on IEPs.		
Standard Number and Description *List the Number* and the full description for the Required Standard or Science Performance Objective listed in section A.6.*	Grade: 3.MD.2 Domain: Measurement & Data (MD) Cluster: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects Standard: #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.
Materials/Resources Needed	Computer, scale, measuring cups, classroom items to weigh, whiteboard, dry erase markers, lines paper, Singapore 3B textbook and workbook, workbook copies pages 40-41 and 65-66, pencils

* ***Standard Number****: For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Standard (e.g., 6.EE.7). For HS Math, use Conceptual Category-Domain, Standard (e.g., A-REI.6). For Science, use Grade, Strand, Concept, PO (e.g., 4.1.3.1).*

Lesson (add as needed)	**Instructional Strategies**	**Student Activities**
1	Teacher will use direct instruction and technology by engaging the students by showing two Brain Pop videos about measurement. Students will then complete the quiz at the end of each video as a class. "Today we will learn about measurement. This Brain Pop video will introduce you to part of the lessons we will be working on this week. At the end of the video we will complete the quiz as a class. We will also learn about liters, but there is not a Brain Pop for this."	Students will watch a Brain Pop Jr. videos and complete the online quiz as a class. http://www.brainpopjr.com Grams, Kilograms
2	The teacher will use direct instruction by demonstrating estimating mass and volume by presenting actual models and thinking aloud. The teacher will then demonstrate the correct way to measure volume and mass. The teacher will use sticks to call on students to practice these skills after seeing the teacher model them. "In our last lesson we watched Brain Pop to learn about mass and volume. Let's read pages 29 and 30 as a class to practice reading a scale. Then page 45 to read a beaker. Today I will also be modeling how to make estimates on objects then actually measure them to	Students will take turns thinking aloud their estimates after they have seen the teacher model it. Students will again take turns practicing how to measure the objects and compare it to their estimates. Students will then work in a group of 3. First students will estimate the objects volume or mass then find the actual mass or volume.

	compare with my estimate. I will say aloud what I am thinking to complete this activity. You will each get a turn to make an estimate and/or measure an object." "Now you will work in groups of three to get more practice estimating and measuring objects."	
3	The teacher will use direct instruction by demonstrating how to apply this knowledge to solving one step word problems involving mass and volume using addition, subtraction, division, and multiplication on the whiteboard. The teacher will use think aloud to show the students what processes are used to use measurements in a word problem. After modeling a couple for the students the teacher will use sticks to call on students to do the same thing. "Now that we know how to make estimates and measure mass and volume we will use this information and use it to complete word problems. I will think aloud the process used to solve the problem then I will call on some of you to think aloud to the class." "You will now work in a group of three to complete word problems together. Start on page 34 of your text book, complete numbers 1-5 and page 52 numbers 1-5, and write your answers on a blank piece of paper. Please turn in only one copy per group."	Students will follow along while the teacher thinks aloud, then students will think aloud to the rest of the class to practice solving problems. This will also give students the opportunity to see the different methods used to solve word problems. Students will then work in groups of three to solve word problems together.
Summative Assessment	Students will work independently to show they understand the material. The final product will be the assessment. The teacher will copy ahead of time page 40-41 and 65-66 of the workbook "You will complete this worksheet to let me know if you understand the material or you need more practice. First, review your	Students will take out group assignment worksheet to review with a neighbor for 10 minutes. Then, students will work independently to complete the word problems. This will be used as the assessment.

	textbooks with your neighbor as a review. If you have any questions ask your neighbor first then a teacher if neither of you are sure. You have 10 minutes to review the material then we will get started on your independent work"	
Mastery Level	**A student needs to earn 80% of the points possible to be considered to have mastered the assessment standard.**	
5	Accommodations	Students who are not at a 3rd grade level will complete similar assignment with a reduction in problems and will only include addition and subtraction problems.

Summative Assessment 1: pg 40-41

Total Points Possible for independent word problem worksheet: 10 points

Mastery = 8 points (80%)

1 point will be given for the correct answer for each problem.

Answers:

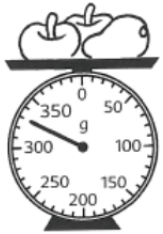
1. a) 280
   b) 180

2. a) 370
   b) 220

3. a) 330
   b) 200

4. a) 330
   b) 120, 210
   c) 42

3. (a) Total weight of the fruits
=



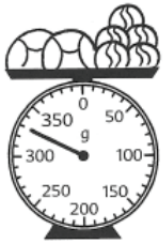
(b) The mango weighs 130 g.

Weight of the 2 apples
=

(c) The apples are of the same weight.

Weight of each apple
=

4. (a) Total weight of 2 tennis balls and 5 marbles
=



(b) Each tennis ball weighs 60 g.

Weight of 2 tennis balls
=

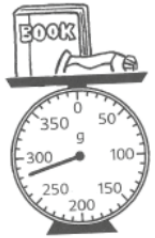
Weight of 5 marbles
=

(c) The marbles are of the same weight.

Weight of each marble
=

EXERCISE 15

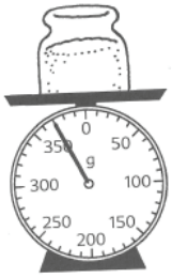
1. (a) Total weight of the paste and the book
=



(b) The weight of the paste is 100 g.

Weight of the book
=

2. (a) Weight of jar of sand
=



(b) The weight of the empty jar is 150 g.

Weight of the sand
=

Summative Assessment 2: pg 65-66

Total Points Possible for independent word problem worksheet: 7 points

Mastery = 6 points (80%)

1 point will be given for the correct answer for each problem.
Answers:
5. a) 1 liter , 950 milliliters
   b) 4 liters , 50 milliliers
6. a) 2 liters
   b) 10 liters
   c) 1 liter, 600 milliliters
7. 2 liters 250 milliliters
8. 9 liters 550 milliliters

Fill in the blanks.

5. The jug and the water bottle are filled with water.

(a) The jug holds _____ ℓ _____ ml more water than the water bottle.

(b) The total capacity of the two containers is _____ ℓ _____ ml.

6. Cameron bought 3 cans of paint.

(a) Can A contained _____ liters more paint than Can C.

(b) The total capacity of the 3 cans is _____ liters.

(c) Cameron used 8 ℓ 400 ml of paint to paint his house. He had _____ ℓ _____ ml of paint left.

65

7. There are 375 ml of milk in a carton. What is the total amount of milk in 6 cartons? Give the answer in liters and milliliters.

8. David bought 4 cans of paint. Each can contained 3 ℓ of paint. After painting his house, he had 2 ℓ 450 ml of paint left. How much paint did he use for painting his house?

66

Summative 3:
Total points 10
Mastery = 8 points (80%0
Answers

1. 8 kilograms
2. 20,000 milligrams
3. 1,800 grams
4. 1,800,000 milligrams
5. 1,500 grams per bag
6. 225 ml
7. 66ml
8. A 33ml, B 67 ml
9. 118 ml

Metric Mass: Word Problems Worksheet Summative 3: Page 1 of 1

Answer the word problems below. Highlight the important words and numbers. Remember to write you answer in a full sentence.

1. If one paperclip has the mass of 1 gram and 1,000 paperclips have a mass of 1 kilogram, how many kilograms are 8,000 paperclips?

2. Charlie's eraser has a mass of 20 grams. How many milligrams are in 20 grams?

3. Steven goes to the grocery store and is looking at a winter squash. It has a mass of 1.8 kilograms. How many grams is the winter squash?

4. Using the information in question 3, determine the number of milligrams in the winter squash.

5. A box contains 4 bags of sugar. The total mass of all 4 bags is 6 kg. What is the mass of each bag in grams?

Name: _____

Measuring Volume with Graduated Cylinders

6. Bill and Sam poured equal amounts of water into this graduated cylinder.

How much water did they each add?

answer: _____

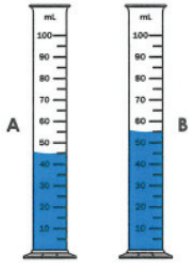
7. This is Jennifer's graduated cylinder.

Jennifer adds 37 mL of water to the graduated cylinder. What is the volume of the water in the cylinder now?

answer: _____

Kelly has 2 graduated cylinders, pictured below.

8.



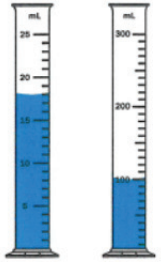
Kelly pours 12 mL of water from cylinder **A** into cylinder **B**.

What is the volume of water in cylinder **A**? _____

What is the volume of water in cylinder **B**? _____

Jay has 2 graduated cylinders, pictured below.

9.



What is the combined volume of the water in these 2 graduated cylinders?

answer: _____

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