Curriculum Sample Template
Max. 8 Pages

Grade Level	Third Grade Math	**Content Area**	Math
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.*	The scholars are expected to understand units of measure when comparing two objects. Scholars will understand the concept of measurement when adding and subtracting. Scholars will be able to multiply single-digit numbers from 1-9 fluently. Students will be able to add and subtract numbers within 1000. Scholars the concept of place value, through the one thousandths place.		
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.*	Method of Instruction: Small group instruction, learning groups based on the RTI model or teacher selected groups based on level of mastery from unit assessment. Scholars will work in partners and independently. This unit aligns to the Core Knowledge Sequence for Math, to the sequence for Saxon Math, and to the 2010 AZ Math Standards. The domain of Measurement will be taught at the Third Grade level. The skill of comparing numbers, measurement and data is revisited at increasingly higher levels of rigor as set forth in the ADE 2010 Mathematics Standards (CCSS). The content knowledge of measurement is spiraled throughout the Core Knowledge Sequence from Kindergarten to 6th Grade. Cooperative learning will take place throughout this unit. Each lesson includes a combination of teacher-led instruction, small group interaction, independent practice, and ongoing assessment. Scholars will also use technology to present a presentation.		
Standard Number and Description *List the Number* and the full description for the Required Standard or Science Performance Objective listed in section A.6.*	**3.MD.2.** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as cm^3 and finding the geometric volume of a container.) 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. Excludes multiplicative comparison problems. Table 2).		
Materials/Resources Needed	White boards, markers, beakers, liters, scales, objects to measure, document camera, math textbook, worksheet of measureable items, math journals, tablets, computers, notecards with real world problems.		

* ***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	**Lesson**: Measure and estimate liquid volumes and masses using whole numbers. **Anticipatory Set**: Ask scholars to brainstorm units of volume and mass. Write responses on the white board as the state them. **Guided Practice**: The teacher will circle the units of measure from the anticipatory set: grams, kilograms and liters. Instruct scholars that today's lesson will focus on estimating and measuring objects of capacity and mass. Instruct scholars to get into their learning groups. In the small groups the teacher will discuss: • Capacity means liquid • Mass is weight The teacher will instruct scholars how to estimate volumes, masses using whole number. Stations will be set up for scholars to use skills of discovery to weigh and measure items using the metric units of grams, kilograms, liters and milliliters. The teacher will also instruct scholars to compare items to have knowledge to estimate. The tier 1 group will begin solving real world problems with the support from the teacher. **Independent Practice**: Scholars will continue to work in the learning groups. Tier 2 and 3 will continue to work on weighing and measuring and tier 1 will begin solving problems using the classroom items for better understanding. Scholars will work in pairs to solve problems when the teacher is teaching other scholars. The scholars will have a worksheet to complete. **Closure**: Collect all scholars' worksheets.	1. Scholars will listen, observe and participate in naming units of volume and masses. 2. Observe the teacher circling the units of measure that will be the focus of the day's lesson. 3. Scholars will work in collaborative groups to receive direct instruction from the teacher and practice their discovery skills to weigh and measure masses and capacity. 4. Scholar will record vocabulary terms, definition and examples in their math journal 5. Scholars will practice estimating volumes, masses, and capacity in terms of whole numbers. 6. Scholars will weigh a variety of objects to have a concrete understanding masses and capacities to units of measure. 7. Work independently to measure items, estimate and solve real world problems. The RTI model will be used to make groups with the lessons being differentiated. Tier 1 scholars will work in pairs or independently to solve problems using addition and subtraction. 8. Complete a worksheet of items to measure and record. 9. Turn in worksheets.
	Lesson: Solve real world problems using addition, subtraction, multiplication and division using liquid volumes and masses. Create and solve one-step equations using addition,	

2	subtraction, multiplication, and division. **Anticipatory Set:** The teacher will write a story problem on the board and scholars will solve the problem in their journals. **Guided Practice**: The teacher will call on scholars to come to the white board and solve the problem. Teacher will review the problem and ask scholars to agree or disagree. Teacher will instruct scholars how to use steps in solving word problems: • Identify what the problem is asking you to solve • Draw an illustration • Input data from the problem into the illustration • Solve the problem and record the answers in terms of what the question is asking. The teacher will ask scholar to get into learning groups for direct instruction is setting up and solving problems. Each table will have objects to measure and scenario problems for scholars to solve. Each scholar will have several opportunities to solve problems. Teacher will also pair scholars up to peer tutor. **Independent Practice**: The teacher will instruct the scholars to work with a partner in the small groups. Tier 1: Each group will create a story problem to solve on notecards Tier 2 and 3 will work with the teacher to write story problems. The groups will exchange cards and solve each the problems. **Closure:** The teacher will have pairs come up to the white board to demonstrate how they solved the problem. One scholar will read and set up the problem and the other will solve it and explain the steps. This activity will develop a deeper level of understanding of the standard and add rigor to the overall lesson. **Assessment Item 1 The** teacher will pass out the assessment and explain and answer any questions the scholars may have. The teacher will collect the assessments to score and evaluate	1. Scholars will write math problem of the day in their journals and solve the problem if they had the prior knowledge and skills to do so. 2. Scholars will listen, observe and participate in the discussion by agreeing or disagreeing. 3. Record steps of solving scenario problems in their math journals. 4. The teacher will ask scholar to get into their learning groups to practice solving problems. 5. Scholars will also use their tablets to play math drill games using metric units of measurement and conversions. 6. The teacher will meet with each scholar to check for understanding and provide individual instruction where needed. 7. Scholars will work with partners to create problems. 8. All groups will exchange and solve the problems at the white board. 9. Scholars will write, solve and explain their problem on the white board. 10. Scholars will take Assessment Item 1 for this unit and turn it into the teacher.

	scholars' level of understanding of the objective.	
3	**Lesson:** Solve problems involving conversions within the same measurement **Anticipatory Set**: The teacher will activate prior knowledge and remind scholars of "gallon man" and "yard bug". Display a conversion chart on the board for metric unit, liters and grams. **Guided Practice**: Teacher will model how to convert units of measure to be the same for the purpose of comparing and solving real world problems. Display example problems on the document camera with steps to complete the conversions. The teachers will instruct scholars to get into their leaning groups based on the RIT model where small group instruction will take place. The teacher will work independently with each scholar teaching conversion skills and review all skills taught in this unit. **Independent Practice**: The teacher will have learning stations set up where the scholars will continue to solve real world problems and apply math skills to solving problems. The teacher will assist scholars on conversions; other stations will focus on adding and subtracting decimals, solving problems using addition, subtraction, multiplication, division of metric units of liters and grams. The scholars will select a notecard out of the basket on each table and following the prompt to solve the problem. Each scholar will be required to solve two problems from each station. After all stations are completed the scholar will select one problem and create a power point presentation where the problem will be identified, steps to solve provided, solve the problem, add graphic to correlate with the problem and answer the question using the appropriate terms in the answer. **Closure**: Scholars will present the presentation to the class. **Assessment 2**: Scholars will take the second assessment and turn it into the teacher.	1. Scholars will recall prior knowledge on converting units of measure. 2. Scholars will observe and listen to the teacher display and solve problems where a unit conversion is necessary to solve. 3. Scholars will get into their small groups 4. Solve problems working in a collaborative group with peers in stations. 5. Scholars will receive individual and small group instruction from the teacher regarding conversion problems or a review of solving real world problems presented in this unit. 6. Scholars not achieving 80% on the previous unit assessments will receive individual tutor from the teacher. 7. Scholars will select notecard of scenarios at each station to solve two problems each. 8. They will select one problem to present in a power point presentation. The presentation must state the problem, show the steps, present the data and solve the problem in terms of the answer correlating to the question. Scholars must insert a picture into their presentation 9. Present their presentations 10. Scholars will take the unit assessment individually and turn it into the teacher.
4	**Unit Assessment**: The teacher will read and explain the directions to the assessment.	The scholars will independently take the assessment and turn it into the teacher.

Summative Assessment Items: *Attach here.* For each summative assessment item, include an answer key or scoring rubric describing how points are to be awarded.

Assessment Item 1: This assessment is designed to assess the scholar's ability to estimate and comprehend the relationship of units of measure to objects. The assessment is a five question multiple choice assessment where the scholar demonstrates how to estimate mass and capacity.
Scoring: The assessment is worth 20 points. The scholar will earn 4 points for each correct answer.

20 = 100% 18 = 90% 16 = 80% 14 = 70% 12 = 60%

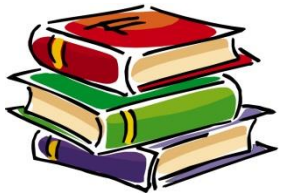
Mastery: 16 points and 80% is deemed mastery as indicated in the Program of Instruction.

Third Grade Assessment 1

Name_____

Directions: Read the questions carefully and answer them to the best of your ability

1. Which object's mass would be best measured using liters
   a. eye dropper b. horse
   c. milk jug d. rain drop
2. I can measure mass using the metric units of _____ and _____
   a. liters and milliliters b. pounds and ounces
   c. grams and kilograms d. feet and inches
3. Which of the following measures is the best estimate for the volume of a kitchen sink?
   a. 100 liters b. 10 liters
   c. 1 liter d. 1,000 liters
4. About how much would the stack of books in the picture weigh?



a. 3kg b. 1 kg c. 300 kg d. 3000 kg

5. Estimate the capacity of this bottle of soda in the picture.

a. 20 L b. 2L c. 10 mL d. 2 mL

Rubric:

1. C 2. C 3. B 4. A 5. D

Mastery: 4/5

Assessment Item 2

This assessment is designed to assess the scholar's ability to comprehend and solve real world problems using skills and mathematical mechanics previously learned. The scholars will use units of measurement in grams and liters to solve each scenario. The assessment is a five question assessment where the scholars will use the data in the question to solve the problem and write the answer in terms of units of measure stated in the question.

Scoring: The assessment is worth 20 points. Scholars will earn 4 points for each correct answer for a total of 20 points.

20 = 100% 18 = 90% 16 = 80% 14 = 70% 12 = 60%

Mastery: 16 points and 80% will deem mastery as aligned with the Program of Mastery.

Third Grade Assessment Item 2

Name_____

Directions: Read each question and answer the best you can.

1. Jason is going fishing with his Dad. They left to go to the river at 4:15 pm. If they fished for one hour and 30 minutes what time would they be done fishing? (draw a number line to show your answer)
2. Rebecca is measuring the mass of different stuffed animals. The mass of her bunny is 346 grams. The mass of her puppy is 508 rams. How many more grams does the puppy weigh than the bunny?
3. Travis has 25 liters of punch. He needs to split it evenly between 5 punch bowls. How many liters go in each bowl?
4. Suzy is weighing her food for dinner. Her carrots weigh 15 grams, her potato weighs 74 grams, and her broccoli weighs 38 grams. How many grams do her vegetables weigh in all?
5. Jenny and her 5 friends are going to turn in their soda cans for money. Each bag weighs 45 kg. How many kg of cans to the girls have in all?

Rubric:

1. 5:45 (a number line must show a starting point of 4:15 and end at 5:45)
2. 162 grams
3. 5 liters
4. 132 grams
5. 225 kg

Assessment Item 3: This assessment is designed to assess the scholar's ability to master the standard. It is a comprehensive assessment where scholars will estimate units of measure; solve real world problems and covert units of measure. The units of measure in focus are mass and capacity. The assessment is a combination of multiple choice questions and solves each problem showing necessary steps.

Scoring: The assessment is worth 100 points. Scholars will earn 10 points for each correct answer. All steps must be illustrated and the answer written in terms of the question to earn the full 10 points. The points are converted to a percentage.

100 = 100% 90 = 90% 80 = 80% 70 = 70% 60 = 60%

Mastery: 80 points / 80% is deemed mastery and aligns with the Program of Instruction

Third Grade Unit Assessment

Name _____

1. Which container holds about 2 liters?
   a. Swimming pool b. eye dropper c. soda bottle d. bathtub

2. I can measure capacity using the metric units of _____ and _____
   a. Liters and milliliters b. Pounds and ounces c. Grams and Kilograms d. feet and inches

3. Tony's dog, Rocky, has a mass of 25 kilograms, Mark's dog, Brody, has a mass of 19 kilograms. How much more mass does Tony's dog have than Mark's?
   a. 54 kilograms b. 6 kilograms c. 5 kilograms d. 45 grams

4. Daniel is in charge of feeding the large group of rhinos at the zoo. Use the facts below to answer the questions.
   - One male rhino will eat 255 kilograms of food a day
   - One female rhino will eat 235 kilograms of food a day
   - A baby rhino eats 195 kilograms of food a day

   a. How much food does he need for one day to feed all his rhinos?
   b. How much food does he need for one week?
   c. One rhino was moved to another zoo and three more were moved in. How much food does Daniel need now?

5. Our class is having a lemon-lime soda at our party. Each cup holds 250 milliliters of soda. How many 2 liter bottles of soda does Mrs. Kelly need to buy for the party? There are 24 scholars in our class.

   The other third grade classes want to join. How many 2 liter bottles should Mrs. Kelly buy now? If each 2 liter bottle costs $1.50, how much money did she spend?

6. You are taking a trip to the Eiffel Tower in Paris, France. You need to pack your suitcase for the trip. The airline will only allow 30kg for each suitcase. What will you pack? Use the table below to help you decide.

Suitcase	3 kg
1 pair of pants	1 kg
1 shirt	500 g
1 pair of shorts	500 g
1 set of pajamas	700g
1 pair of shoes	3 kg
1 toothpaste and tooth brush	200 g
1 pair of socks	100g
1 swimsuit	300g
1 book to read	800g
1 stuffed animal	200g
1 set of markers and drawing paper	400g

7. Farmer Joe is building a new pig pen for his animals. The pig pen will hold 200 kg worth of pigs. If an adult pig weighs 4,500 grams and a baby pig weighs 2,500 grams, how many pigs can fit into the pig pen?

Rubric:

1. C
2. A
3. B
4. a. 685 kg
   b. 4,795 kg
   c. 4.795 – 235 = 4,560 + 685 =5,245
5. a. 3 bottles
   b. 6 bottles
   c. $9.00
6. Scholar will use chart below. Item total weight must not exceed 30 kg. Must include at least one suitcase.

Quantity	Item	Unit weight	Total weight