Curriculum Sample Template – 8 Pages Max. (12 pages for integrated ELA sample)

Grade Level	Third Grade	**Content Area**	Math
Course Title (grades 9-12 Only)	N/A		
Expected Prior Knowledge *List the knowledge/skills mastered earlier in the year that are foundational to the mastery of the Required Standard(s).*	Synergy third grade students will be able to use basic multiplication from 0- 10. Students will have a previous understanding of the vocabulary and the following vocabulary terms will be reviewed: multiplication, array, unknown, equal groups, factor, product, and division.		
Alignment to Program of Instruction *Describe how the methods of instruction found in this sequence of lessons align to the Program of Instruction described in the application package.*	Synergy teachers will engage students in cooperative learning structures throughout the lesson. Lessons will be built using the Gradual Release of Responsibility. Synergy teachers will monitor student understanding and adjust instruction based upon student responses. Instructional strategies such as cooperative learning, differentiation, questioning, and meta-cognition will be used consistently during instruction.		
Standard Number* and Description *The standard number and description of the Required Standard(s) being instructed and assessed to mastery in the curriculum sample.*	**3.OA.A.3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, *e.g. by using drawings and equations with a symbol for the unknown number to represent the problem.***		
Materials/Resources Needed *List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables)*	Whiteboards, markers, counters, independent practice worksheet		

* ***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, Cluster, Standard (e.g., 6.EE.B.7). For HS Math, use Conceptual Category-Domain, Cluster, Standard (e.g., A-REI.C.6).*

Lesson (add as needed)	**Instructional Strategies -** *List and describe teacher actions, lesson by lesson, which will provide students with opportunities to engage the grade-level rigor defined by the Required Standard(s). Indicate alignment of instructional strategies to specific component(s) or content/skill(s) of the Required Standard/component.*	**Student Activities -** *Describe the activities, lesson by lesson, in which students will engage to allow them to master the grade-level rigor defined by the Required Standard(s). Indicate alignment of student activities to specific component(s) or content/skill(s) of the Required Standard/component.*
1	**Objective: The students will use multiplication within 100 to solve word problems with a matching equation and visual representation.** **Introduction:** The students in Mrs. Smith's class have been learning about goldfish. The teachers were given 4 bags of gold fish that had 6 goldfish in each bag. Encourage students to think about what they know and how they would decide how many fish each teacher was given to solve the problem. Students will create different combinations and then share with the class. **I-Do (Modeling):** The teacher will show the problem: "Jose buys 5 boxes of crayons. Each box has 8 crayons in it. How many crayons did he buy?" Draw a model to show how many crayons he bought and write a matching equation. Ask students what information we know from the problem. Draw five boxes on the board. Then draw eight crayons in each one. Write the equation 5 x 8= ? Teacher will model using a think aloud to explain that they have been using skip counting and this can help them easily solve this problem. **We-Do (Guided Practice)** Pose the problem "Mary has 3 bags of jellybeans. Each bag has 9 jellybeans. How many jellybeans does she have?" How can you draw a model that matches this problem? Have students explain their thinking for their answer. With the students, walk through the problem step by step to fill in the model and then ask students what equation represents this word problem (3 x 9=?). Students will solve the problem on their whiteboard for the missing number. **Check For Understanding:** The teacher will observe students recording their representation and equation use to see if any additional we-do is needed. If 80% of the students get it then they move to independent practice and the other 20% assemble in a small group for re-teaching or more we-do practice. Teaching scaffolding will occur at this time. **You-Do (Independent Practice):** Students return to their seat and complete a multiplication word problem sheet with similar problems independently. **Discussion Circle:** How is solving multiplication word problems similar to solving addition problems? Which strategies helped the most?	Students will use their counters to create equal groups to model how to solve the problem. Students will think, pair, share with their partner to determine the number of crayons that were bought. Students will draw the problem as the teacher models the problem. Students will think, pair, and share the equation that goes along with word problem. Students will fill in the equation and solve the problem. Students will work with partners to solve the word problems. Students record answers and respond to teacher check for understanding answers. Students will complete the multiplication sheet independently. Students will think, talk with their partner, and be ready to share when called on.

2	**Objective: The students will use multiplication to solve word problems in situations involving equal groups and arrays.** **Introduction:** Yesterday we solved multiplication problems with equal groups. Today we will continue solving word problems with another strategy. We will use arrays to show our multiplication problems today. When we create the array we must make sure that the rows and columns are lined up correctly. The teacher will show an example of an array with it labeled rows and columns. This will stay up throughout the lesson as an example for students to follow. **I Do:** Let's see if we can use our new strategy to help solve a word problem. " Lisa arranges the stickers she has in 3 rows and 4 columns." With students help key information is underlined in the problem. The teacher uses a "think aloud" to model how to create a matching array for the word problem. After the array is drawn the teacher writes a matching equation and solves the problem. **We-Do (Guided Practice):** Pose the problem " Todd plants 8 rows of tomato plants with 7 in each row. How many tomato plants were planted?" Students will draw their array as the teacher models. Teacher will have students talk to determine what equation they should use to help solve the problem. Teacher will have students draw and solve the problem on their whiteboard as she models. **Check For Understanding:** The teacher will observe students recording their representations and equations to see if an additional we-do is needed. If 80% of the students get it then they move to independent practice and the other 20% assemble in a small group for re-teaching or more we-do practice. If not, students will move to independent practice. Teaching scaffolding will occur at this time. **You-Do (Independent Practice):** Students return to their seat and complete a multiplication worksheet with similar problems independently. **Discussion Circle**: How are drawing models and building arrays used to solve multiplication problems? Which way do you think is more efficient?	Students help the teacher to find key information that is in the word problem. Students will create an array to match the problem as the teacher models the problem. Students will think, pair, and share the equation that goes along with word problem. Students will fill in the equation and solve the problem. Students will work with partners to solve the word. Students record answers and respond to teacher check for understanding answers. Students will complete a multiplication worksheet independently. Students will think, pair, share to discuss question and then respond to the question posed by the teacher.
3	**Objective: The students will use division to solve word problems writing a matching equation and drawing a matching model.** **Introduction:** Teacher will review problems that included equal share drawing and arrays to review strategies that they have learned over the past few days. **I Do:** Give student's 20 counters. Tell them that we would like to share 20 cookies with 5 friends. What information do we know? How can we use one of the multiplication strategies to help solve this problem? Teacher will draw 5 circles and equal divide the 20 cookies within the circles. Teacher will be	Students will think, pair, and share what information they know. Students will use drawing equal shares to solve the problem.

	walking the students step by step on how to solve the division problem and will write the matching equation. **We-Do (Guided Practice):** Pose the problem "Seven friends wanted to share 21 stickers equally. How many stickers will each friend get?" Ask students to underline key information in the problem. Teacher will draw a model of seven circles on the board. Students will help the teacher equally distribute the 21 circles equally in the circles. Teacher will write the matching equation 21÷7= ? Teacher will solve the problem. **Check For Understanding:** The teacher will observe students recording their representations and equations to see if any additional we-do is needed. If 80% of the students get it then they move to independent practice and the other 20% assemble in a small group for re-teaching or more we-do practice. If not, students will move to independent practice. Teaching scaffolding will occur at this time. Students will answer questions throughout each step of the word problem. **You-Do (Independent Practice):** Students will complete an independent division worksheet. **Discussion Circle**: Pose the question "How are equal groups used in both multiplication and division word problems?"	Students will underline key information in the problem. Students will draw a representation and solve the equation on their whiteboard. Students will complete an independent worksheet. Students will use think, pair, and share to discuss and respond to discussion question.
4	**Objective: The students will use division to solve word problems in situations involving equal groups and arrays.** **Introduction:** In this lesson we are going to learn how to solve division problems using an array. An array uses rows and columns. The teacher shows an array on the board that models 3X3=9. The teacher asks students to show on their fingers how many rows there are and then how many columns there are. An array can represent a multiplication or a division problem. **I-Do (Modeling):** The teacher draws an array of 3X4=12 on the board and shows how it represents 3 rows and 4 columns. This could also represent 4X3=12. We can also use this information to solve a division problem. We can do our total number which is 12 and divide it into 4 equal groups. The teacher will circle the groups to model how this is done. The teacher labels the array to show how many columns and rows there are. The teacher then shows that 12 divided by 3 equals 4. We can see that there are 4 triangles in each group and 3 groups. Showing 12 divided by 4 is 3. **We-Do (Guided Practice):** The teacher will pose a problem and students will draw and array to represent 14 divided by 2=7 on their white boards. There could be two ways that students could represent this in an array. After students compare with their partner, the teacher will have students come up and model both ways to represent the array. The teacher will present multiple problems to solve during guided practice. Problems will increase to include numbers up	Students will hold up fingers to show how many rows and columns are in the array. Students will draw arrays on their White Boards and use Pairs Compare to check their answer with a partner. Students will explain their array to their partner.

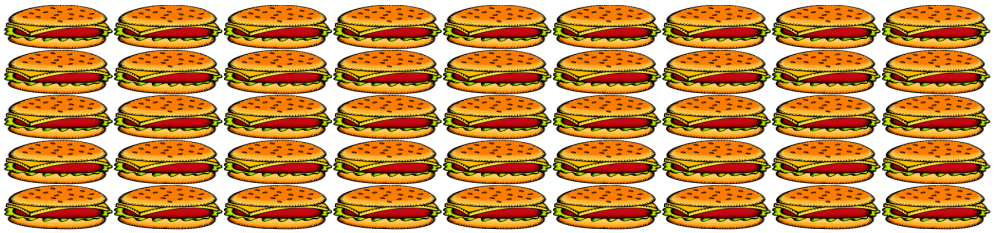
	to 100. **Check For Understanding:** The teacher will observe students drawing their arrays to see if any additional we-do is needed. If 80% of the students get it then they move to independent practice and the other 20% assemble in a small group for re-teaching or more we-do practice. If not, students will move to independent practice. **You-Do (Independent Practice):** Students will work independently to solve division problems using equal groups and arrays. **Discussion Circle:** How is using an array similar in multiplication problems and division problems?	Students will solve division problems using equal groups and arrays. Students will use think, pair, and share to discuss and respond to discussion question.
5	**Objective: The students will use multiplication and division to solve word a variety of word problems with matching equations and matching models.** **Introduction:** For the past few days we have learned some strategies to solve multiplication and division word problems. Today you will use the strategies to solve a variety of problems with the strategies now we will also include problems that involve measurement. **I Do:** Present the first word problem." Mrs. Smith drank two 6- ounce glasses of water this morning. After lunch she drank two more 6- ounce glasses of water. How many ounces did she drink?" First we need to determine how we will solve this problem. Is this a multiplication or division problem? The teacher will model how to solve the problem for the students. First selecting the type of operation to use and then writing a matching equation. Look at the first part of the problem and write 6 x 2= ? but the second part of the problem has another equation 6 x 2= ?. Ask the students how they will find the total. Teacher will then solve the entire problem. **We-Do (Guided Practice):** Pose the question " During the months of June and July Logan spent equal weeks at home as out of town. If there were 8 weeks total, how many were spent at home?" Ask students to think about how they will solve the problem and which strategy should be used. Teacher listens to student responses and writes the equation 8÷2=? On the whiteboard. Students suggest which strategy could be used to solve the problem. (Number line, draw a model, bar model, etc.) Teacher tells students step by step how to solve the problem while they solve the problem on their whiteboards. **Check For Understanding:** The teacher will observe students recording their representations and equations to see if any additional we-do is needed. If not, students will move to independent practice. Students will answer questions throughout each step of the word problem. **You-Do (Independent Practice):** Students solve mixed multiplication and division problems including measurement quantities.	Students think, pair, and share to determine which operation they should use to solve the problem and how they selected the operation to use. Students will work with partners to find a matching equation to solve both parts of the problem. Students will write which operation they think should be used to solve the problem and write their answer on their white board along with which strategy would be best. Students solve the problem on their whiteboards. Students will draw a representation and solve the equation on their whiteboard. Students will complete their independent practice worksheet.

	Discussion Circle: Tell your partner what strategy works best for you when solving multiplication and division problems?	Students will use think, pair, and share to discuss and respond to discussion question.
S.A.	*Provide an opportunity for the student to complete the summative assessment items which is clearly separate from instruction and guided or independent practice, and in which the student is assessed independently. In the Student Activities column, provide a brief description of the summative assessment (S.A.) items that will allow students to demonstrate mastery of the rigor of the Required Standard(s)/components, and the context in which the items will be administered.*	The summative assessment includes 4 items that will test student knowledge and understanding of standard **3.0A.A.3** Students will demonstrate understanding by completing problems that include one-step and two-step word problems using multiplication and division with known and unknown numbers. Students will show high proficiency of the standard by writing equations, completing visual representations, solving the problem and showing evidence of their answers.

Summative Assessment Items and Scoring: *Below, provide at least three Summative Assessment Items that together accurately measure student mastery of the application of the content and/or skills as defined by the grade-level rigor in the Required Standard(s). For each assessment item, provide an answer key or scoring rubric which clearly describes how assessment items are to be scored and how points will be awarded, such that mastery of the application of the content and/or skills as defined by the grade-level rigor in the Required Standard is clearly demonstrated by an acceptable score.*

Summative Assessment Item 1 (clearly identify answer key/scoring rubric, and acceptable score): (1 pt. for diagram, 1 pt. for correct equation, 1 point for correct answer, 1 point for use of vocabulary, 1 pt. for explanation) 5 points total

Sandra is having a party. She has arranged the chesseburgers on a tray for her and 8 friends. Help Sandra determine how many chesseburgers each person at the party will receive. Express the solution with a diagram , use the terms quotient, dividend, divisor and factor. Sandra also needs to write an equation for the problem. Can you help Sandra explain her problem?



Answer: (Students can make a tape diagram showing 45 total and 5 for each friend and herself. Equation: 45/9=X. Student will label the equation with the correct terms. 45(dividend), 9 (divisor), 45 and 9 (Factors), and X (quotient).

Summative Assessment Item 2 (clearly identify answer key/scoring rubric, and acceptable score): (1 pt. model, 1 pt. for correct equation, 1 pt. for correct answer and 1 pt. for explanation) 4 points total

Max the monkey has a container with 48 ounces of water. If Max drinks 8 ounces of water each day, how many days will the water last? Victoria needs to write an equation for the problem. Can you help Victoria explain her problem? Include a model to represent your thinking.

Answer: Equation 48 /8 =X, Correct answer is 6 ounces. Students will model and explain.

Summative Assessment Item 3 (clearly identify answer key/scoring rubric, and acceptable score): (2 pt. for multiplication problem (12 X 2), 2 pt. division problem (24/4), and 1 pt. for explanation) 5 points total

Mike and three of his friends were playing games at the carnival. At the ring toss booth you get two rings for a dollar. If they spent $12 and each got the same number of rings; how many rings did Mike get? Show your work and explain your answer.

Summative Assessment Item 4 (clearly identify answer key/scoring rubric, and acceptable score): (PART A: 1 pt. for multiplication problem (4 X 4) and (3 X 2), 1 pt. for correct answer for total number of legs, PART B: Multiple correct answers. 1 pt. for correct multiplication problem with horse legs, 1 pt. for correct multiplication problem with human legs, 1 pt. for addition problem, 1 pt. for correct representation. (For example: You could have 10 people with 2 legs each (10 X 2=20) and 4 horses with 4 legs each (4 X 4=16) and then add 20+16=36 legs total). 6 points total

Solve the problem:

Part A: There are four horses, and three people. How many legs are there total?

Part B: Later that day the number of legs was 36. Draw an example and write equations of how many horse and human legs were there later that day?

Scoring Guide

Highly Proficient	20/20	100%
Proficient	16/20	80%
Minimally Proficient	12/20	60%
Not Proficient	<12/20	<60%