A.5. CURRICULUM SAMPLE – Kindergarten Math

Grade Level	Content Area	Course Title	Unit Title
Kindergarten	**Math**	**N/A**	**Addition and Subtraction**

Length of Unit	Time of Year Taught	Expected Prior Knowledge
5 days	2nd Quarter	Counting concrete objects to 10, counting up from 0- 10 and back from 10 – 0. Understand the concept of more and less.

Unit Description

Students will be introduced to the concept of addition and subtraction. They will use manipulatives to represent given problems. The concept will be taught through story problems because students understand math through this real life understanding. Throughout the unit, students will be exposed to the vocabulary of addition and subtraction as well as the symbols involved in this process.

Common Core Standards	**K.OA.1.** Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. *(Mastery)* **K.OA**.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. *(Mastery)* **K.OA.3** Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). *(Introduce)*
Summative Assessment	The assessment is a performance-based assessment that is given orally. Given different counters, students will add and subtract as directed by the teacher. There will be 5 questions to assess understanding of addition, and 5 to assess understanding of subtraction.
Assessment Scoring	There will be 10 total items the students must complete orally. Answers will be marked right or wrong on a check sheet. Grading scale: 10 points = 100%, 9 points = 90%, 8 points = 80%, 7 points = 70%, etc. Mastery: 80%.
Materials/Resources Needed	Overhead Projectors, 10 Overhead manipulatives of the same shape, a cup of goldfish crackers for each student, math mats with a fishbowl on them (one for each student), many small balls, a large plus, minus, and equal sign cut from cardboard or poster board, personal white boards, picture worksheet with apples, flowers, etc. (attached), book: Five Little Monkeys Jumping on the Bed, 5 stuffed or toy monkeys, small Apple cut out pictures (10 per student), math mats with an apple tree on them (one for each student), stuffed animals or other toys

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Lesson Instruction	Objective: Students will understand that when you have something, and put more things with it, this is called addition. On the overhead, show students 2 shapes. Ask how many shapes	Objective: Students will know what a plus and equal sign are and how to properly use them in a number sentence with pictures or numbers. On the overhead, review	Objective: Students will understand that when you have something and take things away, this is called subtraction.	Objective: Students will know what a minus sign is and how to properly use it in a number sentence with pictures or numbers. On the overhead, review	Objective: Students will understand that when you have something, and put more things with it, this is called addition.

	there are. Verify that students know there are 2 shapes. Ask students what will happen if we put more shapes on the overhead. Will we have more or less? (We will have MORE shapes.) Now, tell students we are going to put 3 more shapes on the overhead. Have students count out the 3 shapes as they are added. Ask students how many shapes we have now. Count out the shapes with students. Repeat this process 2 more times with different numbers. Explain to students that what we just did is called "addition." Tell students that we are going to practice adding. Give each student a small cup of goldfish crackers and a math mat with a picture of a fish bowl. On the overhead, show your own. Instruct students to put 3 goldfish in their bowl. Then, tell them to ADD 4 goldfish to their bowl. Ask them how many goldfish they have now. Allow students time to work the problem and count the goldfish. Check for understanding.	the lesson from yesterday by doing some simple practice problems as a class. Tell students that today we are going to learn some new symbols. Show them the large plus sign. Tell them this is called a plus sign. Tell them this is used to show that we are adding. Then, show them the large equal sign. Tell them that the equal sign tells that we are finishing our problem and finding the answer to our addition problem. Gather students in a circle on the floor. In the center, have a student place 5 balls. Then, place the large plus sign next to them. Have another student put 2 balls after the plus sign. Then, put the equal sign. Ask students how many balls there are. Put that number of balls at the end. Explain to students how to read this number sentence. (5 plus 2 equals 7).	Tell students that today they are going to hear a story about subtraction. Read students the story <u>Five Little Monkeys Jumping on the Bed.</u> After the story is finished, have 5 students stand at the front of the room holding the 5 monkeys. As the story is read, students should act out the subtraction with the monkeys. At the end of the story, talk about the subtraction in this story. On the overhead, show students 5 shapes. Ask how many shapes there are. Verify that students know there are 5 shapes. Ask students what will happen if we take some shapes away. Will we have more or less? (We will have LESS shapes.) Now, tell students we are going to take 2 shapes away from the overhead. Have	the lesson from yesterday by doing some simple practice problems as a class. Tell students that today we are going to learn another symbol. Show them the large minus sign. Tell them this is called a minus sign. Tell them this is used to show that we are subtracting. Then, show them the large equal sign. Remind them that the equal sign tells that we are finishing our problem, but that in subtraction it tells us to find what is left. The teacher will be showing subtraction number sentences, but students will not be writing these on their own yet because this is a more difficult concept developmentally than with addition. Put 7 stuffed animals on the floor in the middle of a circle of students. Have the students count the animals. On the white	On the overhead, show students 2 shapes. Ask how many shapes there are. Verify that students know there are 2 shapes. Ask students what will happen if we put more shapes on the overhead. Will we have more or less? (We will have MORE shapes.) Now, tell students we are going to put 3 more shapes on the overhead. Have students count out the 3 shapes as they are added. Ask students how many shapes we have now. Count out the shapes with students. Repeat this process 2 more times with different numbers. Explain to students that what we just did is called "addition." Tell students that we are going to practice

		Have students do hands-on problems with goldfish as done yesterday. As students are doing these problems, have them draw out the problems on personal white boards. As this is being done, show students how to write the number sentence using numbers instead of pictures.	students count as the 2 shapes are taken away. Ask students how many shapes we have now. Count out the shapes with students. Repeat this process 2 more times with different numbers. Explain to students that when we take things away, it is called subtraction. When we subtract, we end with less of something. Continue showing sample problems on the overhead using subtraction vocabulary. Provide students with apple tree math mats and apple cut outs. Guide students through subtraction problems using these items.	board, write 7. Then tell students we are going to subtract some animals. Show them the big minus sign and say, "minus." On the white board, write the minus sign. Have a student take 4 animals away. Write 4 on the board after the minus sign. Then, hold up the equal sign and say "equals." Write it on the board. Then, ask students how many animals are left. They will count 3. Then, write the 3 on the board. Have students read the number sentence aloud with you. Guide students through practice of subtraction problems using their apple trees and mats. Use the subtraction vocabulary learned today and model the number sentences on the white board.	adding. Give each student a small cup of goldfish crackers and a math mat with a picture of a fish bowl. On the overhead, show your own. Instruct students to put 3 goldfish in their bowl. Then, tell them to ADD 4 goldfish to their bowl. Ask them how many goldfish they have now. Allow students time to work the problem and count the goldfish. Check for understanding.

	Lesson 1	**Lesson 2**	**Lesson 3**	**Lesson 4**	**Lesson 5**
Student Activities	Students will listen attentively to instruction and answer questions as instructed. Students will count the correct	Students will participate in the review of yesterday's lesson.	Students will attentively listen to the reading of 5 Little Monkeys. Then, they	Students will participate in the review of yesterday's lesson.	Students will complete a summative assessment.

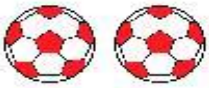
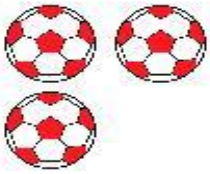
	number of goldfish onto their mats when given teacher directions. At the end of math practice, students may eat their goldfish.	Students will participate in creating number sentences using balls and large plus and equal signs. Students will do hands on problems with goldfish and math mats. Students will draw and write number sentences onto their white boards. Students will complete an addition picture worksheet that the teacher will check for an informal assessment.	will participate in the subtraction reading of the story. Students will follow teacher direction to put apples in their apple tree. Students will then manipulate the items to show the apples falling out of the tree or being picked. Students will then demonstrate how many apples are left.	Students will participate in moving stuffed animals in and out of the circle to represent the subtraction problems. They will participate in the reading of the subtraction number sentences. Students will do hands on problems with apple pictures and math mats.	

Day 2 Worksheet:

+ = _____

+ = _____

+ = _____

 +  = _____

Assessment: This assessment is given orally. Students should use manipulative counters to complete the assessment. Check the line if the student correctly shows the problem with the counters and gives the correct answer. Students must get 8 out of 10 problems correct to show mastery.

Say to the student: You can use these counters to show me how to solve this problem. You can pretend they are anything you want. They could be monkeys, goldfish, apples, or anything else.

1. There were 4 ladybugs on a plant. Then, 2 more ladybugs came. How many ladybugs are on the plant now? _____ (6)

2. There were 7 apples in a basket. Julie took 2 apples out. How many apples are left in the basket? _____ (5)

3. Samantha had 5 fish in her fish tank. She put in 4 more fish. How many fish are in her tank now? _____ (9)

4. Rick had 4 books. Tim had 4 books. How many books do they have altogether? _____ (8)

5. Emily gave her dog 6 treats. The dog ate 4 treats. How many treats are left? _____ (2)

6. A teacher had 7 pencils. A student gave her 3 more pencils. How many pencils does the teacher have now? _____ (10)

7. There were 9 students in the classroom. 4 students went outside to play. How many students are left in the classroom? _____ (5)

8. Nathan had 8 toys in his toy box. He took 3 toys out to play with. How many toys are left in his toy box? _____ (5)

9. Denise has 2 candies. Denise's father gives Denise 6 more. How many candies does Denise have? _____ (8)

10. Kim has 10 stickers. She gives 5 stickers to her friend Stan. How many stickers does Kim have now? _____ (5)