Grade Level	Content Area	Course Title *(For 9-12 Samples Only)*	Unit Title
Kindergarten	Mathematics		Representing addition and subtraction

Length of Unit	Time of Year Taught	Expected Prior Knowledge
5 days- 60 minutes/day	4th quarter	Counting and Cardinality: Know number names and the count sequence. K.CC.1. Count to 100 by ones and by tens.K.CC.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).K.CC.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Unit Description: The unit begins with students using fingers and acting out addition and subtraction. Later in the unit, students use drawings and objects (including animals to tie it into the science content from the Core Knowledge) to demonstrate understanding of addition and subtraction. The students will be assessed one on one so that the teacher can observe the student demonstrating mastery.

Standards: See instructions on page 15.	Operations and Algebraic thinking: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. K.OA.1. Represent addition and subtraction with objects, fingers, mental images, drawings[1], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
Summative Assessment *In addition to the description, include a copy of the summative assessment in the application package.*	Students will meet with the teacher one on one. Students will use fingers, drawings, and plastic animals to demonstrate understanding of addition and subtraction. Give students 12 problems: Students will use fingers to solve four of them, drawings to solve four of them, and plastic animals to solve four of them.
Scoring for Summative Assessment *In addition to the description, include a copy of the answer key and scoring rubric (if applicable) for the summative assessment in the application package.*	Students will receive two point for every problem. They receive one point for each problem that they represent correctly and one point for each correct answer to the problem. See the student assessment form. The teacher will observe the students using fingers, objects, and drawings to solve problems. Students will demonstrate mastery by scoring 17 out of 24 which is at least a 70%.
Materials/Resources Needed *Include all items for the entire unit.*	White boards, farm animals, student assessment form.

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Instruction and Timeline	**Objective:** Students will represent addition and subtraction using fingers and acting out situations. **Anticipatory set:** Ask students the meaning of addition (adding to/ making more) and subtraction (taking from/ leaving less). **Instructional Input/Modeling:** Explain that we can act out addition and subtraction problems, making more and leaving less to find solutions/answers. Give an example using fingers and acting out with bodies. **Guided Practice:** Direct students' actions, modeling one addition problem and one subtraction problem using bodies and fingers. (problems should be displayed in equation form on board but also read by teacher) **Independent Practice:** Assign student groups one addition problem and one subtraction problem.	**Objective:** Student will represent addition and subtraction using objects. **Anticipatory Set:** Ask students: "I have a ring on one finger on this hand, and two fingers on the other hand. How many fingers do I have rings on?" **Instructional Input/Modeling:** Review making more, leaving less. Explain that we can use objects for addition and subtraction problems, making more and leaving less to find solutions/answers. Verbally tell stories of making more and less (also show equation). Use plastic animals to represent the numbers. **Guided Practice:** Distribute plastic animals to students in pairs. Tell stories and show equations. **Check for Understanding:** Observe each pair	**Objective:** Students will represent addition and subtraction by drawing pictures. **Anticipatory Set:** Draw two cows plus 2 chickens on the board and ask students what it represents. **Instructional input/modeling:** Review previous lessons. Explain that another strategy is to draw pictures. Model drawing pictures to match verbal problems. Be sure to show the equation as you speak. Model using stickers also. **Check for Understanding:** Review a problem with stickers. **Guided Practice:** Students draw pictures on their white boards to represent the problem the teacher gives verbally. **Independent Practice:** Distribute stickers, stencils and crayons. Give students a booklet with blank pages.	**Objective:** Students will represent addition and subtraction by using fingers, using objects and drawing pictures. **Anticipatory Set:** If clap twice and stomp once, how many sounds did I make? **Instructional input/modeling:** Review previous lessons. Show three equations on the board. Model thinking out loud – Is this a making more or making less story? Model thinking that there are several ways I can represent / show this story. Model solving the problems using all three strategies. **Check for Understanding:** Name three ways/strategies we can use to "show" these making more and leaving less problems **Guided Practice**: Students will rotate through centers including a teacher led practice	**Objective:** Students will represent addition and subtraction by using fingers, using objects and drawing pictures. **Anticipatory Set:** Give students a problem. Allow them to solve it using any of the methods during the unit. **Instructional Input/Modeling:** Students will continue doing centers. **Assessment:** Teacher meets one on one with students and gives them addition and subtraction problems. They will demonstrate using: fingers, drawings, and plastic animals. **Closure:** Tell a partner a putting together problem and taking from problem.

	Allow groups to practice acting out the problems. Teacher should conference with groups as they work. Students should take turns telling each other making more and leaving less stories and “act” them out. **Closure:** Teacher shows students 3 fingers on one hand and one finger on the other hand. How many fingers am I holding up? Students respond on white board.	working **Independent Practice:** Students should take turns telling each other making more and leaving less stories and use animals to represent addition and subtraction. **Closure:** Using farm animals, students represent two cows plus three chickens.	Tell making more and leaving less stories verbally. Students should “show” the story problem by drawing pictures or using stickers (as teacher directs) on each page. **Closure:** Ask students to share one of their drawings and explain what it means.	time. Teachers will work with small groups giving problems and observing students solving using 3 taught strategies. **Independent Practice:** Centers will be set up for students to practice each strategy for story problem solving, independently. **Closure:** Ask students what is their favorite way to figure out the problems: drawing, acting out, sound, objects or fingers?	

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Student Activities and Timeline	Students give the meaning of addition (adding to/ making more) and subtraction (taking from/ leaving less). Students use bodies and fingers to solve addition and subtraction problems. (problems should be displayed in equation form on board but also read by teacher) Students groups will get one addition problem and one subtraction problem. Groups will practice acting out the problems. Students should take turns telling each other making more and leaving less stories and "act" them out. Students answer on white boards: Teacher shows students 3 fingers on one hand and one finger on the other hand. How many fingers am I holding up?	Students answer: "I have a ring on one finger on his hand, and two fingers on the other hand. How many fingers do I have rings on?" Students review making more, leaving less. Students use plastic animals to solve equations. Tell stories and show equations. Students take turns telling each other making more and leaving less stories and use animals to represent addition and subtraction. Using farm animals, students represent two cows plus three chickens.	Students will draw two cows plus 2 chickens on the board and ask students what it represents. Students will review previous lessons. Students draw pictures on their white boards to represent the problem the teacher gives verbally. Students use stickers, stencils and crayons. Give students a booklet with blank pages to represent making more and leaving less stories verbally. Students should "show" the story problem by drawing pictures or using stickers (as teacher directs) on each page. Students share one of their drawings and explain what it means.	Students answer: If I clap twice and stomp once, how many sounds did I make? Students name three ways/strategies we can use to "show" these making more and leaving less problems Students will rotate through centers including a teacher led practice time. Centers will be set up for students to practice each strategy for story problem solving, independently. Students discuss: what is their favorite way to figure out the problems: drawing, acting out, sound, objects or fingers?	Students use any of the methods they learned during the unit to solve a problem. Students will continue doing centers. Students get verbal addition and subtraction problems. Students will demonstrate addition and subtraction using: fingers, drawings, and plastic animals. Students tell a partner a putting together problem and taking from problem.

Student Name: _____

Student Assessment Questions

Teacher will observe students using each of these methods to demonstrate understanding of addition and subtraction. Add comments as necessary.

Fingers:
1.)1+4 =
2.)7+2=
3.)2-1=
4.)5-2=

Drawings:
5.)4+4=
6.)10+3=
7.)5-3=
8.)15-7=

Plastic Animals:
9.)1+3=
10.)6+1=
11.)13-5=
12.)6-2=

Score: _____/24

Each question is worth 2 points. 17 points out of 24 is the minimum needed for mastery. Students will receive one point for accurately representing the problem with fingers, drawings, and objects, and one point for the correct answer to the problem. Representations may vary. Teacher will accept various appropriate representations.

Number correct:	Percent:	
0-11	0% -49%	Falls Far Below
12-16	50%-69%	Approaches
17-24	70%-100%	Meets Mastery Level

Answer Key:

Student Assessment Questions
Rubric

Teacher will observe students using each of these methods to demonstrate understanding of addition and subtraction. Add comments as necessary.

Fingers: (examples of representations included)

1.) 1+4 =5 (1finger up on one hand and 4 on the other, 5 altogether)
2.) 7+2=9 (7 fingers up on one hand and 2 on the other, 9 altogether)
3.) 2-1=1 (2 fingers up on one hand and then put 1 down, 1 remaining)
4.) 5-2=3 (5 fingers up on one hand and then put 2 down, 3 remaining)

Drawings:

5.) 4+4= 8 (draw 4 dogs and 4 cats, 8 pets altogether)
6.) 10+3=13 (draw 10 candy canes and 3 lollipops, 13 candies altogether)
7.) 5-3=2 (draw 5 clouds and cross out 3 of the clouds, 2 clouds remaining)
8.) 15-7=8 (draw 15 cookies and cross out 7 of the cookies, 8 cookies remaining)

Plastic Animals:

9.) 1+3=4 (put out 1 plastic pig and 3 plastic cows, 4 farm animals altogether)
10.) 6+1=7 (put out 6 plastic chickens and 1 plastic horse, 7 farm animals altogether)
11.) 13-5=8 (put out 13 plastic animals and take away 5 of them, 8 farm animals remaining)
12.) 6-2=4 (put out 6 plastic animals and take away 2 of them, 4 farm animals remaining)