A.5. CURRICULUM SAMPLE – First Grade Math

Grade Level	Content Area	Course Title	Unit Title
First Grade	**Mathematics**	**N/A**	**These Problems Have Words!**

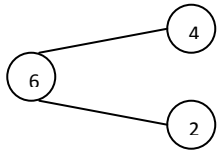
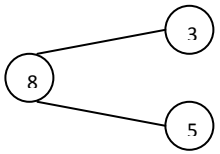
Length of Unit	Time of Year Taught	Expected Prior Knowledge
5 Lessons in 6 Days plus one day for assessment	**1st Quarter**	Students should have mastery of all Common Core State Standards from prior grade levels. In previous lessons, students practiced constructing number stories and writing the related number bonds as a foundation to learning addition. Students should have prior knowledge of the addition and subtraction signs, the equal sign, and number bonds, skip counting, comparing numbers, and place value. Students should have prior knowledge of basic addition and subtraction through 20.

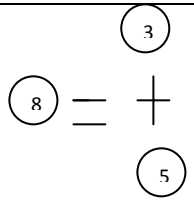
Unit Description

First graders will use picture cutouts and stickers throughout this 5-day unit on forming addition stories, number bonds, and number sentences. During guided instruction, students will be given several visuals to draw number bond and addition number sentences. Students will work with a partner to create addition stories and write corresponding number bonds and number sentences. Students will use this knowledge to solve and create word problems.

Common Core Standards	**CCSS 1.OA.1-** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. *This unit only assesses mastery of the addition component of this standard.*
Summative Assessment	Students will use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Assessment Scoring	Problems #1-2 solved correctly are worth 1 point each. Problems #3-6 solved correctly are worth 2 points each (number bond = 1 point, number sentence = 1 point). Assessment is worth a total of 10 points. At 80% mastery level, students need to score 8 out of 10 points to have mastered the assessed standard.
Materials/Resources Needed	Overhead projector, transparency sheets with different scenes, transparency picture cut-outs (ducks, flowers, cats, dogs, butterflies) or cubes and transparency markers, individual whiteboards and markers, individual student manipulative picture cut-outs, math journals, pencils, numerous picture stickers (stars, animals, flowers, food), poster paper folded into eighths, crayola markers, student worksheets and pencils

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5 (2 days)
Lesson Instruction	**Day 1:** Math Review: Mental Math Examples: What is 2 more than 13, 35? Let's count	**Day 2:** Math Review: Mental Math Examples: What is 3 more than 13, 35? Let's count	**Day 3:** Math Review: Mental Math Examples: What is 5 more than 13, 35?	**Day 4:** Math Review: Mental Math Examples: What is 10 more than 13, 35? Let's	**Day 5 and 6:** Math Review: Mental Math Examples: What is 4

	forward to 50 by 2s, 5s, 10s start with different numbers. Draw a scene on a transparency sheet or board and place four picture cutouts (ducks) in an oval (pond). Describe the scene and count the number of ducks (four ducks). Add two picture cutouts (ducks) to scene. Tell students that two more ducks join other ducks in the pond. Ask the students to total the number of ducks in the pond; 4 ducks and 2 ducks, when put together, the total becomes 6 ducks. Draw the number bond and guide students to name the number pair for 6 as 4 and 2 make 6.  Repeat the same procedure with similar scenes (use	forward to 50 by 2s, 5s, 10s start with different numbers. Review from Lesson 1; number bonds. Present a scene using picture cutouts (3 flowers and 2 flowers) and have students draw corresponding number bond in math journals. Repeat the same procedure with similar scenes and have students draw number bond and write addition sentence using symbols for each scene. Introduce students to a written word problem formulated around the butterflies and walk students through the process of making a number bond for the given problem. Then, have students write the addition number sentence that goes along with the problem and number bond. Repeat by modeling the	Let's count forward to 100 by 2s, 5s, 10s start with different numbers. Review from Lesson 2; number bonds and solving word problems. Show a scene with butterflies on a transparency sheet or board. Ask students how many butterflies there are and what the butterflies are doing. Ask students to share a story about the butterflies with a partner and together write down the corresponding number bond and addition number sentence in their math journals. Repeat the same procedure with a similar scene. Have students work in pairs and use stickers	count forward to 100 by 2s, 5s, 10s start with different numbers. Review from Lesson 2 & 3; number bonds and number sentences with word problems Display a scene in two clusters; 3 large dogs and 5 small dogs. Get students to make up an addition story for what is displayed. Ask students to divide individual whiteboards into 3 parts. Ask the students to write down the number bond for the addition story on white board – part 1.  Ask the students to write a number bond using number bond and symbols on whiteboard – part 2.	more than 13, 35? Let's count forward to 100 by 2s, 5s, 10s start with different numbers. Review concepts from Lessons 1, 2, and 3. Display a scene with 6 flowers. Tell students that 6 flowers bloomed on Monday. Then, tell students that more flowers bloomed on Tuesday. Tell them that on Tuesday, there were 11 flowers that had bloomed. Ask them how many flowers bloomed on Tuesday. Show them how you add the pictures of flowers to get to 11. Show students the number bond that would be created to show this problem. Talk about how the missing number is in a new spot. Then, show students how you would write the number sentence and where the missing number would be. Model more word

	prepared scenes on transparency sheets) and have students draw a number bond for each scene on individual whiteboards. Guide students to name the number pair for the given total. Informal Assessment: Teacher Observation	solving of word problems with students using concrete pictorial images along with the words. Informal Assessment: Teacher Observation	to create 8 different scenes on poster paper. Guide students to take turns sharing stories and writing corresponding number bond and addition number sentence for each scene. If time allows, post all poster papers on a wall in the room and discuss results with whole group. Informal Assessment: Teacher Observation	 Ask students to write the corresponding addition number sentence with symbols on whiteboard – part 3. 3 + 5 = 8 Repeat the same procedure with similar scenes. Show students a scene with 7 frogs in a pond. Tell the students that more frogs came to the pond, and then there were 10 frogs. Show students the 10 frogs. Show students that you added some frogs. Ask students how many frogs you added. Model several more problems like this one using different ideas and pictures. Informal Assessment: Teacher Observation	problems where the missing addend is in a different spot. Show students how to draw the number bond and write the number sentence for each problem. After a few problems, have students do the problems on their individual white boards. Display a word problem to students: There were 3 kids on the playground. More kids came to play on the playground. Now there are 12 kids on the playground. How many more kids came to play on the playground? Show students how to draw a picture for this problem. Then, model the drawing of the number bond, and the writing of the number sentence. Repeat this process with similar problems. Have students show understanding by doing the problems on individual whiteboards.

					Informal Assessment: Teacher Observation

	Lesson 1	**Lesson 2**	**Lesson 3**	**Lesson 4**	**Lesson 5**
Student Activities	Respond verbally to math review questions. Observe displayed scene on the transparency sheet or board. Describe the scene and count the number of items in the scene. Watch the teacher add two picture cutouts to scene. Respond to question; What is the total number? Watch the teacher draw the number bond on the overhead and students name the number pair for 6. Participate in guided practice following the same procedure with similar scenes. Draw number bond for each scene on individual whiteboards and name the number pair for the given total. Create a scene that uses the manipulative cut-outs students have. Have	Respond verbally to math review questions. Respond orally to review questions about Lesson 1; number bonds. Observe displayed scene using picture cutouts (3 flowers and 2 flowers) on overhead or board and draw corresponding number bond in math journals. Write the appropriate addition sentence using "+" and "=" symbols, next to the number bond in math journals. Repeat the same procedure with similar scenes and students draw number bond and addition sentence using symbols for each scene. Have students glue a page of two word problems in their math journals. Instruct students to draw a picture to represent the problem. Then, have them make the corresponding number bond, and finally, number	Respond verbally to math review questions. Respond orally to review questions from Lesson 2; number bonds and number sentences with symbols, and word problems Observe displayed scene with butterflies on a transparency sheet or board. Respond to questions; How many butterflies there are and what are the butterflies doing? Share a story about the butterflies with a partner and together write down the corresponding number bond and addition number sentence in their math journals. Repeat the same procedure with a similar scene. Work in pairs and use stickers to create 8	Respond verbally to math review questions. Respond orally to review questions from Lessons 2 & 3; number bonds and number sentences with word problems Observe displayed scene in two clusters; 3 large dogs and 5 small dogs. Make up an addition story for what is displayed. Divide whiteboard into 3 parts. Write down the number bond for the addition story on individual whiteboard – part 1. Write a number bond using number bond and symbols on individual whiteboard – part 2.	Respond verbally to math review questions. Respond orally to review questions from Lessons 2, 3, and 4. Observe displayed scene with flowers. Listen and follow along with teacher explanation. Students will draw number bonds and write number sentences on individual whiteboards for each given word problem. Students will complete a worksheet that practices filling in a missing addend for an addition problem, and has 2 word problems of this type. If time allows, students will practice writing their own word problems of this type (missing addend).

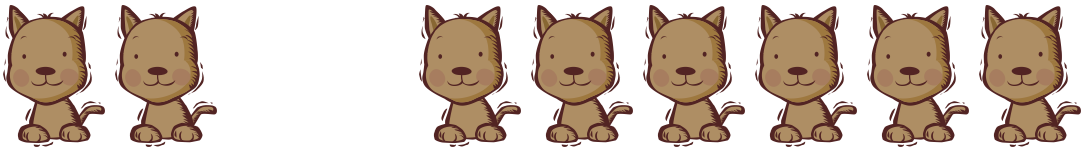
	students create the scene with their own cut-outs and describe what is happening. Then, have students create the number bond on their individual white boards. Informal Assessment: Teacher Observation	sentence. Informal Assessment: Teacher Observation	different scenes on poster paper. Take turns sharing stories and writing corresponding number bond and addition number sentence for each scene. Use Crayola markers for writing. If time allows, post all poster papers on a wall in the room and discuss results. Informal Assessment: Teacher Observation	Write the corresponding addition number sentence with symbols on whiteboard – part 3. Repeat the same procedure with similar scenes. Participate in the discussion of scenes and how many were added to pictures. Informal Assessment: Teacher Observation	Informal Assessment: Teacher Observation and Worksheet Completion with quick check for understanding

Grade 1 Math Assessment

Draw the number bond to find the total amount for each picture.

1.

2.



Write a number bond and number sentence for each word problem.

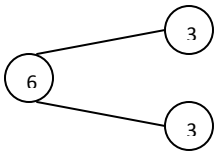
3. 8 ducks were in a pond. 2 more ducks came. How many ducks are in the pond now?

4. There were 4 flowers on a bush. 7 more flowers bloomed. How many flowers are on the bush now?

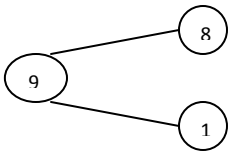
5. There were 6 toys in a box. Jim put more toys in the box. Now there are 16 toys in the box. How many more toys were put in the box?

6. There are 7 books on a shelf. The teacher added more books to the shelf. Now there, are 14 books on the shelf. How many more books did the teacher put on the shelf?

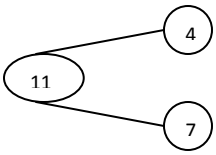
ANSWER KEY:



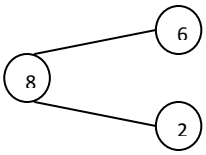
1.



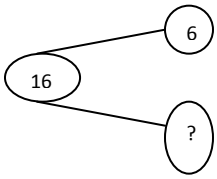
2.



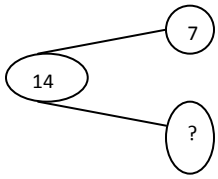
3. 8 + 1 = 9



4. 4 + 7 = 11



5. 6 + 10 = 16



6. 7 + 7 = 14