Lesson One

Lesson Part	Activity description/Teacher does	Students do
Formal/informal Assessment of Prior Learning or Preassessment (Sequence start)	Students will independently attempt/complete a unit pre-assessment the day previous to this lesson. Teacher will provide students with privacy folders during the assessment. Teacher will read directions to students, and will read word problems or directions to individual problems if students require it.	Students will complete the pre-assessment the day previous to this lesson sequence.

Title	Lesson One	
Standard (Common Core)	• CCSS Math 1.NBT.B.2 – Understand that the two digits of a two-digit number represent amounts of tens and ones. • CCSS Math 1.OA.C. – Add and Subtract within 20 • CCSS Math Practice Standard 4 – Model with Mathematics	
Learning Target	• **Primary Learning Target**: learner will create addition equations and will write the number of groups of ten and the number of remaining ones found in the sum. • **Secondary Learning Target:** student will stay on topic and focus through the lesson.	
Lesson Learning Target (LT)	Students will solve addition problems with sums over 10 by using materials and then drawing the picture of the materials, representing the number sentence. **Primary Objective:** Learner will accurately answer 3/3 addition problems and will accurately illustrate 3/3 addition problems using base-10 block illustrations. **Secondary Objective:** Learner will attend to the lesson, playing with materials or speaking off topic two or fewer times with a maximum total of 2 off-task minutes (120 seconds) and requiring 5 or fewer prompts to refocus.	• I will answer addition number sentences • I will use base-10 blocks to represent number sentences • I will trade 10 cubes for a group of 10
Academic Language to be used:	"Number Sentence," "Group/s/ing," "Remainder/s," "Equals," "Add/ition," "Plus" "Sum" "Represent" "Trade"	
Materials (with specific count)	3 Pre-assessments (to be used day before this lesson) Communication Data Chart (for observation of Student A) White-board with lesson learning targets listed and a picture of a target Math Words poster 4-5 Flashcards showing values between 10 and 20 shown with 'T's and 'I's (copied from *Connecting Math Concepts* problems) Base 10 Blocks – 60 single cubes and 6 sticks of 10 3 Student Worksheets 3 Student Workbooks Highlighter	
Instruction	Before beginning the activity the teacher will prompt students about the expected behavior regarding the materials and the will give students 1 minute to play with materials. "When we start our lesson I expect you to listen to me, to focus, and to use the materials for math. This means that you don't need to talk about other	• Students listen to teacher directions and play with base-10 blocks for the allowed minutes • Student listen to

	things and you don't need to play with the blocks even though they are exciting. You have one minute now to play with the blocks and then our lesson will start and they will be for work." Teacher will put a container of base 10 blocks cubes and sticks of 10 on the table in arm's reach of each student. Teacher will introduce the preview activity as a game in which students say the value of the flashcard and then represent it with base 10 blocks. "This is a new game! Sometimes in your workbooks you have questions that look like this," [teacher shows one of the T value flashcards]. "I am going to show one of these flashcards to you and the first person to use blocks to show me how much the card means wins the flashcard! Teacher will introduce the word, 'represent.' See this card shows (14) TIIII so I will take one of these sticks of 10 and four of the single cubes to *represent* the flashcard and the number that the flashcard means. Represent means to show something. So taking a number and showing what that number looks like in blocks means that we are representing the number with blocks. Show me a thumb-up/down if you are ready to start. [pause] Ok, start!" Teacher shows a flashcard, and gives the flashcard to the first student that uses the correct blocks. After a student wins the teacher will ask them how many blocks there are, and then will ask the other students to repeat the initial student. "So what is the number that you represented? [pause] Students ___ and ____, can you repeat that?" Students keep flashcards for the activity and the student with the most cards wins the game. Teacher will show three or four flashcards. This activity will take about 8 minutes.	instructions and then race to represent the flashcard with base-10 blocks • The first student to show the base-10 block combination gets to keep the flashcard for the rest of the activity
Informal Assessment	Teacher will assess student understanding through observation of student verbal answers and student models. Teacher will pause to correct any incorrect answers before students move on to the next flashcard.	See above.
Instruction/ Practice Activity/ (if needed)	Teacher will introduce lesson learning targets and lesson activity. I have the learning targets written on this board and I will read them to you. After I read each one I will count to three and then we will all read it together. Ex) Here's the first one: 'I will write a number sentence.' Okay, one…two…three.. 'I will write…'" Teacher will explain the format of the lesson and clearly introduce the rules of the activity. Teacher will ask students to return the cubes and sticks to the appropriate containers. Teacher will pass out a handout to each student and will introduce the rules and expectations. "This handout has several number sentences listed and we are going to represent each one with the blocks and then we will draw a picture of the blocks that are in the sum."	• Students watch and listen to teacher introduce instructions for the activity. • Students listen to and chorally repeat, with teacher, the lesson learning targets • Students read handouts and answer the problem

	Teacher points to the handout as she explains the activity. "If you already know the answer to the number sentence without using the blocks that's ok! You can write the answer first but we will still check our work. Let's do the first problem together." The first problem is 7 + 4 = __ "Ok so I see that the first number is seven. Let's each take seven cubes and put them on the table. [pause] I see the plus sign so I know that I will *add* four more so let's take four cubes and put them on the table. Now I have a big group of cubes. It's not very easy to count them like this. Does anyone have an idea for a way that we could sort our cubes and make them easier to count? [pause for student response] If a student suggests trading ones for a ten the teacher will repeat that answer. Teacher counts ten and trades them in for a stick of ten by putting them away in the container. "I traded those ten cubes out for this group of ten. That's important, let's all repeat this on three: 'I trade ten cubes for a group of ten.' One, two, three, 'I trade…' Now you can trade ten cubes for a group of ten. I have this group of ten and one more cube remaining. How many is that? [pause] Is it easier to see how many we have when we have groups of ten or when we have a big pile of ones? Teacher pulls out a pile of eleven ones and places it next to the grouping example to show that counting is easier with groups of ten. "Now please draw the group of ten with the one remaining cube on your paper. Draw one long stick of 10 and one more square or circle to show the one remainder. If you need to write or change in the answer, eleven, in the space above you can write that now. When you finish please put your blocks back, and then begin the next problem. I expect everyone to work hard and focus on this lesson, but it's ok if you don't finish every blank on the handout. Everyone works at different speeds." The introduction and model will take about 3 minutes and students will have 9 minutes to model and draw other problems on their handout.	using mental math if they can • Students use base-10 blocks to represent the written number sentence • Students draw the base-10 block sum of the addition problem • Students correct their answer if necessary
Informal Assessment	Teacher will assess student understanding of trading ones for a group of ten through observation of student manipulation with the materials. Teacher will also ask a student to read one number sentence from the worksheet and to say how many groups of ten and how many remaining cubes are in the sum. If necessary, teacher points to each part of the number sentence and student illustration as the teacher asks the questions. "Student ___, can you read the second number sentence on the handout? [teacher points to the chosen number sentence and pauses for student to read] How many groups of ten and remaining ones were in the sum? [pointing at the depiction under the sum] Student ____ and ____, do you agree that this	• Students answer teacher questions, repeat a peer if directed or express agreement/ disagreement with a peer's answer

	is the correct number sentence? If you agree with Student ___'s answer you should show him/her a thumb-up and if you disagree you can show a thumb-down and tell us what part you disagree with."	
Instruction/ Practice/ Activity (if needed)	Teacher brings out student workbooks. "I would like you to work on your workbooks now." Teacher makes a high-lighter dot in each of the sections that students should work on, as she hands each student their workbook. Problems relate to addition, grouping, or base 10 but differ according to each student's workbook lesson level. "I would like you to work on and finish these (pointing and making a highlighter mark) sections. If you get stumped, remember that you can look at the number line for help." Teacher should plan for two extra sections that Student A can work on in case he finishes early. Students work independently for 5 minutes.	• Students work independently in their workbooks
Closure Assessment of Student Voice	Teacher reads lesson learning targets, with a picture of a target attached, to students and asks students, "Did we do these? You can show me, with your finger on the target, if we *completed* our learning targets, if we *sort-of, kind-of tried to complete* our target, or if we *did not complete* the target." Teacher is modeling each response to the learning target by placing her finger in the center of the target, on the outer ring, or outside the target. "So, what do you all think? How did we do on our learning targets?" Teacher articulates the group opinion of completion of learning targets, hands students their homework, and fills in students' points charts. Teacher will ask Student A how many points he thinks that he earned and will explain her agreement or disagreement before marking his points. Closure should take about 2 minutes.	• Students place their finger on the target, expressing their opinion of the completion of the lesson learning targets

Lesson Two

Lesson Part	Activity description/Teacher does	Students do

Title	Lesson Two	
Standard	• CCSS Math 1.NBT.B.2 – Understand that the two digits of a two-digit number represent amounts of tens and ones. • CCSS Math 1.OA.C. – Add and Subtract within 20 • CCSS Math Practice Standard 4 – Model with Mathematics	
Learning Target	• **Primary Learning Target:** learner will create addition equations and will write the number of groups of ten and the number of remaining ones found in the sum. • **Secondary Learning Target:** student will stay on topic and focus through the lesson	
Lesson Learning Target (LT)	Students will solve single-digit addition problems that require grouping, using materials, and will write equations for each addition problem. **Primary Objective:** Student will accurately write a number sentence and represent the sum with base 10 blocks grouped by tens and ones in at least 2/3 trials. **Secondary Objective:** Student will attend to the lesson; requiring no more than two teacher prompts to refocus in no more than 60 off-task/distracted seconds.	Students will repeat: • I will write a number sentence • I will represent the sum with base-10 blocks
Academic Language to be used:	"Number Sentence," "Group/s/ing," "Remainder/s," "Equals," "Add/ition," "Plus," "Sum," "Represent," "Trade"	
Materials (with specific count)	Teacher's Lesson One Handout Communication Data Chart (for observation of Student A) White-board with Learning Targets listed and a picture of a target 3 Base-10 puzzles 3 spinners, with the numbers 4,5,6,7,8,9 displayed in a pie-chart format. Base 10 Blocks – 60 single cubes, 6 blocks of 10 3 handouts for students to write addition equations Student's workbooks (3) with clearly-marked practice sections Highlighter	
Review	Teacher will review the previous lesson with the students by showing the previous lesson teacher-handout and reminding students that they used base-10 blocks to represent the number sentence. "This is the handout from yesterday. Remember how yesterday we answered a number sentence by r*epresenting* it with base-10 blocks? Then we traded the total blocks for a group of 10 with remainders and we drew our groups on the paper. Today we are going to keep working with grouping in addition number sentences." Teacher will pull out three puzzles. "This puzzle shows different ways that we can represent the same number. When you put the puzzle together you will see the number, the groups of 10 and	Students wait for their turn and when it is their turn they will roll the die, answer the number of flashcards specified on the die, and move that number of spaces on the board game.

	the remainder of ones in the number, the number using base-10 blocks, and the number using 'T's and '1's." Teacher gives each student the appropriate puzzle and tells them to begin. When students finish their puzzle/ if students finish early the teacher will pull out base-10 blocks and allow students to model the number using the actual blocks. "You can use the blocks to show the number that was in your puzzle." Review and activity will take about 6 minutes.	
Informal Assessment	Teacher will assess student understanding by watching student engagement in the review. Teacher will observe if students have any difficulty assembling the puzzle and representing the number with actual base-10 blocks.	See above; students will listen to review of previous activity and assemble a puzzle.
Instruction/Practice Activity/ (if needed)	Teacher will collect base-10 blocks and bring out a spinner. Teacher will introduce the lesson learning targets. "Now we're going to do another exciting game! We are going to find groups of ten in addition problems! I have the learning targets written on this board and I will read them to you. After I read each one I will count to three and then we will all read it together. Ex) Here's the first one: 'I will write a number sentence.' Okay, one…two…three.. 'I will write…'" Teacher will explain the format of the lesson and clearly introduce the rules of the activity. "See this spinner? This is fun to flick but I expect you to focus on math and to just flick the spinner to make your problem. I will give you 15 seconds to play with your spinner and then they will be for math. [Pass each student a spinner and allow them to play for 15 seconds and then re-collect the spinners.] Three, two, one, playing is done. Touching and flicking the spinner during the lesson is playing." Then teacher explains that students will use the spinner results to create a number sentence. "You can flick the spinner two times. Teacher points to the spinner, and then flicks spinner for all students to see. Ex) I flick it once and I get 6. I will write 6 in the box on this handout. Now I flick it again and I get 7. I'm adding 7 so I will write the plus sign and then 7. I just wrote my number sentence. Remember our learning target, "I will write a number sentence?" We're practicing that now. Teacher will write the set up for the number sentence, modeling 6+7=___ and will instruct students to write the number sentence on their own handout, pointing to the correct box. "I write my number sentence 6+7=___. You can write the same thing in this box of your handout. If you know the answer already you can write it, but if you don't know it that's ok!" Teacher instructs students to take out base 10 blocks for each addend and add them together to create a group of ten with extra cubes as a remainder. Teacher models the activity. "Now I will take six cubes because	• Students watch and listen to teacher introduce instructions for the activity. • Students listen to and chorally repeat, with teacher, the lesson learning targets • Students flick a spinner and write the corresponding number. Students flick the spinner again and write the second number, creating an addition number sentence. • Students write the answer to the number sentence if they already know the answer. • Students use base-10 blocks to represent the number sentence and count the total blocks. • Students trade out 10 cubes for a group of 10 and count the

	that was the first number in my sentence. Then, I will take seven more out of the bag. I have a lot of cubes so I will put them together and count until I get to 10. Then I will trade ten for a stick of ten. Whatever is left is the remainder." Teacher models for and instructs students to write the number of sticks of ten they have and the number of remainder ones they have. "I checked that 6+7=13, so I will fill in the answer on my handout and I will write that I have one group of ten and I will write in how many remaining cubes I have. Three remaining ones." Teacher finishes introducing and modeling the lesson (about 3-4 minutes) and will hand each student a spinner for them to begin the activity. Teacher allows students to continue working for about 8 minutes. Teacher gives students one minute of transition time to finish up. "We have one minute left of this activity. Try to finish up the step that you are working on, but it's ok if you don't finish the whole problem- everyone works at different speeds."	remainder. • Students write or correct the answer to the number sentence
Informal Assessment	Teacher will assess student understanding throughout the activity by tracking how frequently students ask for help, answer questions incorrectly, or get distracted. After finishing the activity teacher will collect student handouts and ask the focus student to read one of his number sentences. "Student A, can you please tell read us one of your number sentences?" Teacher listens to student response. Teacher asks Students B and C if they agree that Student A's number sentence is correct by showing a thumb-up/down. "Thank you, Student A. Students B and C, do you agree that Student A's number sentence is correct? Give a thumb-up if you agree or a thumb-down if you disagree. [pause] Student A, how many groups of ten were in the answer of your number sentence? How many ones were remaining?" Pause for student answers. Discussion should last about 2 minutes.	• Student A answers teacher-directed questions and reads an addition equation • Students B and C listen and express agreement/ disagreement • Student A tells the group how many groups of ten and how many remaining ones were in the sum of the equation he presented
Instruction/ Practice/ Activity (if needed)	Teacher brings out student workbooks. "I would like you to work on your workbooks now." Teacher makes a high-lighter dot in each of the sections that students should work on, as she hands each student their workbook. Problems relate to addition, grouping, or base 10 but differ according to each student's workbook lesson level. "I would like you to work on and finish these (pointing and making a highlighter mark) sections. If you get stumped, remember that you can look at the number line for help." Teacher should plan for two extra sections that Student A can work on in case he finishes early. Students work independently for 5 minutes.	• Students complete teacher-directed sections of their workbooks independently.
Closure Assessment of Student Voice	Teacher reads lesson learning targets, with a picture of a target attached, to students and asks students, "Did we do these? You can show me, with your finger on the	• Students listen to teacher repeat lesson learning

	target, if we *completed* our learning targets, if we *sort-of, kind-of tried to complete* our target, or if we *did not complete* the target." Teacher is modeling each response to the learning target by placing her finger in the center of the target, on the outer ring, or outside the target. "So, what do you all think? How did we do on our learning targets?" Teacher articulates the group opinion of completion of learning targets, hands students their homework, and fills in students' points charts. Teacher asks Student A how many points he believes that he earned and then expresses agreement or disagreement before marking his points. (Closure should take about 2 minutes.)	targets. • Students point to the target, showing their opinion of their completion of the lesson learning targets.

Lesson Three

Lesson Part	Activity description/Teacher does	Students do

Title	Lesson Three	
Standard (Common Core)	• CCSS Math 1.NBT.B.2 – Understand that the two digits of a two-digit number represent amounts of tens and ones. • CCSS Math 1.OA.C. – Add and Subtract within 20 • CCSS Math Practice Standard 4 – Model with Mathematics	
Learning Target	• **Primary Learning Target -** learner will create addition equations and will write the number of groups of ten and the number of remaining ones found in the sum. • **Secondary Learning Target:** student will attend to the lesson / stay on topic and focus through the lesson.	
Lesson Learning Target (LT)	Students will read a story problem to the group and the group will work together to solve each problem. Every student will write the correct math sentence on a handout. **Primary Objective:** Student will correctly write at least 2/3 addition number sentences derived from word problems and will correctly write the number of groups and the number of remainder found in the sum for at least 2/3 student-written equations. **Secondary Objective:** Student will focus on the lesson requiring one or fewer teacher prompts to focus in one session of 30 or fewer distracted seconds.	• I will read and listen to story problems. • I will write the story problem. • I will represent the sum with base-10 blocks.
Academic Language to be used:	"Number Sentence," "Group/s/ing," "Remainder/s," "Equals," "Add/ition," "Plus," "Represent," "Trade," "Sum"	
Materials (with specific count)	Teacher's Lesson One Handout Teacher's Lesson Two Handout Communication Data Chart (for observation of Student A) White-board with learning targets listed and a picture of a target 10 cut out papers of addition story problems within 20 A (non-transparent) bag	

	3 Lesson 3 Handouts 3 Post-assessments Privacy folders	
Review	Teacher will review previous two lessons with students. Teacher will show students the teacher handout from lesson one. "This was our lesson from two days. Student __, can you tell me what we did to find the answer?" [Pause for student response, if student mentions base-10 blocks teacher will repeat that, otherwise teacher will call on another student to add on to their peer's response.] That's right. We represented these addition problems with base-10 blocks and we traded 10 cubes for a group of 10 to check our work." Teacher puts Lesson One Handout away and brings out Lesson Two Handout. Teacher calls on a different student to talk about previous lesson. "Student __, can you tell me what we did in our lesson yesterday?" [Pause for student response. If student does not mention writing number sentences, or representing the equation with base-10 blocks and writing the groups of 10 found in the sum the teacher will supplement that information.] Yeah, we used spinners to help us write a number sentence. Then we represented our number sentence with base-10 blocks and traded 10 cubes for a group of 10. We also wrote how many groups of ten we made on the worksheet." [Teacher points to the corresponding part of the handout.] Review will take roughly 4 minutes.	• Students answer teacher-directed questions about previous days' lessons • Students listen to teacher restate previous lessons
Informal Assessment	Teacher assesses student understanding by watching students to make sure they are focusing on the review. Teacher also assesses student understanding based on the information students provide in response to teacher-directed questions. If students do not clearly remember trading ones for a group of ten the teacher will have students repeat one of the addition problems from Lesson Two Handout.	See above. (If necessary students will recreate one of the addition problems from the previous day with the base-10 blocks)
Instruction/ Practice Activity (if needed)	Teacher will introduce the lesson learning targets. "Now we're going to do another exciting game! We are going to find groups of ten in addition problems! I have the learning targets written on this board and I will read them to you. After I read each one I will count to three and then we will all read it together. Ex) Here's the first one: 'I will read and listen to story problems.' Okay, one…two…three… 'I will read and listen…'" (Lesson introduction will roughly take 2 minutes) Teacher brings out a bag that has cutout word problems in it and hands each student a handout for the activity. "I want everyone to write their name on the handout and then I will call on one person to pull	• Students watch and listen to teacher introduce instructions for the activity. • Students listen to and chorally repeat, with teacher, the lesson learning targets. • Students pull a word problem out of the bag and read the

	something out of this bag." Teacher pauses for students to finish writing and calls on one student to pull something out of the bag. "Student __ just pulled a math story problem out of the bag! S/he will read it to us and we will listen to the whole problem. Then we will discuss the important details from the problem. When we are done talking you can each write the math sentence and use base 10 blocks to find the answer. Let's do one together as a practice. Student __, will you read the story problem? [pause] Teacher will ask another student to name the first addend and the mathematic operation, and teacher will ask another student to name the addend that is being added on. Initial student can repeat the story problem if necessary. "We just listened to the story problem. That was one of our lesson learning targets. Student __, can you tell us what the first number was? Ok, and are we adding to that number or are we subtracting from/ taking away from the number? [pause] Will we write the plus sign or the minus sign in our math sentence? [pause] Student __, what is the number that we are adding to the first number?" Teacher will repeat student responses and then instruct students to write a math sentence. "Now that we have all of the important information we can write the math sentence for the story problem. Writing the math sentence is our second lesson learning target." Teacher will ask the initial student who read the card to read the set up for their math sentence. "Student ___, can you please read your math sentence to us? Students ___ and ___, do you agree or disagree that this is the correct number sentence? Show a thumb-up if you agree and a thumb-down in you disagree. If you know the answer to the number sentence you can write it, but if you don't know that's ok - you can check with the base-10 blocks." Teacher presents base 10 blocks. "If you knew the answer you can check your work. I want you take as many cubes as the first number in your number sentence. Then add the second number. You can count the total and if there are more than ten you trade ten cubes for a group of ten. This makes it easier to count." After students represent the number sentence with base 10 blocks the teacher will ask them to write the number of groups of ten and the number of remainder in the total on the blank in their handout. "Now that you have solved the problem you can write the correct answer to your number sentence. And you can write in this box how many groups of ten are in the total and how many remaining ones there are." Teacher will call on the next person to read a story problem. After the initial problem teacher will use a	problem to their peers. • Students discuss important details of story problem by answering teacher-directed questions. • Students will write appropriate equation to describe story problem. • Students model the equation using base-10 blocks and trade 10 ones for a group of ten • Students will write the number of groups of tens and the remaining ones that are in the equation's total. • One student will read equation, total and the number of groups aloud to the group and peers will give a thumb-up/down to show if they agree or disagree.

	truncated discussion version and ask the student who drew the problem to read the problem and then tell the group the number sentence setup. Then each student will use base-10 blocks to find the answer and the groups of ten and remainder found in the sum. Teacher will stop activity after 10 minutes.	
Informal Assessment	Teacher will assess student understanding through observing discussion and written work on their handout. Teacher will immediately correct any incorrect answers by stopping and prompting students with directed questions, and will re-explain activity instructions if necessary.	See above.
Closure Assessment of Student Voice	Teacher reads learning targets, with a picture of a target attached, to students and asks students, "Did we do these? You can show me, with your finger on the target, if we *completed* our learning targets, if we *sort-of, kind-of tried to complete* our target, or if we *did not complete* the target." Teacher is modeling each response to the learning target by placing her finger in the center of the target, on the outer ring, or outside the target. "So, what do you all think? How did we do on our learning targets?" Teacher articulates the group opinion of completion of learning targets. (Closure should take about 3 minutes.)	• Students listen to teacher repeat lesson learning targets. • Students point to the target, showing their opinion of their completion of the lesson learning targets.

Formal Assessment or Postassessment (Sequence end)	Teacher will hand each student a test with 6 problems involving addition problems within 20 that involve grouping by 10 with possible remainders, addition word problems within 20 – the same test as the pre-assessment for Lesson One. Teacher encourages students to use mental math to complete the assessment but offers base-10 blocks as a resource if students need them. Teacher will put up privacy folders for each student. "We have a test today. I'm going to hand each of you the test and then we will put up our special privacy folders. I expect you to think about the questions and write the answers by yourself. Try to think of the answers with mental math, but if you get stumped you can use base-10 blocks to help you." Teacher will read directions, word problems or directions to individual problems if students require it. Teacher will observe students and, if necessary, will move students to a separate desk to work independently without distraction. When students finish, the teacher will collect their paper, hand the student their homework and fill in their points chart. Teacher will thank each student for their hard work. Teacher will ask Student A to say how many points he feels like he earned and the teacher will agree or disagree before marking his point chart. Students will have 10 minutes to complete the assessment. If students finish early they will be allowed to choose an activity at their desk.	• Students will listen to teacher directions and will complete the questions on their test using mental math (and base-10 blocks if necessary) and without looking at their peers' papers. • When students finish they will turn the test into the teacher.