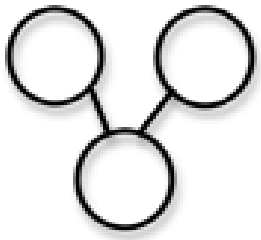
Grade Level	**2nd Grade**	**Content Area**	**Math**
Course Title (grades 9-12 Only)			
Length of Unit	**5 days**	**Time of Year**	**2nd Quarter**
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	Students should understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. In addition, their prior knowledge includes 2.NBT.1, 2.NBT.2, and 2.NBT.3.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	The following methods of instruction are aligned to the Program of Instruction: (1) Common Core State Standard: instruction aligned to K.NBT.1. (2) Direct Instruction: teacher-led and driven instruction. (3) Instruction in Small Class Size: 30-2 student-teacher ratio. (4) Understanding by Design (UbD): UbD lesson plan template used; title/objective identified for every lesson. (5) RTI & Differentiated Instruction: RTI tier-2 and 3 students identified with DOMA screenings and/or formative assessments. Tier-2 and 3 students provided with differentiated instruction respectively in small group or on one-on-one using the intrinsic RTI remedial properties of Singapore (scaffolding, visual representations, differentiation resources)		
Standard Number and Description *List the Number* and full description for the required Standard.*	**2.NBT.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.		
Summative Assessment *Describe a cumulative and comprehensive activity, clearly separate from instruction and guided or independent practice, which allows each student to individually demonstrate mastery of the required Standard. A copy of the summative assessment must be attached to the curriculum sample.*	Students will demonstrate fluency of adding and subtracting within 100 by completing addition and subtraction problems using an algorithm, part-whole model, fact family, as well as word problems. The assessment includes a total of 10 questions.		
Scoring Scale and Mastery Level *Explain how the assessment is scored, to include points per question, how points are awarded, total points possible, criteria necessary to demonstrate mastery, and grading scale. A copy of the answer key and scoring rubric (whichever applicable) must be attached to the curriculum sample.*	Students earn 1 point for each question. The assessment is worth a total of 10 points. At an 80% mastery level, students need to score 8/10 points to be considered to have mastered the assessed performance objective. 10 points = 100%, 7 points = 70%, 60 points = 60%.		
Materials/Resources Needed	Class set of number disks, teacher whiteboard, whiteboard markers, student math journals, pencils, premade part-whole model cards. Singapore Math instructional materials.		

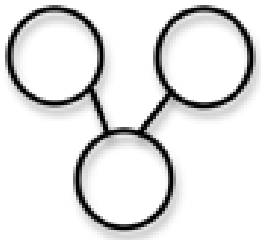
Lesson (add as needed)	**Instruction**	**Student Activities**
	Objective: Students will use number disks to create concrete representations of, and solve, addition and subtraction problems within 100. • Tell students that over the next five days, they will be learning different strategies to add and subtract numbers between one and one hundred. Explain that we will use number disks to represent the numbers in our math problems. • Model for students how to separate their number disks into a pile of 10s and 1s. • Invite students to represent the number 51 using their number disks. Tell students to use both 10s and 1s to represent the number in a most efficient way. • Circulate the class to informally assess student understanding of the direction, and accuracy of the representation. • Ask students to share with the other students at their cluster how they formed the number 51. Call on a student to explain the use of 5 tens and 1 one to create "fifty one." • Ask students to make the number 7 using their remaining number bonds. Invite students to place these bonds slightly apart from their 51. Ask students why they used only (1) disks. • Tell students that we will call the two numbers they have represented on their desks, 51 and 7, two "parts." Ask students to predict what will happen when we add these two parts together. Will the amount become larger, or smaller? • Model the adding of these parts by lining up the 5 tens and 8 ones into neat rows. Invite students to do the same at their seats. Ask students if their predictions were correct. Did the total number get larger? • Tell students that when we combine two "parts," we are creating a "whole." Ask students what the parts were in our problem. • Write the numbers 51 and 7 on the white board. Label these numbers "parts." Ask students what we did to these parts in order to represent our whole. • Write a "+" sign between 51 and 7. Tell students that now we have the	Students will separate their set of number disks into a pile of 10s and 1s. Students will show 5 (10) disks and 1 (1) disk to represent the number 51. Students will talk briefly with their group about making 51 from their number disk. Students will use 7 (1) disks to show the number seven. Students will respond, because 7 ones do not make a 10, or, because 7 is less than 10. Students will talk with their group about what will happen when the parts are added to one another. Students will move their number disks to show the parts are being added. Students will reflect on their predictions. Students will respond, 51 and 7. Students will respond, we added them together. Students will count 5 tens and 8 ones to determine the whole is 58. Students will respond, we have a whole of 58. Students will use 8 tens and 3 ones to show 83. Students will take 1 ten and 1 one from 83. Student(s) will respond, we subtracted 11 from 83. Students will count 7 remaining tens and 2 remaining ones. Students will respond, 72. Students will solve two addition and two subtraction problems. For each problem, each member of cooperative base groups will be responsible for their role. Students will use number disks to solve the problem, draw a pictorial representation of the problem, create a part-whole model for the problem, and solve using the algorithm.

1	whole represented on our desks, to determine what that number is. • Circulate the class to informally assess students' conceptual understanding of counting the 5 tens and all 8 ones to equal the number 58. Ask students what they have found. • Write =58 to complete the equation on the white board. Tell students that they have used number disks to solve the addition problem 51 + 7 = 58 by adding 5 tens and 1 one to 7 ones. • Tell students that they will now practice a subtraction problem using number disks. Remind students that in a subtraction situation, we typically begin with the whole, and take a part away. This will leave us with the remaining part. • Invite students to use their number disks to represent the number 83. Circulate the class to assess appropriate use of number disks. • Tell students, now that we have our whole, we are going to take a part away from the whole. Model the taking away of 11 (1 ten, and 1 one), placing them next to the remaining part. Invite students to take eleven away from their whole. • Ask students to verbalize their action using math language. • Write 83-11 on the white board. Tell students that now we have taken one part away from the whole, we have found the missing part. Ask students to use their number disks to determine what that missing part is. **Guided Practice**: Tell students that they will practice adding and subtracting numbers using number disks. Explain that they will be working in their base groups to solve the addition and subtraction problems. • Each member will have a unique role such that each student has a share in the success of the group. • The teacher will write two addition and two subtraction problems on the board. Each student will have a turn in the following roles: number disks, draw pictorial representation, create part-whole model, and solve using the algorithm. • The teacher will circulate, spending time with each group to check for understanding. **Assessment**: While circulating, the teacher will question each student to	Students will answer teacher questions and explain how they are solving the problem, and why that strategy works. Students will work independently to solve three addition and three subtraction problems using number disks. After the student has found the sum or difference, she will complete the part-whole model on the practice page. Students who were selected to work with the teacher will meet in a small group for additional direct instruction and guided practice. Students will return to their desks to work through the independent practice at the direction of the teacher. Students will turn in practice pages to the teacher. <u>Day 1 Practice:</u> Students draw the model underneath to solve problems: 76 + 12 = _____ 23 + 60 = _____ 14 + 44 = _____ 58 – 20 = _____ 28 – 18 = _____ 85 – 33 = _____ 

	determine conceptual understanding of a part-whole model to solve addition and subtraction problems. In addition, the teacher will use DOMA screenings and/or formative assessments to identify students at risk of failure with the basic core curriculum, and pool them in RTI tier-2 and 3 groups. With the teacher aide support, the teacher will provide tier-2 and tier-3 students respectively with small group or one-on-one differentiated instruction with scaffolding and differentiated tools. **Independent Practice**: The teacher will explain that students will now have an opportunity to practice solving addition and subtraction problems using number disks and part-whole models. The teacher will hand out a practice page with three addition and three subtraction problems. • The teacher will explain that this practice page will be collected at the end of math class today in order to see our status of understanding. The practice page will not be graded, but a tool for the teacher to direct further instruction and differentiate appropriately. • Monitor student progress to ensure an accurate understanding of addition and subtraction within 100. **Assessment**: At the end of the class period, the teacher will collect each student's practice page. The teacher will use the data from this assessment to determine where to begin instruction on day 2, and identify the students who will need additional support.	
	Objective: Students will use addition and subtraction to solve for a missing part or whole. • Ask students to talk in their base groups to remind one another what it means when we call a number a "part" or a "whole" in math. Call on several students to hear their explanations. • Explain that today we are going to use our addition and subtraction skills to solve for missing numbers in a part-whole model. • Tell students, if I had 3 apples and 10 oranges, what could I do to figure out how much fruit I had in all? Ask students, in this problem, how many parts do I have? What are in these groups? In this problem, what is my whole? What is the value of my whole? • In math journals, students will copy: Part + Part = Whole. Tell students, I bought a box of 24 markers. There were blue and red	Students will share their meaning of part/whole numbers. Students will respond, you would add the apples and oranges together. Students will respond, 2 groups. One group of apples, one group of oranges. Students will respond, the whole is how much fruit there is in all. The whole is 13. In math journals, students will copy: Part + Part = Whole. Students will respond, the box of markers. There are 24 markers in all. Students will respond, 2 parts. One part is the red markers, and one part is the blue markers. Students will share, you can take the blue markers out to find out how many are red.

2	markers inside. What is my whole in this problem? What is the value of my whole? How many parts make up this whole? What are my parts? • Tell students, I counted 10 blue markers. How can I use my math skills to determine how many red markers I have? Give students an opportunity to talk with their base group about problem solving strategies. • Circulate to assess participation and understanding. Ask students to translate their explanations using math language. Guide students in writing this connection in their math journals: Whole – Part = Part. **Guided Practice**: Tell students they are going to be "math detectives." Their mission is to use their addition and subtraction skills to solve for missing parts or wholes. • Students will be given teacher created part-whole models with a paper flap taped to cover either a part or a whole. Students will work in partners to solve for the missing number. When a number is solved, the students will raise their hands to show the teacher the addition or subtraction problem they used to solve the missing number. **Assessment**: The teacher will check accuracy of the equation and solution. If she nods her head yes, students can peek under the paper to check their answer. If the teacher sees inaccuracy or confusion, she will provide assistance. **Independent Practice**: Students will complete an addition and subtraction practice page in which they are given a part-whole model with a missing number. Students will write the equation they used to solve for the missing number. Students who complete the task quickly will be provided with additional work. **Assessment**: Monitor student progress. Collect the independent practice work sample to assess understanding.	Students will respond, 24-10=14. Students will write addition or subtraction problems to solve for a missing number in a part whole model. Students will write their number sentences in their math journals. Students will independently complete an addition and subtraction practice page. In math journals, students will copy: Part + Part = Whole. Students will respond, the box of markers. There are 24 markers in all. Students will respond, 2 parts. One part is the red markers, and one part is the blue markers. Students will share, you can take the blue markers out to find out how many are red. Students will respond, 24-10=14. Students will write addition or subtraction problems to solve for a missing number in a part whole model. Students will write their number sentences in their math journals. Students will independently complete an addition and subtraction practice page. Students will write a number sentence to show how the missing number in a part-whole model was found.
	Objective: Students will practice adding ones, then tens in an addition problem with two parts. Students will practice Subtracting ones then tens in a subtraction problem. • Tell students that they are going to strengthen their addition and subtraction skills today by practicing adding and subtracting two digit numbers. • Write the problem 43 + 12 on the white board. Ask students what they	Students will respond, add the ones first. Students will add 3 ones and 2 ones. Students will share their answer, 5 ones. Students will respond, add the tens. Students will add 4 tens and 1 ten to get a sum of 5 tens.

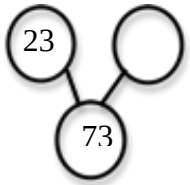
3	would do first to solve this problem. Invite students to complete the first step either mentally or by using a personal white board. Call on several students to share their answers. Write the answer in the ones place on the white board. • Ask students what the next step is. Remind students to use of appropriate math language when describing the process. Invite students to solve to find the sum of the tens. The teacher will write the answer in the tens place on the white board. Say, when we added the ones and tens of these two parts, we calculated the whole number, 55. • Repeat this process with other one or two digit addition problems to meet the needs of the learners' uncertainty. • Write the problem 89 – 37 on the white board. Ask students what we know about this fact family before we do any calculations. Ask students what they would do to calculate the missing part. • Give students an opportunity to try this subtraction problem on personal white boards. Circulate the class to check understanding. Model for students the subtraction of 7 ones from 9 ones first, writing the difference of 2 in the ones place. Then, model the subtraction of 3 tens from 8 tens, writing the difference of 5 in the tens place. Ask students how they might check their answer using addition. Invite students to try on their own first, then show their progress on student-white boards. Explain, we add the part we knew (37) and the part we solved for (52) to check that the sum was equal to our whole (89). • Repeat this process with other one or two digit addition problems to meet the needs of the learners' uncertainty. **Guided Practice**: Put a one or two digit addition or subtraction problem on the board. The students will work in cooperative base groups to complete the task. The first group member will copy the equation onto a personal white board, solve it, and then pass the board to another group member. Each of the remaining three group members must add one number sentence to that fact family. The first group to finish with accuracy "wins!" For each addition or subtraction problem given by the teacher, a different group member will complete the initial solving. **Assessment**: During the activity, the teacher will watch for at-risk students or students who present a pattern of errors and provide them	Students will respond, we know the whole is 89, and one part is 37. We don't know what the other part is. Students will respond, subtract. Students will calculate 89 – 37 by subtracting first the ones, then the tens. Students will add 37 and 52 for a sum of 89. Students will quickly solve one or two digit addition and subtraction problems within a fact family. Students will work interdependently with group members. Students will independently solve addition and subtraction problems in their math journals.

	with small group or one-on-one differentiated instruction with differentiated and scaffolding tools. **Independent Practice**: Write two addition and two subtraction problems on the board. Have students solve these problems in their math journals to use as a study reference. **Assessment**: Monitor student work for skill fluency including accuracy and speed.	
4	**Objective: Students will extract information from a word problem to create a number bond and equation. Students will solve for the missing part or for the whole by using addition or subtraction.** • Review with students the procedure that has been established for adding and subtracting within 100. (Add to find a missing whole; subtract to find a missing part; begin with the ones, then move to the tens place; check your answer by adding or subtracting). • Direct students to a word problem written on the white board. Ask students what we know from the problem, and what we need to find out. Lead a discussion in determining if we must find a sum or a difference to answer the question. **Guided Practice**: On personal white boards, students will create a part-whole model to represent the known and unknown information. Model for students the transfer of information in the part-whole model to an addition or subtraction equation. For example, 13 + ___ = 24, or, 24 – 13 = ___ Repeat this process with several other word problems. **Assessment**: Monitor the class as they extract information from a word problem to create a part-whole representation of the information and transfer the known and unknowns to addition and subtraction equations. **Independent Practice**: Students will write a word problem involving addition or subtraction within 100 on their personal white boards, then trade with a base group member. Each student will draw a part-whole model and solve the problem using an addition or subtraction equation. Repeat this process as time allows. **Assessment**: Monitor the class as they work independently through these word problems.	Students will read the word problem on the white board. Students will discuss language used in the word problem to suggest what type of numerical operation is needed to solve the problem. Students will create a part-whole model to represent the known and unknown information from the word problem. Students will write the equation(s) on their white boards, and solve to find the sum or difference. Students will repeat this process for other word problems, with as-needed assistance from the teacher. Students will solve student created word problems involving addition and subtraction. Students will ask questions, or request assistance from the teacher as needed. Students will transfer the word problem information in the model displayed underneath, generate an equation and solve the problem:  Equation: _____

5	**Day 5 Objective**: **Students will fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.**	Students will complete a summative assessment to measure their ability to fluently add and subtract within 100.

SUMMATIVE ASSESSMENT

Solve the problems:

1) 54 + 14 = _____	**2)** 27 + 33 = _____	**3)** 6 + 44 = _____
4) 82 - 41 = _____	**5)** 79 - 68 = _____	**6)** 25 – 11 = _____
7) Complete the fact family. *34 + 55 = 89* _____ _____ _____		**8)** Complete the number bond by finding the missing number. Please show your work. 
9) Jacie has 14 stamps and her sister has 8. How many more stamps does she have than her sister does?		**10)** Mac scored 27 points in the first half of the game, and 54 points in the second half. How many points did he score all together?

Answer Key: (*1 point each*)

1) 68; **2)** 60; **3)** 50; **4)** 41; **5)** 11; **6)** 14; **7)** 55 + 34 = 89; 89 – 55 = 34; 89 – 34 = 55; **8)** 50 (73 – 23 = 50);

9) Jacie has 6 more stamps than her sister does; **10)** Mac scored 81 points altogether.