Grade Level	Content Area	Course Title *(For 9-12 Samples Only)*	Unit Title
Grade 2	**Mathematics**		Solving word problems

Length of Unit	Time of Year Taught	Expected Prior Knowledge
5 lessons	Spring	Addition and subtraction of numbers to at least 100; Distinguish between addition and subtraction

Unit Description Using Singapore Math Curriculum, students will use 2, and 3 digit numbers in addition and subtraction to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. This Singapore Math unit extends beyond the CCSS to include 3-digit numbers to 999.

Standards: Common Core State Standards for Mathematics	**Domain:** Operations and Algebraic Thinking **Cluster:** Represent and solve problems involving addition and subtraction **Standard**: #1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem (1 See Glossary, Table 1.)
Summative Assessment *In addition to the description, include a copy of the summative assessment in the application package.*	Using 2, and 3 digit numbers students will solve 39 one- and two-step addition and subtraction equation and word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
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.*	The level of mastery is set at 80%. Students must answer 31 out of 39 problems correctly in order to meet mastery.
Materials/Resources Needed *Include all items for the entire unit.*	Highlighters; Smartboard/whiteboard; Unifix cubes; chart, flashcards, colored paper, paste, and scissors; "Magic Box"; *I Can Lick 30 Tigers Today!* Dr. Seuss; digital camera

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Instruction and Timeline Lessons 1-4 will take approx. 1 hour each. Lesson 5 should be spread out over 5 days to allow students adequate time to complete their projects.	Students will use keywords and manipulatives to help solve word problems. Introduction: Today we will be working on problem solving skills. Students will be detectives looking for key words. Together the class will review the key words that represent the operations of addition and subtraction and create a class poster. Students will read aloud the first problem displayed on the Smartboard/board. Teacher will model the underlining (highlighting) of the key words and writing the number sentence. After the students work on an answer, one student is selected to come up to the Smartboard/board. There will be a virtual representation of the word problem. Then student will move the objects to represent the problem (addition or subtraction) and write the out the number sentence and solve the problem. ADAPTATIONS: Illustrations can be used to	Students will use the correct operation in solving word problems. Introduction: Ask the following questions- Do you like to eat cookies? Who among you brought cookies today? Do they have the same taste? What cookies do you like best? Using the "magic box", the teacher picks an activity sheet with a word problem to be read to the class **Problem 1** Lizette served 45 cookies in on a tray. Her friends ate 23 of them. How many cookies were left on the tray? Questions to answer: Who served the cookies? _____ How many cookies were served? _____ Who ate the cookies? _____ How many cookies were eaten? _____ (Let the pupils tell what is asked, given, word clue and operation to be used.) Then demonstrate how to get the correct answer. Emphasize the place value of each digit. **Problem 2** Mother baked 72 chocolate cookies. She sold 38 of them to her neighbors. How many	Solve word problems involving subtraction of number including money, with and without regrouping. Have a short drill on selected subtraction facts. Find the difference of selected subtraction problems with and without regrouping within 100. Group the pupils into 4 groups. Have each group solve the problems. They will illustrate their problems then present their work to the class. Provide provisions for word clues leading to the solutions of the word problems. Review with students: What are the steps to follow in problem solving? What clues are needed to solve word problems involving subtraction? *Evaluation/Assessment:* Students' responses to group activities	Read *I Can Lick 30 Tigers Today!* Tell the children to pay special attention to the story so that they will be able to answer the various word problems the story contains. There are a number of places in the story that are tailor-made for questions. Other questions that will probably come up are: Why does the cat keep sending the tigers away? Why does he want to fight the tigers? Read the story again. Have students raise their hands if they can tell you a problem that needs to be solved. Write the problems on the board as the students respond. Once all problems are written down, call on students to come to the board and solve the problems. Have the students think of a word problem. They will do this at their desks in their pre-assigned learning groups. Ask that the problems be short (2-3 sentences) and that the problem be something that can be answered by the class. Each group will share their problem with the rest of the class. The class will then solve the problem. *Assessment/Evaluations:* Teacher observations	Provide five 30-minute sessions to work on the following activity. This will be the final project for this unit. Students will work in pairs to think about where they encounter math in their lives. Begin by brainstorming a list of places in which they find math. (Provide a few ideas to get them started.) Then encourage students to be creative as they find math in unusual places, dress themselves up, and stage photos. **Some "Photograph Math" Photo Opportunities** Students might take a photo of a sign inside a local fast-food restaurant. Depending on their grade and skill levels, they could write problems that involve figuring the cost of different meals, change they would receive from a $10 bill, what they might buy if they only had $2 in their pockets, and so on. A couple of kids might pose by a street sign that announces how many miles it is to neighboring towns and then create word problems to accompany the photo. Word problems could involve calculating mileage, distances between two points, how long

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	solve equations. Manipulatives such as pop cubes can be used to represent concepts as well. *Assessment/Evaluations:* Teacher Observation Student participation Exit Card	chocolate cookies were left? Questions to answer: Who baked the chocolate cookies? _____ To whom did she sell her chocolate cookies? _____ How many chocolate cookies were left? _____ (Same procedure in problem 1 will be used for this problem.) **Problem 3** Ask your pupils to raise their pencils up and count those who have yellow ones. Then count the pencils that are not yellow. Then, write it on the board. Yellow pencils _____ Other pencils _____ After getting the data, writ the problem on the board. Show the pupils how to get the correct answer. *Assessment/Evaluation:* Teacher observations Student responses to problems and group activities		Student responses to word problems.	it will take to get from place to place if they travel 35 miles per hour, and so on. Kids might stand in mannequin-like poses as they model clothing with big price tags attached. Word problems challenge students to figure the cost of the outfits in different combinations, how much change they would get if they paid for a shirt with a $20 bill, how much sales tax would be added to an outfit in your locale, and so on. Students might strategically locate large items -- such as a trash barrel, a bicycle, and a chair -- on the playground outside their classroom and then take a photo, enlarge it, and attach a scale that indicates (for example) that every inch on the photo equals 20 feet. The problem could ask students to figure out the distance between the trash barrel and the bicycle, whether the trash barrel is closer to the bicycle or the chair, how much closer one item is to another, and so on. Students might dress up as characters from a book, TV show, or popular movie, pose themselves in a funny scene, and write problems that relate to the characters, the book, or the show. The possibilities are limited only by the students'

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					(unlimited) imagination! After pairs/groups have created their photos and word problems, encourage them to meet with another pair/group to critique each other's efforts, test the word problems, and offer editing advice. Then the work will be ready for prime time! Create a class math book of word problems or set up a Word Problems of the Week learning center!

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Student Activities and Timeline	Students will work to solve the problems presented on the board. Students will go through each problem one at a time. Students will complete an exit card at the completion of the lesson to check understanding of the lesson. Extension Activity: Students will work in groups to create word problems.	Students will answer the following problems: a. There are 56 eggplants, 25 are big. How many are small? What is the correct answer? b. Beverly planted 34 roses in the flowerpots. She gave 16 of them to her mother as a gift. How many roses were left? What is the correct answer? c. Kimberly made 39 paper hearts. She gave 17 of them to her friends. How many paper hearts were left? What is the correct answer? Read the problems carefully. Write the correct answer. a. There are 28 girls in grade 1. If 13 of them have long hair, how many have short hair? What is correct operation?_____ Write the correct answer	Each group will work to solve the problems given. They will also illustrate their word problems. **Group1** 1) The farmer gathered 176 pineapples last month. This month, he harvested 70 pineapples. How many more pineapples did he harvest this month than last month? 2) Mrs. Kelly wants to buy a washing machine worth $185.00. She has $115.00 cash on hand. How much more money does she need in order to buy the washing machine? **Group 2** 1) A fisherman sold 232lbs of fish. If 156lbs were sold in 4 days, how many lbs of fish were sold in the other 3 days? 2) Mr. Perez bought a car that costs $826.00. After five years,	The student will listen to a story and identify word problems. The student will work in groups to write a word problem to be solved by the class. Students will solve word problems created by other students.	Students will work in pairs or a group to create a word problem, which they will illustrate by taking digital photos. Students will critique each other's efforts, test the word problems, and offer editing advice. Students will create a class math book of word problems.

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		_____ b. Miss Reyes collected angel figurines. She had already 86 pieces. She gave away 48 as gifts to her class. How many angel figurines were left to her? What is the correct operation? _____ Write the correct answer _____ Students will participate in group activities: **Group I – Draw and color (use drawing paper)** Abigail drew 18 butterflies. Then, Paula colored 7 of them yellow. Peter put the colored butterflies in a box. How many butterflies were not colored? **Group 2 – Cut and paste** Given pieces of red paper, cut 39 hearts. Give 22 of them to the girls in the class. How many hearts were left for the boys? Paste the heart to a piece of bond paper to make a Valentine's card. Example: **Group 3 – Collect and put in the box** 1. Collect 21 leaves (16 green leaves – 5 brown leaves = _____) 2. Collect 25 straws (17 red straws – 8 green straws = _____) 3. Collect 12 stones (8 small stones – 4 big stones)	she decided to sell the old car for $738.00 How much is the cost difference? **Group 3** 1) A farmer harvested a total of 404 watermelons last year. This year, he was able to 598 watermelons. What is the difference between the watermelons harvested this year and last year? 2) A big library has 459 books on the shelves. There are 79 Science books, How many books are not Science books? **Group 4** 1) There were 450 computers at St. Mary's school. After the school year, it was discovered that 86 were not functioning. How many computers were in good condition? 2) Jill sold fruit at a public market. She had 156 mangoes . At the end of the day, she had only 94 left. How many mangoes were sold on that day? Students will present their answers to the class.		

Find the value of each of the following:

	(a)	(b)	(c)
1.	316 + 70	287 + 40	153 + 57
2.	185 + 65	333 + 78	425 + 75
3.	409 + 98	176 + 54	399 + 99
4.	751 − 20	505 − 50	214 − 36
5.	400 − 198	422 − 63	600 − 98

6. Find the missing number in each of the following:

(a) ☐ + 35 = 53 (b) 100 − ☐ = 85

(c) ☐ + 68 = 70 (d) 72 − ☐ = 41

(e) 28 + ☐ = 100 (f) ☐ − 46 = 37

7. There are 92 students in a school cafeteria.
57 of them are boys.
How many girls are there?

8. Seth had $500.
He bought a washing machine and had $98 left.
Find the cost of the washing machine.

9. Find the next two numbers in this regular number pattern:

99	198	297	396	?	?

10. (a) A number has 4 tens, 5 ones and 7 hundreds. What is the number?
    (b) Write the number in words.

11. After using 255 eggs to make cakes, Mrs. Ward had 45 eggs left.
    How many eggs did she have at first?

12. Mr. Hernandez made 185 chicken tortillas.
    He made 28 more cheese tortillas than chicken tortillas
    How many cheese tortillas did he make?

13. Joshua is 135 cm tall.
    He is 29 cm shorter than David.
    Find David's height.

14. John weighs 65 lb.
    His sister weighs 19 lb less.
    What is her weight?

15. 1000 people were invited to an exhibition.
    Only 958 people were present at the exhibition.
    How many people were **not** present?

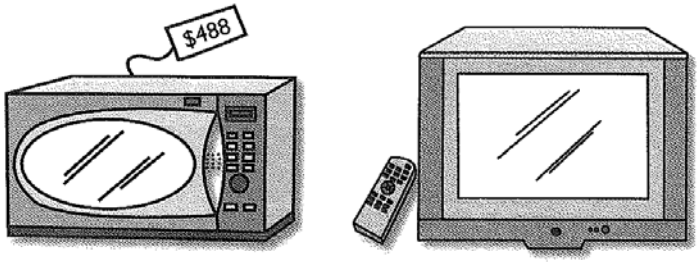
16. Mrs. Owens sold 105 eggs on Monday morning.
    She sold 95 eggs on Monday afternoon.
    Find the total number of eggs she sold on Monday.

17. Raj had a rope 18 ft long.
    He cut it into 3 equal pieces.
    Find the length of each piece.

18. Juan sold 215 copies of newspapers on Saturday.
    He sold 285 copies of newspapers on Sunday.
    (a) How many copies of newspapers did he sell on both days?
    (b) How many more copies of newspapers did he sell on Sunday than on Saturday?

19. Stacie had 200 kg of cherries.
    She sold 86 kg on the first day and 54 kg on the second day.
    (a) How many kilograms of cherries did she sell altogether?
    (b) How many kilograms of cherries did she have left?

20. The television costs $85 less than the microwave.
    (a) Find the cost of the television.
    (b) Find the total cost of the television and the microwave.



Answer Key: (39 points)

1 a) 386	b) 327	c) 210
2 a) 250	b) 411	c) 500
3 a) 507	b) 230	c) 498
4 a) 731	b) 455	c) 178
5 a) 202	b) 359	c) 502

6 a) 18 b) 15
c) 2 d) 31
e) 72 d) 83

7. 35
8. $402
9. 495, 594
10. a)745
b) Seven hundred forty five
11. 300 eggs
12. 213 cheese tortillas
13. 164 cm
14. 46 lb
15. 42 people
16. 200 eggs
17. 6 ft
18. a) 500 copies; b) 70
19. a) 140 kg; b) 60 kg
20. a) $403; b) $91