



San Diego Unified School District

Instructional Module to Enhance the Teaching of

HARCOURT

Math

California Edition

Grade 1

Module 2 - Revised

Addition and Subtraction

Facts to Ten

- WORK IN PROGRESS -

San Diego City Schools
 Instruction and Curriculum Division
MATHEMATICS CURRICULUM MAP – GRADE 1

MODULE 2 – Addition and Subtraction Facts Through Ten
Modules represent individual units of study that lead to essential learnings

THREADS THROUGHOUT THE YEAR- FIRST GRADE

This represents what students should do throughout all modules (units of study). These items should not be isolated to a particular unit of study.

Students will:

Develop understanding of numbers and the number system and use their understanding to solve problems and recognize reasonable results.
 Use mathematical reasoning to solve problems.

Develop understanding of and fluency in basic computation and procedural skills.

Communicate their mathematical thinking by using words, numbers, symbols, graphs and charts., and describe different representations

Express generalizations of patterns and relationships.

Make connections among mathematical ideas and between other disciplines.

Develop and use strategies, skills, and concepts to solve problems.

Use appropriate tools, including technology as vehicles to learn mathematical concepts.

Essential learnings that represent bigger ideas/concepts

- Students recognize and know the parts of numbers to 10.
- Students understand that numbers are related to each other in a wide variety of relationships.
- Students understand that number relationships that can be used to find efficient strategies to solve problems for numbers to 12 and to retrieve facts
- Students utilize what they know about addition to think about and solve subtraction problems

Essential questions that will lead to the essential learnings

- How can I utilize what I know about addition to help me with subtracting numbers to 12?
- How can I apply what I know about number relationships (e.g. doubles, doubles plus one, one more/less) to help me retrieve addition and subtraction facts to 10?
- How can I use different representations to show the differences and sums through twelve?
- How can I use different representations to show how subtraction and addition are related to each other in fact families?
- How can I take numbers apart and recombine them to solve problems?

REVISIONS: Van de Walle, Chapter 12, p. 179. Chapter 13, 206, K. Richardson, Hiding Assessment; Combination Trains, Ten Frames; Mathematics Source Book, pp. 14 - 26

Module 2
Harcourt Math, Grade 1
 Order of Units
 Days 27 – 52

<p>Module 2 Unit 2 Addition and Subtraction Facts to Ten 25 Days</p>	<p>Chapter 5: Addition Strategies</p> <ul style="list-style-type: none"> • Lesson 5.1 Count On 1 and 2 • Lesson 5.2 Count On 1, 2, and 3 • Lesson 5.3 Doubles • Lesson 5.4 Doubles Plus 1 • Lesson 5.5 Problem Solving: Draw a Picture <p>Chapter 6: Addition Facts Practice</p> <ul style="list-style-type: none"> • Lesson 6.1 Remember the Facts • Lesson 6.2 Practice Sums Through 8 • Lesson 6.3 Practice Sums Through 10 • Lesson 6.4 Algebra: Follow the Rule • Lesson 6.5 Problem Solving: Write a Number Sentence <p>Chapter 7: Subtraction Strategies</p> <ul style="list-style-type: none"> • Lesson 7.1 Count Back 1 and 2 • Lesson 7.2 Count Back 3 • Lesson 7.3 Relate Addition and Subtraction • Lesson 7.4 Problem Solving: Draw a Picture <p>Chapter 8: Subtraction Facts Practice</p> <ul style="list-style-type: none"> • Lesson 8.1 Remember the Facts • Lessons 8.2 and 8.3 Practice Subtraction Through 10 • Lesson 8.4 Algebra: Follow the Rule • Lesson 8.5 Fact Families • Lesson 8.6 Problem Solving: Choose the Operation <p>Assessment</p> <p>Problem Solving Workshop/Assessment</p>
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Module 2
Harcourt Math: Grade 1
Addition and Subtraction Concepts
25 Days

<u>Day 1</u> Unit 2 Lesson 5.1	<u>Day 2</u> Unit 2 Lesson 5.2	<u>Day 3</u> Unit 2 Lesson 5.3	<u>Day 4</u> Unit 2 Lesson 5.3	<u>Day 5</u> Unit 2 Lesson 5.4
<u>Day 6</u> Unit 2 Lesson 5.4	<u>Day 7</u> Unit 2 Lesson 5.5	<u>Day 8</u> Unit 2 Lesson 6.1	<u>Day 9</u> Unit 2 Lesson 6.2	<u>Day 10</u> Unit 2 Lesson 6.3
<u>Day 11</u> Unit 2 Lesson 6.4	<u>Day 12</u> Unit 2 Lesson 6.5	<u>Day 13</u> Unit 2 Lesson 7.1	<u>Day 14</u> Unit 2 Lesson 7.2	<u>Day 15</u> Unit 2 Lesson 7.3
<u>Day 16</u> Unit 2 Lesson 7.4	<u>Day 17</u> Unit 2 Lesson 8.1	<u>Day 18</u> Unit 2 Lesson 8.2 Lesson 8.3	<u>Day 19</u> Unit 2 Lesson 8.4	<u>Day 20</u> Unit 2 Lesson 8.5
<u>Day 21</u> Unit 2 Lesson 8.6	<u>Day 22</u> Assessment	<u>Day 23</u> Problem Solving Workshop	<u>Day 24</u> Problem Solving Workshop	<u>Day 25</u> Problem Solving Workshop

Day 1
 Addition and Subtraction Facts to Ten
 Chapter 5: Addition Strategies
 TE pages 65A, 65-66
 LESSON 5.1

In this lesson, children are introduced to the first of several mental strategies that help them learn basic facts. Providing students with different problem types helps to encourage strategy development in young children. When possible, adapt some of the problems in Harcourt to “*change unknown/ missing addend*”; i.e., I have 6 books. My mom gave me some more books for my birthday. Now I have 8 books. How many books did my mom give me for my birthday? *Change unknown/missing addend* problems follow the format: $6 + \square = 8$.

Note that strategies must make sense to the child. No child should be forced to use a strategy that doesn't make sense to him/her. Some children may choose to not use the count-on strategy even when they have been shown how to use this strategy. Students will need many opportunities in order for them to make meaning of a particular strategy.

LESSON FOCUS:	Count On 1 and 2
CALIFORNIA STANDARD:	Number Sense 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
Purpose of Lesson:	To count on 1 and 2 to find sums.
ROUTINE	<p>Mixed Review and Test Prep: TE, pg. 66</p> <ul style="list-style-type: none"> • Continue to ask students to use Calendar, Number Line, Hundred Chart, and Choral Counting or P.O.D: TE, pg.65A. • Continue to keep the Number Line and Hundred Chart visible to students to use as a tool for solving problems. • Continue questioning each day: • How did you think about the problem to come up with the answer? • Did anyone think about it another way? • What was your strategy? • Explain how you got your answer.
LAUNCH Materials:	<p>Getting Started: Model Counting On: TE pg 65A “Counting On” is a strategy that some students already use. They have probably even shared this strategy when you asked questions like, “How did you find out how many in all?”</p> <ul style="list-style-type: none"> • Remind students of these occasions and ask those students who use this strategy to demonstrate it with the counters and cups.

	<ul style="list-style-type: none"> • Ask, "Why do you like counting on to find your answer?"
EXPLORE	<p>Challenge 5.1:</p> <ul style="list-style-type: none"> • Instead of using the worksheet, you might pose these problems orally first. Adaptations of the worksheet are on the next page and provide students with change unknown/missing addend problem types. <p>Possible observations:</p> <ul style="list-style-type: none"> • Do the students count on or do they still count all? • Do they know without counting (have derived facts)? If so which numbers? • Do they know when they have made a mistake and self correct?
SUMMARIZE	<p>Discuss and Write: TE pg. 66. Tell and show a friend how to count on to find the sum of $7 + 2$.</p>
Homework	<p>Suggestion: Family Involvement Activities pg. FA 17 Reteach Master 5.1.</p>

NAME _____

Find the answer to each problem. Write a number sentence for each.

1. Kara had 8 stickers.
She found some more.
Now she has ten stickers.
How many stickers did she find?

2. Michael had 5 pens.
He found some more pens.
Now he has seven pens.
How many pens did he find?

3. Luis read 6 books in school.
He read some more books when he went home.
Altogether he read 8 books.
How many books did he read at home?

4. Maria completed 8 puzzles.
She did one more.
How many puzzles did she do in all?

5. Ana drew 9 pictures.
She drew one more.
How many pictures did she draw in all?

DAY 2:
Addition and Subtraction Facts to Ten
Chapter 5: Addition Strategies
LESSON 5.2
TE pages 67A, 67-68

LESSON FOCUS:	Count On 1,2 and 3
CALIFORNIA STANDARD:	Number Sense 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
Purpose of Lesson:	To use counting on 1, 2, and 3 to find sums to 10.
ROUTINE	Suggestion: Mixed Review and Test Prep- TE, pg. 68 P.O.D.: TE, pg. 67A
LAUNCH Read Aloud pp. AN14-15	Getting Started: Literature Connection: TE pg. 68. <ul style="list-style-type: none"> • Read Aloud “Six Foolish Fisherman” pp. AN14-15 and discuss the six brothers. • Have children demonstrate how the brothers used the counting on strategy incorrectly and how that error led to their thinking that one brother was missing.
EXPLORE Materials: For partners – a number strip (on next page), counters, spinner (p. TR103) paper, pencils for each	Introduce Activity: Intervention Strategies and Activities: Skill 16: pg. IS102 only: Alternative Teaching Strategy Students work in pairs on Skill 16. Teach and Practice: TE, pg. 67-68. <ul style="list-style-type: none"> • Modification: On page 69, tell students they only have to complete the number sentences that have sums of 6 or greater (of course they will have to think about all the problems to know which have sums of six or greater).
SUMMARIZE	Ask: <ul style="list-style-type: none"> • How did you figure out which problems to do? • Did anyone have another strategy? • How did you solve the addition problems today? • Connect discussion with the purpose of the lesson.
Homework	Suggestion: Problem Solving Master 5.2.

1	2	3	4	5	6	7	8	9
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1	2	3	4	5	6	7	8	9
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1	2	3	4	5	6	7	8	9
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1	2	3	4	5	6	7	8	9
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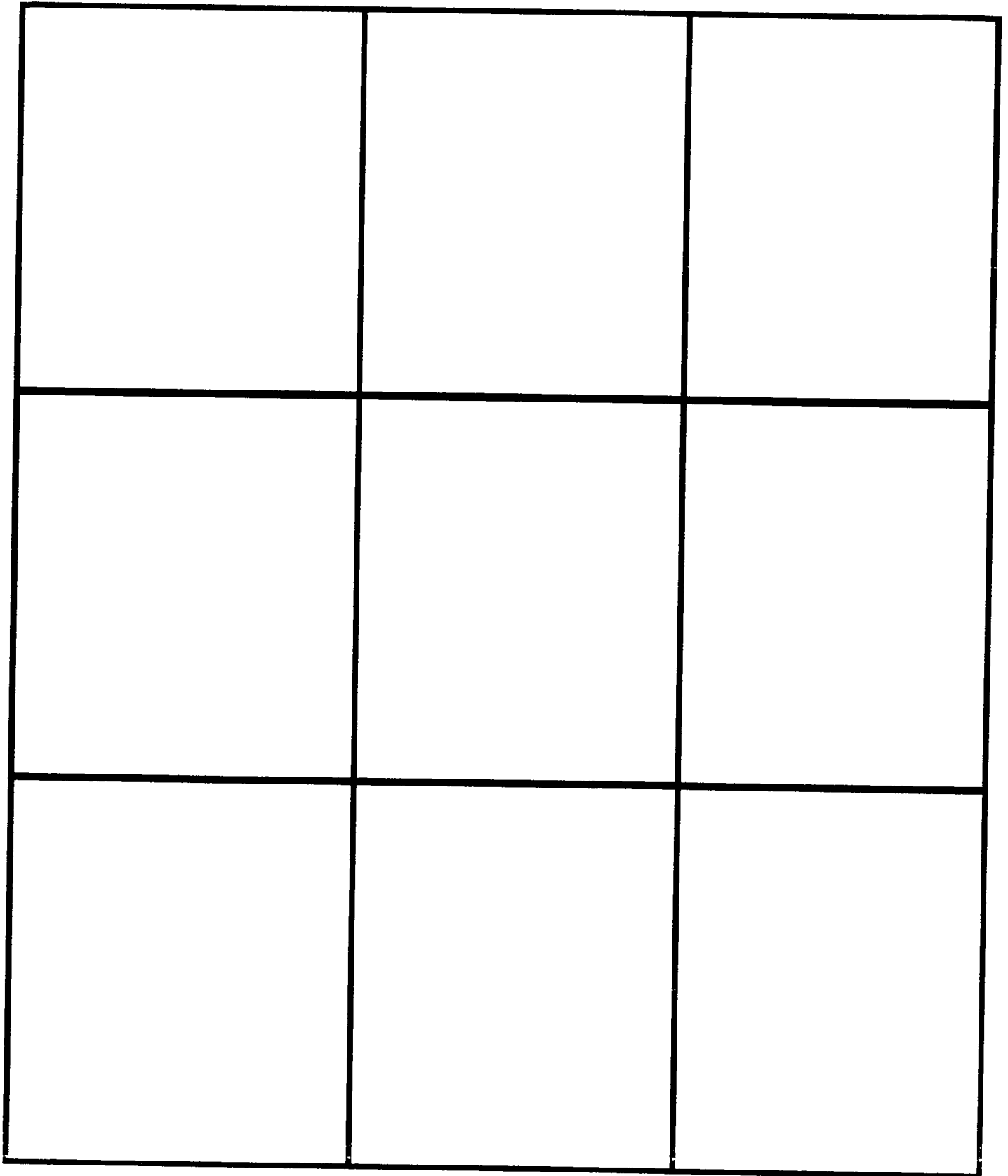
DAY 3
 Addition and Subtraction Facts to Ten
 Chapter 5: Addition Strategies
 LESSON 5.3
 TE pages 68A, 69A

LESSON FOCUS:	Doubles
CALIFORNIA STANDARD:	Number Sense 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
Purpose of Lesson:	To use doubles to find sums to 10.
ROUTINE	Suggestion: Advanced Learner Activity: TE, pg. 68A Instead of making books yourself, use 10 short, familiar picture books with page numbers that are easy to read. Or P.O.D.: TE, pg. 69A.
LAUNCH Materials: For partners – 8 two-color counters	Getting Started: Model Doubles: TE pg 69A. <ul style="list-style-type: none"> • To review count on 3, ask a child in each group to place three counters in a row and then place three more below the row. Children <i>may</i> practice the strategy of counting on. • Explore doubles with manipulatives. Ask one partner to place between 1 and 5 counters in a row. Have the other partner match the number of counters in a new row. Have partners count all the counters to find the sum. Invite partners to make additional doubles with their counters and then find their sum.
EXPLORE Materials: For each child – 10 connecting cubes Workmat 2 (p. TR114)	Introduce Activity: <ul style="list-style-type: none"> • Ask students to use their connecting cubes to show the doubles facts from 1+1 to 5+5. Ask them to line them up next to each other from least to greatest. • Ask: What patterns do you notice? What would happen if we continued this pattern with 6+6, 7+7, and so on through 10+10? • Write doubles and their sums on the board. • Tell students that <i>the sums of doubles are called even numbers.</i> • Demonstrate how to use cube trains of 5 and 5 stacked on top of each other to count by twos to 10. Practice together. Use the number grid to skip count to 20. • Tell students that when you skip count starting at 0, you're saying only even numbers. Practice another time using the number line. Point out that the numbers you are chanting are the same as the sums you wrote on the board.

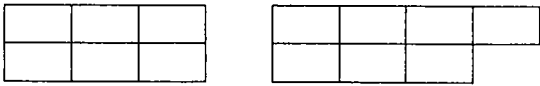
	<ul style="list-style-type: none"> • Tell students that <i>all even numbers are the sums of doubles.</i> • Instruct students to hold up their cube trains of 5 and 5 again. Ask: What is the sum of the double 5+5? (10) 10 is an even number because _____ (It is the sum of a double.) • What is the double whose sum is 6? (3) • What is the double whose sum is 12? (6) • Encourage students to use connecting cubes to solve and demonstrate their answers. <p>Optional: Teach and Practice: TE, pg. 69-70 Ask students to circle doubles facts on page 70 and only complete those problems.</p>
SUMMARIZE	Discuss and Write: TE pg. 70. Tell what it means to add doubles and give an example.
Homework	Suggestion : Family Involvement Activities: pg. FA20

DAY 4
 Addition and Subtraction Facts to Ten
 Chapter 5: Addition Strategies
 LESSON 5.3 Continued
 TE pages 69, 70A

LESSON FOCUS:	Doubles
CALIFORNIA STANDARD:	Number Sense 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
Purpose of Lesson:	To use doubles to find sums to 10.
ROUTINE Materials: For each child – 14 connecting cubes	<p>Suggestion: Quick Review</p> <ul style="list-style-type: none"> • Ask: How can you prove that 14 is an even number? (It is the sum of the double 7+7). • Demonstrate that another way to determine if a number is even is to use counters to represent the number. • Count out 14 connecting cubes. Give each counter a buddy (group counters by twos). If there are no counters left by themselves (each one has a buddy) then the number is even. <p>Or P.O.D.: Julie and Philip each have the same number of cats. Together they have 4 cats. How many cats does Julie have? Does she have an even number of cats? How do you know?</p>
LAUNCH	<p>Getting Started: Reteach Master 5.3, TE, pg. 69.</p> <ul style="list-style-type: none"> • Ask students to share how they are solving the problems.
EXPLORE For partners – 2 sets of cards with doubles facts (0+0 to 5+5), 9-square grid, 14 two-color counters	<p>Partner Activity: Advanced Learners TE, pg. 70A: Doubles Bingo</p> <ul style="list-style-type: none"> • Students can make their own grids (can use blackline master on next page) by writing numbers: 0, 2, 4, 6, 8, 10 in random order in each square. Give each player a grid and 7 counters. • Ask children to shuffle the fact cards and place them face down. Players take turns picking a card, figuring the sum, and placing a game piece on that sum. The first player to get a complete row, column, or diagonal is the winner.
SUMMARIZE	Discuss and Write: Tell me everything you know about even numbers.
Homework	Suggestion: Practice Master 5.3



DAY 5
 Addition and Subtraction Facts to Ten
 Chapter 5: Addition Strategies
 LESSON 5.4
 TE pages 71, 71A

LESSON FOCUS:	Doubles Plus 1
CALIFORNIA STANDARD:	Number Sense 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
Purpose of Lesson:	To use doubles plus one to find sums to 10.
ROUTINE	Suggestion: Quick Review - TE, pg.71. Continue to practice skip counting using Hundred Chart and Number Line. Ask: Is 11 an even number? Why not? Or P.O.D.: TE, pg. 71A
LAUNCH For partners – 2-color counters, Workmat 2 (p.TR 114)	Getting Started: Model Doubles Plus One: TE pg 71A. <ul style="list-style-type: none"> • To review doubles have one partner place 3 counters on his or her workmat. Then have the child’s partner place 3 more, matching them 1 for 1. • What is the math word for the two sets counters you just made? (doubles) • How can you find the sum of doubles? • Write $3 + 3 = 6$ on the board. Now add another counter to one of the sets. How can we find the sum now? On the board, write $6 + 1 = 7$
EXPLORE	<p>Teach: TE, pg. 71.</p> <ul style="list-style-type: none"> • Work through the model with children. Look at the pictures under the word doubles. There are two equal sets of 4. <i>When you add them how many do you have in all?</i> • Now look at the pictures under doubles plus one. <i>What is different? When you add one more to the doubles, what sum do you get? What is the number sentence that shows this?</i> <p>Reteach Master 5.4: TE, pg.71 Tell Students: If you take the sum of a double (even number) and add 1, it becomes an odd number. <i>The sums of doubles plus one are odd.</i></p> <div style="text-align: center;">  </div>

SUMMARIZE	Revisit the lesson's objective, connecting discussion with the purpose of the lesson.
Homework	Suggestion: Practice Master 5.4.

DAY 6
 Addition and Subtraction Facts to Ten
 Chapter 5: Addition Strategies
 LESSON 5.4 Continued
 TE pages 70A, 72

LESSON FOCUS:	Doubles Plus 1
CALIFORNIA STANDARD:	Number Sense 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
Purpose of Lesson:	To use doubles plus one to find sums to 10.
ROUTINE	<p>Suggestion: Mixed Review and Test Prep -TE, pg. 72.</p> <ul style="list-style-type: none"> • Skip count starting at 1 to 21. • Ask students to share what they know about doubles plus one. <p>Or P.O.D.: Brian had 4 avocados. Shelly had 5. They put them in a bag together to ripen. How many were in the bag?</p>
<p>LAUNCH Materials: For partners – 2 sets of cards with double facts (1+1, 2+2, etc. TR 1-8), 9-square grid (Day 3), 14 two-color counters</p>	<p>Introduce Activity: Advanced Learners TE pg. 70A: Doubles Bingo</p> <ul style="list-style-type: none"> • Partners play 1 or 2 rounds. After one or two rounds, give each pair the doubles plus one Addition Fact Cards (pg. TR1-8) and a blank 9-square grid (see Day 4). • Ask them to use the new fact cards to make a new game board by writing sums in the squares.
<p>EXPLORE For partners – 2 sets of cards with double plus one facts, 9-square grid (Day 3), 14 two-color counters</p>	<p>Partners play Doubles Plus One Bingo.</p> <p>Optional: Practice: TE, pg. 72; Workbook pg. 72.</p>
SUMMARIZE	<p>Discuss and Write:</p> <ul style="list-style-type: none"> • What strategies could you use to find 5+6?
Homework	Suggestion: Family Involvement Activities pg. FA19.

