



San Diego Unified School District

Instructional Module to Enhance the Teaching of

HARCOURT

Math

California Edition

Grade 2

Module 12 - Revised

Addition and Subtraction

– WORK IN PROGRESS –

Harcourt Math – Grade 2

MODULE 12:
10 Days

Key Mathematical Concepts:

- Add multidigit numbers
- Add and subtract money amounts
- Subtract multidigit numbers
- Solve problems
- Estimate sums and differences

<p>Chapter 27 Use Addition and Subtraction Lesson 27.1: Add and Subtract Money Lesson 27.2: Estimate Sums and Differences Lesson 27.3: Practice Adding and Subtracting Three-digit Numbers Lesson 27.4: Problem Solving: Multi Step Problems Assessment</p>

Module 12: Use Addition and Subtraction

Days 161 - 170
10 days

<p><u>Day 1</u> Unit 6 Lesson 27.3</p>	<p><u>Day 2</u> Unit 6 Lesson 27.3</p>	<p><u>Day 3</u> Unit 6 Lesson 27.3</p>	<p><u>Day 4</u> Unit 6 Lesson 27.3</p>	<p><u>Day 5</u> Unit 6 Lesson 27.3</p>
<p><u>Day 6</u> Unit 6 Lesson 27.3</p>	<p><u>Day 7</u> Unit 6 Lesson 27.1</p>	<p><u>Day 8</u> Unit 6 Lesson 27.2</p>	<p><u>Day 9</u> Unit 6 Lesson 27.2</p>	<p><u>Day 10</u> Unit 6 Assessment</p>

MODULE 12 – ADDITION AND SUBTRACTION
Modules represent individual units of study that lead to essential learnings

THREADS THROUGHOUT THE YEAR:

The threads represent ongoing learning opportunities in which students should be actively engaged throughout all units of inquiry during the entire school year. These items should not be isolated to any one particular unit of inquiry
Students will:

- Develop understanding of numbers and the number system and use their understanding to solve problems and recognize reasonable results.
- Develop understanding of and fluency in basic computation and procedural skills.
- Use mathematical reasoning to solve problems.
- Communicate their mathematical thinking by using words, numbers, symbols, graphs and charts.
- Express generalizations of patterns and relationships.
- Develop logical thinking to analyze evidence and build arguments to support or refute a hypothesis.
- 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.

These are essential learnings that represent bigger ideas/concepts:

- Students develop efficient strategies to estimate, calculate and solve problems involving addition and subtraction of two and three-digit numbers.
- Students utilize what they know about place value to compute sums and differences mentally.

These are essential questions that learners ask themselves in order to achieve the essential learnings:




- How can using number relationships help me solve addition and subtraction problems for two digit* and three-digit numbers?
- How can I add tens and then add ones to solve addition problems for two-digit numbers?
- How can I add hundreds and then add tens (and then add ones) for three-digit numbers?
- How do I take apart and recombine numbers in a variety of ways for finding sums and differences?
- How can I estimate the answers for operations involving two and three digit numbers?
- How do I recognize what strategy to use for a specific problem?
- What strategies do I use to compute sums and differences mentally?

* Presented in previous grade(s)

Resources: Van de Walle, Chapter 13, pp. 201-214; Mathematics Source Book, pp. 14-26

DAY 1:
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.3
 TE, P. 403A

LESSON FOCUS:	Addition and Subtraction of Multidigit Numbers																							
CALIFORNIA STANDARD:	Number Sense 2.2 Find the sum or difference of two whole numbers up to three digits long.																							
PURPOSE OF LESSON:	Understand strategies for combining, comparing, and separating 3-digit numbers.																							
ROUTINE: Materials: • <i>Tens/Ones/Hundreds Relationships</i> overhead	<p>Suggestion: Number of the Day</p> <ul style="list-style-type: none"> • Have students brainstorm equations that equal the number of days they have been in school. Emphasize using hundreds. On the class number line and 10x18 square chart, fill in the numbers since the last time Number of the Day routine. <p>Suggestion: Tens/Ones/Hundreds Relationships Students assist in completing and adding to a group chart:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Knowing...</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>Help me to know...</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>As well as...</u></th> </tr> </thead> <tbody> <tr> <td>4 + 3</td> <td>4 tens + 3 tens 40 + 30</td> <td>4 hundreds + 3 hundreds</td> </tr> <tr> <td>6 – 2</td> <td>6 tens - 2 tens 60 – 20</td> <td>6 hundreds – 2 hundreds 600 – 200</td> </tr> <tr> <td>4 + 5</td> <td>4 tens + 5 tens 40 + 50</td> <td>4 hundreds + 5 hundreds 400 + 500</td> </tr> <tr> <td>4 – 1</td> <td>4 tens – 1 ten 40 – 10</td> <td>4 hundreds – 1 hundred 400 – 100</td> </tr> <tr> <td>8 - 3 =</td> <td>8 tens – 3 ten 80 – 30 =</td> <td>8 hundreds – 3 hundreds 800 – 300 =</td> </tr> <tr> <td>6 – 4 =</td> <td>6 tens – 4 tens 60 – 40 =</td> <td>6 hundreds – 4 hundreds 600 – 400 =</td> </tr> </tbody> </table>			<u>Knowing...</u>	<u>Help me to know...</u>	<u>As well as...</u>	4 + 3	4 tens + 3 tens 40 + 30	4 hundreds + 3 hundreds	6 – 2	6 tens - 2 tens 60 – 20	6 hundreds – 2 hundreds 600 – 200	4 + 5	4 tens + 5 tens 40 + 50	4 hundreds + 5 hundreds 400 + 500	4 – 1	4 tens – 1 ten 40 – 10	4 hundreds – 1 hundred 400 – 100	8 - 3 =	8 tens – 3 ten 80 – 30 =	8 hundreds – 3 hundreds 800 – 300 =	6 – 4 =	6 tens – 4 tens 60 – 40 =	6 hundreds – 4 hundreds 600 – 400 =
<u>Knowing...</u>	<u>Help me to know...</u>	<u>As well as...</u>																						
4 + 3	4 tens + 3 tens 40 + 30	4 hundreds + 3 hundreds																						
6 – 2	6 tens - 2 tens 60 – 20	6 hundreds – 2 hundreds 600 – 200																						
4 + 5	4 tens + 5 tens 40 + 50	4 hundreds + 5 hundreds 400 + 500																						
4 – 1	4 tens – 1 ten 40 – 10	4 hundreds – 1 hundred 400 – 100																						
8 - 3 =	8 tens – 3 ten 80 – 30 =	8 hundreds – 3 hundreds 800 – 300 =																						
6 – 4 =	6 tens – 4 tens 60 – 40 =	6 hundreds – 4 hundreds 600 – 400 =																						
LAUNCH: Materials: • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i>	<p>Solving Problems:</p> <ul style="list-style-type: none"> • Give students a problem to solve: <i>The first grade sent 118 students to the multipurpose room for an assembly. The second grade sent 246 students to the multipurpose room for an assembly. How many students were in the multipurpose room then?</i> • To ensure that students understand what is happening in the problem, ask volunteers to retell the story problem. • Discuss: What are ways that you could solve this problem? 																							

	<ul style="list-style-type: none"> • When solving this join/result unknown problem, it is important that students use a method that makes sense to them. Some strategies students are likely to use include modeling the problem with materials (building the initial quantity, building the second quantity, joining them together and counting to find the final quantity) and counting (on from the initial or greater quantity). • Students may also knowledge of number relationships (e.g., $100 + 200 = 300$; $10 + 40 = 50$; $8 + 6 = 14$; $300 + 50 + 14 = 364$) 						
<p>EXPLORE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i> 	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. • Chart students' strategies. • Discuss how to represent the problem in an equation. Record the equation horizontally. 						
<p>PRACTICE:</p>	<p>As time allows:</p> <ul style="list-style-type: none"> • Students solve the same problem using a different strategy, write their own problem and solve it and/or trade word problems with a partner and solve the problem. 						
<p>SUMMARIZE:</p>	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. • Record what they did on a class chart. • Discuss how to represent the problem in an equation. • Record the equation horizontally. • Be explicit with partial addends. <p style="text-align: center;"><i>I know a student who solved the problem like this:</i></p> <p style="text-align: center;"> $118+246$ $100+200=300$ $10+40=50$ $8+6=14$ $300+50+14$ $350+14$ $360+4$ 364 </p> <p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students. 						
<p>HOMEWORK:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>One copy of P. TR 16 and 17 per student (students will use these materials in future activities)</i> • <i>Homework: Building Numbers worksheet</i> 	<p>Suggestion:</p> <ul style="list-style-type: none"> • Students cut out base ten materials from TR Pg. 16 and 17. Students build three digit numbers using these materials. They record on a chart: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Number</th> <th style="text-align: center; border-bottom: 1px solid black;">Picture</th> <th style="text-align: right; border-bottom: 1px solid black;">Words</th> </tr> </thead> <tbody> <tr> <td style="border-top: 1px solid black;">243</td> <td style="border-top: 1px solid black; text-align: center;">  </td> <td style="border-top: 1px solid black; text-align: right;"> two hundreds four tens three ones </td> </tr> </tbody> </table>	Number	Picture	Words	243		two hundreds four tens three ones
Number	Picture	Words					
243		two hundreds four tens three ones					

Ones/Tens/Hundreds Relationships

Knowing...	Helps me to know...	As well as...

Homework: Building Numbers


Directions:

Cut out base ten materials from TR P. 16 and 17.

Build three-digit numbers.




Record

- The number you built
- A picture of the materials
- Words that describe the picture

Number	Pictures	Words
Example: <div style="text-align: center; margin-left: 100px;">243</div>		two hundreds four tens three ones

DAY 2
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.3
 TE, P. 403A

LESSON FOCUS:	Addition and Subtraction of Multidigit Numbers
CALIFORNIA STANDARD:	Number Sense 2.2 Find the sum or difference of two whole numbers up to three digits long.
PURPOSE OF LESSON:	Understand strategies for combining, comparing, and separating 3-digit numbers.
ROUTINE:	Suggestion: Number of the Day <ul style="list-style-type: none"> • Have students brainstorm equations that equal the number of days they have been in school. • Emphasize using hundreds. On the class number line and 10x18 square chart, fill in the numbers since the last time Number of the Day routine.
LAUNCH: Materials: • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i>	Solving Problems <ul style="list-style-type: none"> • Give students a problem to solve: 326 books were on sale at the school book sale. 147 books were purchased by students. How many books were left at the book sale? • To ensure that students understand what is happening in the problem, ask volunteers to retell the story problem. Discuss: <i>What are ways that you could solve this problem?</i> • When solving this separate/change unknown problem, it is important that students use a method that makes sense to them. • Some strategies students are likely to use include modeling the problem with materials (building the initial quantity, separating out to the final quantity, and counting the separated quantity) and counting (back from the initial or on from the final quantity). • Students may also knowledge of number relationships (e.g., $326 - 100 = 226$; $226 - 6 = 220$; $220 - 40 = 180$; $180 - 1 = 179$)
EXPLORE: Materials: • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i>	<ul style="list-style-type: none"> • Ask students to solve the problem using tools and strategies they understand. Make manipulatives available. • Students record their method using words, numbers, an equation and/or pictures.

<p>PRACTICE:</p>	<p>As time allows:</p> <ul style="list-style-type: none"> • Students solve the same problem using a different strategy, write their own problem and solve it and/or trade word problems with a partner and solve the problem. 						
<p>SUMMARIZE:</p>	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. • Chart students' strategies. Discuss how to represent the problem in an equation. Record the equation horizontally. <p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students. 						
<p>HOMEWORK:</p> <p>Materials:</p> <ul style="list-style-type: none"> • One copy of P. TR 16 and 17 per student (from Day 1, Lesson 27.3) • Homework: Building Numbers worksheet (Day 1, Lesson 27.3) 	<p>Suggestion:</p> <ul style="list-style-type: none"> • Students continue building three digit numbers using these materials. They record on a chart: <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Number</th> <th style="text-align: center; border-bottom: 1px solid black;">Picture</th> <th style="text-align: right; border-bottom: 1px solid black;">Words</th> </tr> </thead> <tbody> <tr> <td style="text-align: left; vertical-align: top;">2</td> <td style="text-align: center; vertical-align: top;">  </td> <td style="text-align: right; vertical-align: top;"> two hundreds four tens three ones </td> </tr> </tbody> </table>	Number	Picture	Words	2		two hundreds four tens three ones
Number	Picture	Words					
2		two hundreds four tens three ones					

DAY 3
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.3
 TE, P. 403A

LESSON FOCUS:	Addition and Subtraction of Multidigit Numbers
CALIFORNIA STANDARD:	Number Sense 2.2 Find the sum or difference of two whole numbers up to three digits long.
PURPOSE OF LESSON:	Understand strategies for combining, comparing, and separating 3-digit numbers.
ROUTINE:	Suggestion: Number of the Day <ul style="list-style-type: none"> • Have students brainstorm equations that equal the number of days they have been in school. • Emphasize using hundreds. On the class number line and 10x18 square chart, fill in the numbers since the last time Number of the Day routine.
LAUNCH: Materials: <ul style="list-style-type: none"> • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) 	Solving Problems <ul style="list-style-type: none"> • Give students a problem to solve: <i>The school play was being performed at night. The custodian set up 138 chairs for the audience. 350 chairs were needed in all. How many chairs did the custodian still need to set up?</i> • To ensure that students understand what is happening in the problem, ask volunteers to retell the story problem. Discuss: what are ways that you could solve this problem? • While there is a tendency to teach this part-part-whole/part unknown problem as a subtraction situation, it is important that students use a method that makes sense to them. • Some strategies students are likely to use include modeling the problem with materials (separating out the part from the named whole, or beginning with the part and adding on to make the whole) and counting (on from the part or back from the whole). Students may also knowledge of number relationships (e.g., $138 + 200 = 338$; $338 + 10 = 348$; $348 + 2 = 350$; $200 + 10 + 2 = 212$).

<p>EXPLORE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i> 	<ul style="list-style-type: none"> • Ask students to solve the problem in a way that makes sense to them. • Make manipulatives available. • There may be more than one method for recording this equation. For example, some students may choose to add up: $138+2=140$ $140+60+200$ $200+100=300$ $300+50=350$ $2+60+100+50+=212$
<p>PRACTICE:</p>	<p>As time allows:</p> <ul style="list-style-type: none"> • Students solve the same problem using a different strategy, write their own problem and solve it and/or trade word problems with a partner and solve the problem.
<p>SUMMARIZE:</p>	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. Chart students' strategies. Discuss how to represent the problem in an equation. Record the equation horizontally. <p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students.
<p>HOMEWORK:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>One copy of P.TR 16 and 17 per student (students will use these materials in future activities)</i> 	<p>Suggestion:</p> <ul style="list-style-type: none"> • Ask students to write addition and subtraction story problems using three digit numbers.

DAY 4
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.3
 TE, P. 403A

LESSON FOCUS:	Addition and Subtraction of Multidigit Numbers
CALIFORNIA STANDARD:	Number Sense 2.2 Find the sum or difference of two whole numbers up to three digits long.
PURPOSE OF LESSON:	Understand strategies for combining, comparing, and separating 3-digit numbers.
<p>ROUTINE:</p> <p>Materials:</p> <p>• One die (or six-section spinner, labeled 1 – 6; P. TR 107)</p>	<p>Suggestion: Number of the Day</p> <ul style="list-style-type: none"> • Have students brainstorm equations that equal the number of days they have been in school. Emphasize using hundreds. On the class number line and 10x18 square chart, fill in the numbers since the last time Number of the Day routine. <p>Suggestion: Model and Play: The Place Value Game</p> <ul style="list-style-type: none"> • The object of the game is to record the highest two-digit number. Students draw four “blanks”: one for each digit in a three-digit number and one “throw away” blank. <p style="text-align: center;">_____ _____ _____</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">(throw away)</p> <ul style="list-style-type: none"> • Discuss “three-digit number.” A die is rolled four times. After each roll, students decide on which blank they will write the numeral. After a numeral is written down, it may not be erased. After each roll, discuss the value of the digit: “If I wrote that roll in the left blank, the value of the digit would be...? If I wrote that roll in the middle blank, the value of the digit would be...?” The object of the game is to record the highest three-digit number.
<p>LAUNCH</p> <p>Materials:</p> <p>• Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</p>	<p>Solving Problems:</p> <ul style="list-style-type: none"> • Give students a problem to solve: <i>The school play was over and the custodian had chairs to put away. There were 423 chairs set up. She put away some and then took a break. After her break, there were still 265 chairs to put away. How many chairs did the custodian put away before taking her break?</i> • To ensure that students understand what is happening in the problem, ask volunteers to retell the story problem in their own words.

	<p>Discuss:</p> <ul style="list-style-type: none"> • <i>What are ways that you could solve this problem?</i> • When solving this separate/change unknown problem, is important that students use a method that makes sense to them. • Some strategies students are likely to use include modeling the problem with materials (building the initial quantity, separating out to the final quantity, and counting the separated quantity) and counting (back from the initial or on from the final quantity). Students may also knowledge of number relationships (e.g., $400 - 200 = 200$; $200 - 60 = 140$; $140 - 5 = 135$; $135 + 23 = 158$).
<p>EXPLORE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i> 	<ul style="list-style-type: none"> • Ask students to solve the problem using tools and strategies they understand. Make manipulatives available. Students record their method using words, numbers, an equation and/or pictures.
<p>PRACTICE:</p>	<p>As time allows:</p> <ul style="list-style-type: none"> • Students solve the same problem using a different strategy, write their own problem and solve it and/or trade word problems with a partner and solve the problem.
<p>SUMMARIZE:</p>	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. Chart students' strategies. • Discuss how to represent the problem in an equation. Record the equation horizontally. <p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students.
<p>HOMEWORK:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>One copy of TR Pg 16 and 17 per student (students will use these materials in future activities)</i> 	<p>Suggestion:</p> <ul style="list-style-type: none"> • Ask students to write addition and subtraction story problems using three digit numbers.

DAY 5
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.3
 TE, P. 403A

LESSON FOCUS:	Addition and Subtraction of Multidigit Numbers
CALIFORNIA STANDARD:	Number Sense 2.2 Find the sum or difference of two whole numbers up to three digits long.
PURPOSE OF LESSON:	Practice adding and subtracting 3-digit numbers.
<p>ROUTINE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • One die (or six-section spinner, labeled 1 – 6; P. TR 107) 	<p>Suggestion: Model and Play: The Place Value Game</p> <ul style="list-style-type: none"> • The object of the game is to record the highest two-digit number. Students draw four “blanks”: one for each digit in a three-digit number and one “throw away” blank. <div style="text-align: center; margin: 10px 0;"> <p>_____ _____ _____</p> <p style="margin-left: 250px;">_____</p> <p style="margin-left: 250px;">throw away</p> </div> <ul style="list-style-type: none"> • Discuss “three-digit number.” A die is rolled four times. After each roll, students decide on which blank they will write the numeral. After a numeral is written down, it may not be erased. After each roll, discuss the value of the digit: <p style="text-align: center; margin: 10px 0;"><i>“If I wrote that roll in the left blank, the value of the digit would be...? If I wrote that roll in the middle blank, the value of the digit would be...?”</i></p> <ul style="list-style-type: none"> • The object of the game is to record the highest three –digit number. <p>Sharing Homework:</p> <ul style="list-style-type: none"> • Students share homework problems from Days 3 and 4. Choose one. Have students retell the story. Have students discuss methods they would use to solve the problem
<p>LAUNCH:</p> <p>Materials:</p> <ul style="list-style-type: none"> • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) 	<p>Solving Problems:</p> <ul style="list-style-type: none"> • Give students a problem to solve: <i>Students at your school get to vote on a field trip. 173 students voted to take a trip to the San Diego Zoo. 345 students voted to go to a play. How many more students wanted to go to the play than the zoo?</i> • To ensure that students understand what is happening in the problem, ask volunteers to retell the story problem. Discuss: what are ways that you could solve this problem?

	<ul style="list-style-type: none"> • While there is a tendency to teach this compare/difference unknown problem as a subtraction situation, it is important that students use a method that makes sense to them. • Some strategies students are likely to use include modeling the problem with materials (building each quantity and counting the difference between the two) and counting (on from the lesser quantity or back from the greater quantity). Students may also knowledge of number relationships (e.g., $173 + 100 = 273$; $273 + 7 = 280$; $280 + 20 = 300$; $300 + 45 = 345$; $100 + 7 + 20 + 45 = 172$).
<p>EXPLORE:</p> <p>Materials: <i>•Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i></p>	<ul style="list-style-type: none"> • Ask students to solve the problem using tools and strategies they understand. Make manipulatives available. Students record their method using words, numbers, an equation and/or pictures.
<p>PRACTICE:</p>	<p>As time allows: Students solve some of their classmates' problems from homework on Days 3 and 4.</p>
<p>SUMMARIZE:</p>	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. Chart students' strategies. Discuss how to represent the problem in an equation. Record the equation horizontally. <p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students.
<p>HOMEWORK:</p> <p>Materials: <i>• One copy of P.TR 16 and 17 per student (students will use these materials in future activities)</i></p>	<p>Suggestion:</p> <ul style="list-style-type: none"> • Ask students to solve some of their classmates' homework problems from Days 3 and 4.

DAY 6
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.3
 TE, P. 403A

LESSON FOCUS:	Addition and Subtraction of Multidigit Numbers
CALIFORNIA STANDARD:	Number Sense 2.2 Find the sum or difference of two whole numbers up to three digits long.
PURPOSE OF LESSON:	Understand strategies for combining, comparing, and separating 3-digit numbers.
<p>ROUTINE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • One die (or six-section spinner, labeled 1 – 6; P. TR 107) 	<p>Suggestion: Model and Play: The Place Value Game</p> <ul style="list-style-type: none"> • Students draw four “blanks”: one for each digit in a three-digit number and one “throw away” blank. <div style="text-align: center; margin: 10px 0;"> <p>_____ _____ _____</p> <p style="text-align: right; margin-right: 100px;">(throw away)</p> </div> <ul style="list-style-type: none"> • Discuss “three-digit number.” A die is rolled four times. After each roll, students decide on which blank they will write the numeral. After a numeral is written down, it may not be erased. After each roll, discuss the value of the digit: <p style="text-align: center; margin: 10px 0;"><i>“If I wrote that roll in the left blank, the value of the digit would be...? If I wrote that roll in the middle blank, the value of the digit would be...?”</i></p> <ul style="list-style-type: none"> • The object of the game is to record the highest three-digit number. <p>Sharing Homework:</p> <ul style="list-style-type: none"> • Students share more homework problems from Days 3 and 4, Lessons 27.3 and 27.4. Choose one. • Have students retell the story. Have students discuss methods they would use to solve the problem.
<p>LAUNCH:</p> <p>Materials:</p> <ul style="list-style-type: none"> • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) 	<p>Solving Problems:</p> <ul style="list-style-type: none"> • Give students a problem to solve: <i>536 students lined up the field trips. Some got on buses to go to the play. 265 got on buses to go to the zoo. How many students got on buses to go to the play?</i> • To ensure that students understand what is happening in the problem, ask volunteers to retell the story problem. Discuss: <i>What are ways that you could solve this problem?</i>

	<ul style="list-style-type: none"> • When solving this part-part-whole/part unknown problem, it is important that students use a method that makes sense to them. • Some strategies students are likely to use include modeling the problem with materials (building the initial quantity, building the second quantity, joining them together and counting to find the final quantity) and counting (on from the initial or greater quantity). • Students may also knowledge of number relationships (e.g., $500 + 200 = 700$; $60 + 30 = 90$; $6 + 5 = 11$; $700 + 90 + 10 = 800$; $800 + 1 = 801$).
<p>EXPLORE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i> 	<ul style="list-style-type: none"> • Ask students to solve the problem using tools and strategies they understand. Make manipulatives available. Students record their method using words, numbers, an equation and/or pictures.
<p>PRACTICE:</p>	<p>As time allows: Students write stories to match the numbers on pgs. 403 and/or 404. They choose one of the stories to solve.</p>
<p>SUMMARIZE:</p>	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. Chart students' strategies. Discuss how to represent the problem in an equation. Record the equation horizontally. <p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students.
<p>HOMEWORK:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>One die (or six-section spinner, labeled 1 – 6; P. TR 107)</i> 	<p>Suggestion:</p> <ul style="list-style-type: none"> • Students teach the Place Value Game to someone at home

DAY 7
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.1
 TE, P. 399A

LESSON FOCUS:	Add and Subtract Money
CALIFORNIA STANDARD:	Number Sense 5.1 Solve problems using combinations of coins and bills
PURPOSE OF LESSON:	Understand strategies for combining, comparing, and spending money.
<p>ROUTINE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • One die (or six-section spinner, labeled 1 – 6; P. TR 107) 	<p>Suggestion: Model and Play: The Place Value Game with Money Students draw four “blanks”: one for each digit in a three-digit number and one “throw away” blank; insert a dollar sign and a decimal point:</p> <p style="text-align: center;">\$ ____ . ____ ____</p> <p style="text-align: right;">_____ (throw away)</p> <ul style="list-style-type: none"> • Discuss the possible range of amounts that could be represented after four dice rolls (i.e., \$1.00 to \$9.99). Ask students to explain their thinking. • A die is rolled four times. After each roll, students decide on which blank they will write the numeral. • After a numeral is written down, it may not be erased. • After each roll, discuss the value of the digit: “If I wrote that roll in the left blank, the value of the digit would be...?”(value in dollars) If I wrote that roll in the middle blank, the value of the digit would be...?”(value in dimes) The object of the game is to record the highest amount of money and know the values of the digits.
<p>LAUNCH:</p> <p>Materials:</p> <ul style="list-style-type: none"> • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) 	<p>Solving Problems:</p> <ul style="list-style-type: none"> • Give students a problem to solve: <i>Ms. Smith had \$5.23 to spend on souvenirs for the field trip. She spent \$2.45. How much did she have left after buying souvenirs?</i> • To ensure that students understand what is happening in the problem, ask volunteers to retell the story problem. Discuss: <i>What are ways that you could solve this problem?</i> • When solving this separate/result unknown problem, is important that students use a method that makes sense to them. While this appears to be a subtraction problem, some students may solve it using an addition strategy. • Some strategies students are likely to use include modeling the

	<p>problem with materials (building the initial quantity, separating out the second quantity, and counting to find the final quantity) and counting (back from the initial or on from the separated to the initial quantity).</p> <ul style="list-style-type: none"> • Students may also knowledge of number relationships (e.g., $\\$5.23 - \\$2.00 = \\$3.23$; $\\$3.23 - \\$.40 = \\$2.83$; $\\$2.83 - \\$.05 = \\$2.78$).
<p>EXPLORE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • <i>Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes)</i> 	<ul style="list-style-type: none"> • Ask students to solve the problem using tools and strategies they understand. Make manipulatives available. • Students record their method using words, numbers, an equation and/or pictures.
<p>PRACTICE:</p>	<p>As time allows: Students think of story contexts for some of the problems from Pp. 399 and/or 400. Students solve some problems.</p>
<p>SUMMARIZE:</p>	<ul style="list-style-type: none"> • Ask students to share their methods for solving the problem with the whole class. Chart students' strategies. • Discuss how to represent the problem in an equation. Record the equation horizontally. <p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students.
<p>HOMEWORK:</p>	<p>Suggestion:</p> <ul style="list-style-type: none"> • Students choose some other problems from P. 399 and/or 400. • They write a story for some of these problems.

DAY 8
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.2
 TE, P. 401A

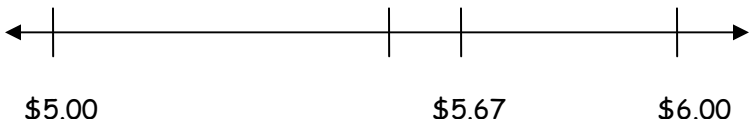
LESSON FOCUS:	Estimate Sums and Differences
CALIFORNIA STANDARD:	Number Sense 6.0 Students use estimation strategies in computation and problem solving that use the ones, tens, hundreds, and thousands places.
PURPOSE OF LESSON:	Understand strategies for estimating sums and differences.
<p>ROUTINE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • One die (or six-section spinner, labeled 1 – 6; P. TR 107) 	<p>Suggestion: Model and Play: The Place Value Game with Money The object of the game is to record the highest two-digit number. Students draw four “blanks”: one for each digit in a three-digit number and one “throw away” blank; insert a dollar sign and a decimal point:</p> <p style="text-align: center;">\$ _____ . _____ _____ _____ (throw away)</p> <ul style="list-style-type: none"> • Discuss the possible range of amounts that could be represented after four dice rolls (i.e., \$1.00 to \$9.99). Ask students to explain their thinking. • A die is rolled four times. After each roll, students decide on which blank they will write the numeral. After a numeral is written down, it may not be erased. After each roll, discuss the value of the digit: “If I wrote that roll in the left blank, the value of the digit would be...? If I wrote that roll in the middle blank, the value of the digit would be...?” <p>Sharing Homework:</p> <ul style="list-style-type: none"> • Students share homework problems from Day 7. Students read the story and discuss which problems from Pp. 399 and 400 might have been used.
<p>LAUNCH:</p> <p>Materials:</p> <ul style="list-style-type: none"> • 100 chart • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) • Nice and Near overhead 	<p>Near and Nice:</p> <ul style="list-style-type: none"> • Give students a two-digit number (e.g., 26). Ask students to suggest numbers that are “nice” or “near”. Students may suggest 25 or 50 or another number. • Emphasize selected a “close, nice number” rather than the “closest” or “best nice number.” It is important for students to give a good explanation for their idea, rather than depend on a “rule for rounding.” • Ask students to use the 100 chart and/or base ten materials to help them think about what numbers are “nice” and “near.” Repeat with other two-digit numbers. The goal is to focus on “friendly” numbers.

<p>EXPLORE:</p> <p>Materials:</p> <ul style="list-style-type: none"> • 100 chart • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) • Nice and Near worksheet 	<ul style="list-style-type: none"> • Ask students to choose 5 two-digit numbers. Have them explain numbers that are “nice” and “near” <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">My Numbers</th> <th style="width: 33%;">Numbers Nice and Near</th> <th style="width: 33%;">My thinking</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">43</td> <td style="text-align: center;">50</td> <td rowspan="2">On the 100 chart, it is only 7 spaces away. It’s only one more than 6 tens.</td> </tr> <tr> <td style="text-align: center;">61</td> <td style="text-align: center;">60</td> </tr> </tbody> </table>	My Numbers	Numbers Nice and Near	My thinking	43	50	On the 100 chart, it is only 7 spaces away. It’s only one more than 6 tens.	61	60
My Numbers	Numbers Nice and Near	My thinking							
43	50	On the 100 chart, it is only 7 spaces away. It’s only one more than 6 tens.							
61	60								
<p>PRACTICE:</p>	<p>As time allows: Students find a partner. One person tells a partner one of the two-digit numbers. The partner explains what number is “nice” and “near” and why. Pairs compare their thinking.</p>								
<p>SUMMARIZE</p> <ul style="list-style-type: none"> • 100 chart • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) 	<ul style="list-style-type: none"> • Ask students to share work in a whole class discussion. Individuals share a number; classmates try to guess which numbers were chosen as “nice” and “near” and explain their thinking. <p>Closure: Revisit purpose of the lesson with students.</p>								
<p>HOMEWORK:</p> <p>Materials:</p> <ul style="list-style-type: none"> • One die (or six-section spinner, labeled 1 – 6; P. TR 107) 	<p>Suggestion: Students play the money version of the Place Value Game with someone at home.</p>								

DAY 9
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 LESSON 27.2
 TE, P. 401A

LESSON FOCUS:	Estimate Sums and Differences												
CALIFORNIA STANDARD:	Number Sense 6.0 Students use estimation strategies in computation and problem solving that use the ones, tens, hundreds, and thousands places.												
PURPOSE OF LESSON:	Understand strategies for estimating sums and differences.												
ROUTINE:	Suggestion: Number of the Day <ul style="list-style-type: none"> • Have students brainstorm equations that equal the number of days they have been in school. • Emphasize using hundreds. On the class number line and 10x18 square chart, fill in the numbers since the last time Number of the Day routine. 												
LAUNCH: Materials: • Coins and bills	Which is Closer? (adapted from Van de Walle) <ul style="list-style-type: none"> • Display the following: <table style="margin-left: 40px;"> <tr> <td>\$2.00</td> <td>\$2.37</td> <td>\$3.00</td> </tr> </table> • Encourage discussion of answers to the following and representation of answers with coins and bills: <i>Which two amounts are closest? Why?</i> <i>About how far apart are \$2.00 and \$2.37? \$2.37 and \$3.00? \$2.00 and \$3.00?</i> • Repeat with other sets of three amounts, such as the following: <table style="margin-left: 40px;"> <tr> <td>\$3.35</td> <td>\$3.00</td> <td>\$4.00</td> </tr> <tr> <td>\$6.00</td> <td>\$7.00</td> <td>\$6.82</td> </tr> <tr> <td>\$4.00</td> <td>\$3.56</td> <td>\$3.00</td> </tr> </table> 	\$2.00	\$2.37	\$3.00	\$3.35	\$3.00	\$4.00	\$6.00	\$7.00	\$6.82	\$4.00	\$3.56	\$3.00
\$2.00	\$2.37	\$3.00											
\$3.35	\$3.00	\$4.00											
\$6.00	\$7.00	\$6.82											
\$4.00	\$3.56	\$3.00											
EXPLORE: Materials: • Coins and bills	Estimate Sums and Differences <ul style="list-style-type: none"> • Explain P. 401. Ask students to solve problems in ways that make sense to them. They may use a method that is different than the standard algorithm. 												
PRACTICE:	As time allows: Students share their work with another classmate and/or solve problems from P. 402.												
SUMMARIZE:	<ul style="list-style-type: none"> • Ask students to share their methods for solving the whole class problem. Record what they did on a class chart. Discuss how to represent the problem in an equation. • Record the equation horizontally. Closure: <ul style="list-style-type: none"> • Revisit purpose of the lesson with students. 												
HOMEWORK: Materials: • Supermarket advertisements • Coins and bills • Homework: Items in the Newspaper worksheet	Suggestion: Students search for items in the newspaper. They record the item, its price and the coins and bills used to represent the amount. <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="border-right: 1px solid black; border-bottom: 1px solid black;">Item</th> <th style="border-right: 1px solid black; border-bottom: 1px solid black;">Price</th> <th style="border-bottom: 1px solid black;">Coins and Bills Used</th> </tr> </thead> <tbody> <tr> <td style="border-right: 1px solid black;">orange juice</td> <td style="border-right: 1px solid black;">\$1.37</td> <td>\$1 bill, quarter, dime, 2 pennies</td> </tr> </tbody> </table>	Item	Price	Coins and Bills Used	orange juice	\$1.37	\$1 bill, quarter, dime, 2 pennies						
Item	Price	Coins and Bills Used											
orange juice	\$1.37	\$1 bill, quarter, dime, 2 pennies											

DAY 10
 UNIT 6: Use Addition and Subtraction,
 Multiplication and Division
 Chapter 27: Use Addition and Subtraction
 Assessment
 TE, P. 407

LESSON FOCUS:	Assessment									
CALIFORNIA STANDARD:	Number Sense 2.2 Find the sum or difference of two whole numbers up to three digits long.									
PURPOSE OF LESSON:	Check understanding of concepts, skills and problem solving presented.									
ROUTINE: Materials: <ul style="list-style-type: none"> • Coins and bills • 100 chart • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, and snap cubes) 	Suggestion: Number of the Day <ul style="list-style-type: none"> • Have students brainstorm equations that equal the number of days they have been in school. Emphasize using hundreds. On the class number line and 10x18 square chart, fill in the numbers since the last time Number of the Day routine. Which is Closer? (adapted from Van de Walle) <ul style="list-style-type: none"> • Display the following: $\\$5.00$ $\\$5.67$ $\\$6.00$ • Encourage discussion of answers to the following and representation of answers with coins and bills: • Which two amounts are closest? Why? • About how far apart are $\\$5.00$ and $\\$5.67$? $\\$5.67$ and $\\$6.00$? $\\$5.00$ and $\\$6.00$? • Use an unlabeled number line. Get students to collaborate in highlighting the position of each number: <div style="text-align: center;">  </div> • Repeat with other sets of three quantities/amounts, such as the following: <table style="margin-left: auto; margin-right: auto; border: none;"> <tr> <td style="padding: 0 20px;">435</td> <td style="padding: 0 20px;">400</td> <td>500</td> </tr> <tr> <td style="padding: 0 20px;">$\\$8.00$</td> <td style="padding: 0 20px;">$\\$7.00$</td> <td>$\\7.32</td> </tr> <tr> <td style="padding: 0 20px;">200</td> <td style="padding: 0 20px;">256</td> <td>300</td> </tr> </table> 	435	400	500	$\$8.00$	$\$7.00$	$\$7.32$	200	256	300
435	400	500								
$\$8.00$	$\$7.00$	$\$7.32$								
200	256	300								
LAUNCH:	Review: <ul style="list-style-type: none"> • Discuss the models and format used on pages 407 and 408. 									
EXPLORE: Materials: <ul style="list-style-type: none"> • Coins and bills • Base ten materials (a variety, including commercially available materials, bundles of sticks, beans and cups, 	Sample Problems: <ul style="list-style-type: none"> • Give students sample problems similar to those on pages 407 and 408 Let students use familiar materials to model solutions to the problems. • Provide students opportunities to share solution strategies with their classmates. 									

<i>and snap cubes)</i>	<p>And/or:</p> <ul style="list-style-type: none"> • Give students sample problems similar to those in the Assessment Guide, pgs 161 and 162. Let students use familiar materials to model solutions to the problems. Provide students opportunities to share solution strategies with their classmates.
PRACTICE:	As time allows: Pp. 407 and 408 or Assessment Guide p. 161 and 162.
SUMMARIZE:	<p>Closure:</p> <ul style="list-style-type: none"> • Revisit purpose of the lesson with students.
<p>HOMEWORK:</p> <p>Materials:</p> <ul style="list-style-type: none"> • Supermarket advertisements • Coins and bills 	<p>Suggestion:</p> <ul style="list-style-type: none"> • Students use homework chart from Day 9. • Students write story problems, using some of the items/prices on their chart.