First Grade Parent Letter: Using Place Value to Add and Subtract Larger Numbers

Dear First Grade Family,

Focus of the Unit

Your first grader is learning to think of two-digit numbers as being made of tens and ones. Students will use this understanding to add and subtract numbers within 100 in three ways:

- Mentally find 10 more or 10 less than a number without counting (such as 10 more than 39 is 49 or 82 - 10 = 72)
- Add 2-digit numbers to 1-digit numbers and 2-digit numbers to a multiple of 10 (such as 56 + 8 = ? and 43 + 30 = ?)
- Subtract a multiple of 10 from a multiple of 10 (such as 60 – 30 = *).

At first, students find answers by counting objects, but later realize they can use the numbers themselves to find answers by adding the *tens to tens* and the *ones to the ones*. Students discover they can make a new group of ten if the ones digits total 10 or greater. It is important that students can explain what happens to the digits when adding and subtracting numbers. This helps students to strengthen their place value understanding while building fluency with addition and subtraction.

Building Off Past Mathematics

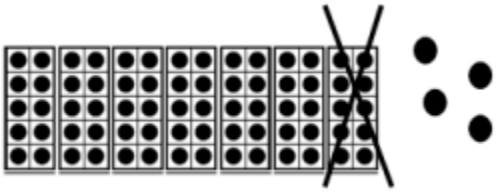
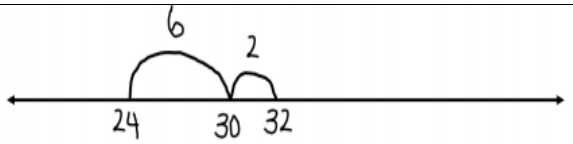
Last year students learned the concepts of addition and subtraction by working with numbers within 10. They also learned to write numbers to 20 and to verbally count to 100 by ones and tens.

Earlier this year, students practiced reading, writing, and representing numbers within 100. They learned that two-digit numbers are made of tens and ones. This unit will allow students to apply their understandings to add and subtract larger numbers.

Strategies that Students Will Learn

Students will learn to use models, drawings, or strategies to add and subtract larger numbers. They will use tools such as the 100 chart, cubes, mini ten frames, and number lines as supports. Students will build numbers with materials and create drawings to help them count. Later, they will develop more efficient strategies such as decomposing numbers. After many hands-on experiences, students discover patterns such as “When I add ten, the tens digit increases by 1.” They will also learn to clearly explain how they found their answers. See the examples below.

There are 74 birds in the park. 10 birds fly away. How many birds are in the park now?	24 red apples and 8 green apples are on the table. How many apples are on the table?

	
"I pictured 7 ten frames and 4 left over in my head. Since 10 birds flew away, I took one of the ten frames away. That left 6 ten frames and 4 left over. So, there are 64 birds left in the park."	"I used an open number line. I started at 24. I knew that I needed 6 more jumps to get to 30. So, I broke apart 8 into 6 and 2. I took 6 jumps to land on 30 and then 2 more. I landed on 32. So, there are 32 apples on the table."

Ideas for Home Support

Say a two-digit number and have your child to say or write the number that is **ten more or ten less**. *What is ten more than 42? What is 68 plus ten? What is ten less than 98? What is 77 minus ten?* Repeat with other numbers. At first, they may need to use a strategy, but the goal is to mentally find the answers.

Ask students to **add and subtract multiples of ten** by asking questions such as: *What is 20 more than 60? What is 8 tens minus 4 tens? How do you know? My number is 40 more than 23. What is my number?* Encourage students to show their work with pictures that show tens and ones or a number line. Ask them to write equations that match what you say. Have them to explain their strategies to you. For a challenge, you could use dimes to pose problems such as *I had 60 cents in my pocket. I spent 20 cents on an eraser. How much money do I have now?*

Practice **adding a two-digit number to a one-digit number** with your child**.** Create the numbers by rolling dice, flipping playing cards, or just naming digits from 0-9. You can make it a game by taking turns to see who gets the largest sum each round. Or you could keep adding a single digit to your sum each time and race to see who gets to 100 first.

Reading books is a great way to enhance learning! You may check out the following titles at your local library or you may find free online versions to support the learning in this unit.

- *Pinkalicious and the Pink Drink* by Victoria Kann
- *Berenstain Bears Trouble with Money* by Stan and Jan Berenstain
- *A Chair for My Mother* by Vera B. Williams
- *A Fair Bear Share by Stuart J. Murphy*
- *A Collection for Kate* by Barbara deRubertis
- *Mission* Addition by Loreen Leedy
- *The Smushy Bus* by Leslie Helakoski

Thank you for serving as partners in your child's success as a mathematician!

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