# Second Grade Family Letter

Unit 3: Addition Within 100

In Kindergarten and Grade 1, students had many experiences with numbers, including addition and subtraction within 20. In this unit, second graders will extend that work with addition into the hundreds place. They will solve word problems using a variety of strategies (number line, place value, decomposition).

Groups of 10

Place value lets us use the same digits to show different quantities. The digit "2" means 2 ones when it is alone. It means 2 tens when it is followed by a zero: 20. In this unit, second graders combine ones and tens to make sums within 100. For example, thinking of 23 + 42 as 20 + 40 and 3 + 2, which is 60 + 5, which is 65.
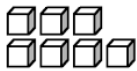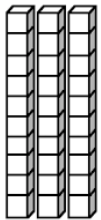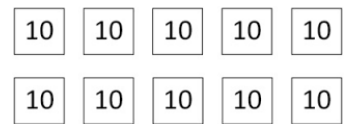
Use of Manipulatives

One of the tools that second graders will use during this unit is base-10 blocks, which let students put together and pull apart numbers visually. Homework and writing during this unit will also make use of this kind of notation of place value and number. The number 37 is shown here both with base-10 blocks, and as a student might sketch it.

Using a Hundreds Chart

A hundreds chart like the one to the right is a valuable second grade tool for students to use to add using place value. For example, to add twenty to thirty-three, a student can move down two rows. The way the chart is set up supports this place value understanding, which will be crucial as students move from working with manipulatives (like 10 groups of 10 blocks that can be put together) to more symbolic representations and algorithms. An algorithm is a step-by-step set of directions for solving a problem that is usually very efficient.

| 1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Regrouping in Addition and Subtraction

Many adults will recognize the standard algorithm for addition, which makes it possible to add and subtract efficiently. In this unit, second graders build their fluency with regrouping in addition and subtraction, using both manipulatives and written notations, to help them understand and show how and why they are regrouping.

24   +   47   =   6 tens, 11 ones
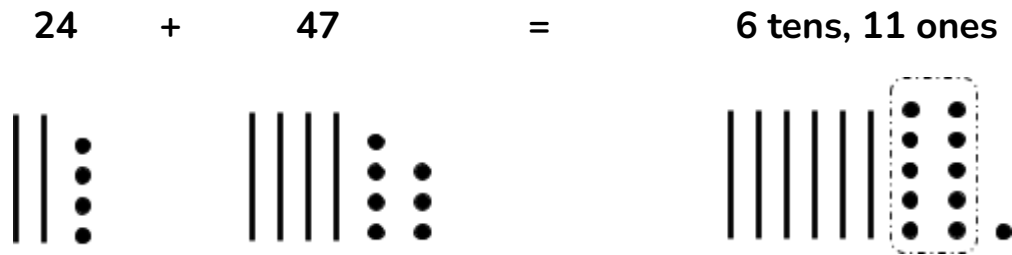
This can be renamed as 7 tens and 1 one, or 71.

Use of Number Lines in Addition and Subtraction

Students will also use number lines to support their calculations. The number line below shows that a student can add 38 to 15 in increments that are easy to see and track, resulting in a total of 53.
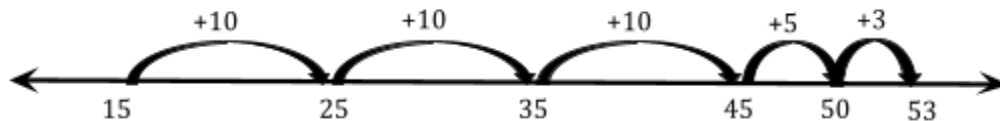
Activities You Can Do to Support Math at Home

Keep Counting and Measuring!

Even though students are working in class on addition problems, they should continue to build their fluency with the mathematics they have learned in earlier units.

- Whenever you have change, continue naming each coin and counting the total value. How many ways can you make a dollar?

- Continue to practice estimating and measuring. Ask your child: How much do you think you will grow before Grade 3?

- Find a place at home where you can track your child's growth.

Math Notebooks

Writing and drawing in math are great habits from the classroom that you can reinforce at home by having a special place for students to record their ideas and observations. In the classroom, students use their math notebooks regularly to develop their understanding of concepts, and extend that understanding with multiple representations and precise mathematical vocabulary.

At this point, students have had many experiences with addition. How many ways can they show their thinking about an addition problem, such as 15 + 21?

Or a more complex one that would require regrouping, such as 67 + 24?