

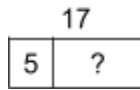
# Second Grade Family Letter

## Unit 5: Subtraction Within 100

Addition and subtraction are related operations. In this unit, second graders take what they have learned about addition and apply it to subtraction, developing a deep understanding of what subtraction is and how and when to use it. They use a variety of strategies they have seen in past units and solve subtraction word problems that use the real world concepts of time, money, and length.

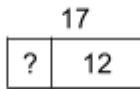
### Models for Showing Addition and Subtraction

Second grade students use tape diagrams to make sense of problems involving addition and subtraction.



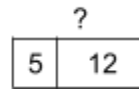
$$5 + \underline{\quad} = 17$$

$$17 - 5 = \underline{\quad}$$



$$\underline{\quad} + 12 = 17$$

$$17 - \underline{\quad} = 12$$



$$5 + 12 = \underline{\quad}$$

$$\underline{\quad} - 5 = 12$$

### Use of Base Ten Blocks to Solve Subtraction Problems

Second graders have already used base ten blocks to solve addition problems. Now, in unit 2.5, they will use these blocks to solve subtraction problems.

Base-10 blocks help students see how multi-digit numbers are put together (composed) and pulled apart (decomposed) visually.

Students can record their work on paper using lines and dots. This is how a student would represent 37 with a sketch:

These blocks represent the number 37. There are 3 rods of ten and 7 cubes.

37    ||| ::::

### Solving and Recording Subtraction Problems with Base-10 Blocks:

1) To solve the problem  $37 - 19$  using Base-10 Blocks, a student would first take one of the tens and decompose it into 10 ones.

2) Now there are 2 tens and 17 ones

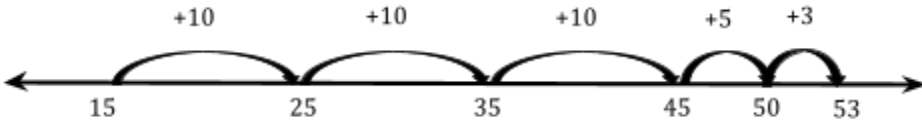
3) Now the student can subtract 19, because there are enough ones.

4) This leaves 18.

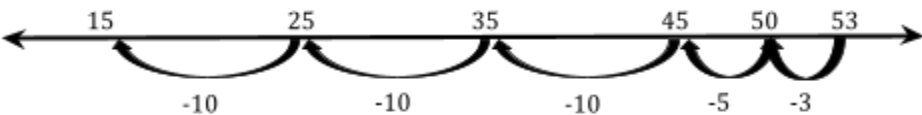
$37 - 19 = 18$

## Use of Number Lines In Addition and Subtraction

Students continue to use number lines to support their calculations. The number line below shows that a student can count up from 15 to 53 in increments that are easy to see and track, resulting in a difference of 38.



This closely related number line shows that a student can also count back from 53 to 15, resulting in the same difference of 38.



Both of these number lines use a very helpful strategy called “chunks of ten.” Counting on or counting back in groups of ten makes good use of our base ten number system. These examples also use “friendly numbers,” or numbers that are easy to operate with.

## Using a Hundreds Chart

A hundreds chart continues to be a valuable second grade tool for students to use place value as they add or subtract. For example, to subtract twenty from thirty-three, a student can move up 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 like writing equations.

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

## Developing Strategies for Subtraction

All the work second graders do in this unit with Base-10 Blocks, number lines, and hundred charts help them develop paper-and-pencil fluency. By the end of second grade, students should be able to solve 2-digit subtraction problems by reasoning about the numbers, using their understanding of decomposition, the operation of subtraction, and place value.

## Activities You Can Do to Support Math at Home

### Helping Your Child with Homework

The Standards for Mathematical Practice describe the ways students behave as they learn math. While the mathematics content changes from grade to grade, these standards are the same for kindergarten through high school. Mathematical Practice Standard 1 says: ***Make sense of problems and persevere in solving them.***

One of the most important things you can do is to help your child know how to approach and stick with a problem, especially a challenging one. You don't want to do the thinking and learning for them.

**These are some questions and prompts that will help students persevere with homework.**

- *Tell me what you do know about this problem.*
- *Can you make a picture that shows the situation in the problem?*
- *Can you try it out first with simpler numbers to see if it makes sense?*
- *Does this remind you of another problem you have done? How is this one the same or different?*