

Grade 2 Family Letter

Unit 2.7: Numbers Greater Than 100

Place value understanding means knowing that when we arrange numbers in different places, they have different values. For example, with the number 234, the 2 stands for 2 hundreds, the 3 stands for 3 tens, and the 4 stands for 4 ones. 234 is the sum of $200 + 30 + 4$. If we arrange the numbers in a different order, the value changes. In this unit, second graders will continue to work with numbers into the hundreds place. They will use their previous experiences with place value, grouping, and skip counting to make numbers greater than 100 in many ways.

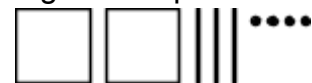
2 Hundreds	3 Tens	4 Ones

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. The picture above shows base-10 blocks. Homework during this unit will ask students to *sketch* the blocks as a representation of the hundreds, tens and ones, showing an understanding of place value.

Here is how a child can represent this same number on paper:

- A square represents 100
- A straight line represents 10
- A single dot represents 1



One Thousand

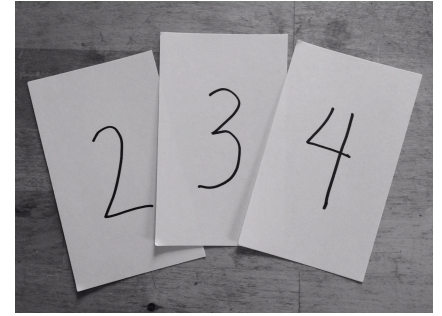
Hundreds charts help students discover patterns and relationships within numbers. A big project in this unit is to put together 10 hundreds charts to count up to the number 1,000. Students will notice how the digits change as the numbers get bigger, and will find patterns between numbers as they move across or down the charts. They will not write in every single number, but will choose landmark numbers that help them hold their place and use the features of the hundreds chart. Landmark numbers for the chart shown here might include 425 or 450.

Skip Counting: 10, 20, 30, 40...

In this unit, students skip count by 5s, 10s, and 100s to help them work with very large numbers. Skip counting helps students to attend to the patterns within the numbers. For example, referencing the hundreds chart above, a student can follow one of the columns as they skip count: 410, 420, 430, 440...

Number Cards

Students use number cards to help them build three-digit numbers. For example, drawing the numbers 2, 3, and 4, a student could make six different three-digit numbers: 234, 243, 324, 342, 423, or 432. In this unit, second graders will make many three-digit numbers, compare them, and put them in order using their understanding of place value. For example, of these six possible numbers, 432 is the largest number and 234 is the smallest number. This is an activity that can also be practiced at home.



Showing Place Value

Numbers can be shown in many ways. They can be written with words or numbers, they can be shown visually, and they can be written into a place value chart.

A place value chart shows the value of every digit in a number. This place value chart shows the number 369. Place value charts will continue to be important throughout elementary school, and will be strongly featured in future work with decimals.

Hundreds	Tens	Ones
3	6	9

Activities You Can Do to Support Math at Home

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 8 says: **Look for and express regularity in repeated reasoning.** So much of what second graders do to make sense of the base-10 number system falls within this standard.

One great example of this is when we practice with numbers that have one digit that is different and use place value reasoning to name the difference. The hundreds chart is just one way to visualize this, though there are many others. Here are two examples of problems that can be solved with place value reasoning without having to set up a subtraction problem.

- What is the difference between 451 and 551? How do you know?
- What is the difference between 233 and 253? How do you know?

201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300

You can help your child make generalizations by asking them what patterns they see as they work with numbers. These are some questions and prompts that will help students make generalizations:

- What shortcut can you think of that will always work for these kinds of problems? Why does it work?
- What pattern(s) do you see? Can you make a rule or generalization?