

Dear parent or guardian: This is a summary of the key ideas your child is learning in mathematics. You can use this summary as background as you support your child's work.

1 Representing Hundreds of Thousands

How Much Is 100 000?

Introducing the hundred thousands place often takes students out of their comfort zone. Students need support in learning how to read those numbers aloud, making sense of how big they are, and finding ways to represent them.

- The place-value chart model below can help students see that 100 000 is read as “one hundred thousand.”

Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
● 1	0	0	0	0	0

A place-value chart can also show other ways to rename or represent 100 000.

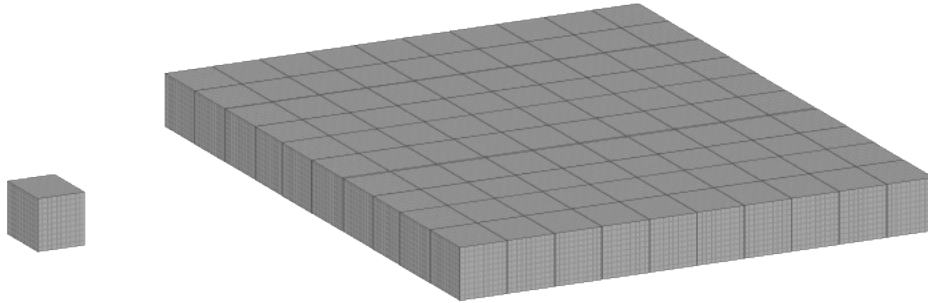
- For example, the chart below shows that 100 000 is ...
- 1 hundred thousand
 - 10 ten thousands
 - 100 thousands
 - 1000 hundreds
 - 10 000 tens

Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
1	0	0	0	0	0
	10	0	0	0	0
		100	0	0	0
			1000	0	0
				10 000	0

How Much Is 100 000? (continued)

- You could also represent 100 000 with base ten blocks to get a sense of how big 100 000 is. You would need to use 100 thousands blocks.

This is like using a thousands block (i.e., the number 1000) as a benchmark to make sense of the size of 100 000.



Since the thousands block is worth 1000, the model is worth 100 000.

- You can also relate large numbers used in measurements using familiar money denominations or metric measurements along with benchmark numbers to get a sense of how big the numbers are.

For example:

- 100 000 m is 100 km, and it could take an hour to drive 100 km on a highway.
(This is using the benchmark number 100 to make sense of 100 000.)
- 100 000 L is 50 000 2-L cartons of milk.
(This is using 50 000 to make sense of 100 000.)
- \$500,000 is 500 000 loonies, 250 000 toonies, 50 000 \$10 bills, or 5000 \$100 bills.
(This is using several benchmark numbers to make sense of 500 000.)

Representing 200 000 to 900 000

- Numbers like 200 000, 300 000, 400 000, and so on up to 900 000 can be renamed or represented as 2 hundred thousands, 3 hundred thousands, and so on.

For example:

	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
400 000	4	0	0	0	0	0
900 000	9	0	0	0	0	0

400 000 can be represented as 4 hundred thousands.
 900 000 can be represented as 9 hundred thousands.

- You can rename these numbers in other ways too. A place-value chart can help.

For example:

	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
400 000			400	0	0	0
900 000		90	0	0	0	0

400 000 can be represented or renamed as 400 thousands.
 900 000 can be represented or renamed as 90 ten thousands.

Notes

- In the metric system, we write large numbers with spaces, not commas (although commas are still used to write money amounts). Spaces are used for numbers with five or more digits. A space is optional for a four-digit number.
- Students gain a sense of the size of large numbers by representing the numbers in different ways, including the representations shown above, and by finding instances in the real world of when those numbers are used.

Definitions

benchmark (number): a familiar number that can be used to understand the size of a number, to estimate a number, or to compare numbers, such as 100 000, 250 000, and 500 000

denomination: a unit of money, i.e., a nickel, a dime, a quarter, a \$1 coin, a \$2 coin, a \$5 bill, a \$10 bill, and so on

place value: the value of a digit in a numeral based on its position; for example, the 7 in $2\underline{7}4$ has a value of 7 tens, or 70

rename (a number): to write a number in a different way without changing its value; for example, 30 000 can be renamed as 300 hundreds or 3000 tens
