Numbers to 1,000,000

Notes and guidance

In this small step, children build on the previous steps and explore numbers up to 1,000,000

Children learn that the pattern for thousands in a place value chart follows the same pattern as that of the ones: ones, tens, hundreds, (one) thousands, ten thousands, hundred thousands. Children recognise large numbers presented in a variety of ways using familiar models. Reading numbers is touched on in this step and then developed in the next step, which also looks at writing numbers in words.

Partitioning is introduced but will be covered in more detail later in the block.

Things to look out for

- Children may find it difficult to conceptualise such large numbers as they lie outside their everyday experience and cannot easily be represented concretely.
- Unless they are confident with the previous step, children may think that place value columns go in the order ones, tens, hundreds, thousands, millions.
- Children may find numbers with several placeholders difficult.

Key questions

- Where do the commas go when writing one million in numerals?
- How does a place value chart help you to represent large numbers?
- What is the value of each digit in this number?
- Are 6-digit numbers always greater in value than 5-digit numbers?
- When do you use placeholders in numbers?
- If one million is the whole, what could the parts be?

Possible sentence stems

- The value of the _____ in _____ is _____
- The column before/after the _____ column is the _____ column.

National Curriculum links

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
- Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000

Numbers to 1,000,000

Key learning

- What number is shown in each place value chart?

  Give your answers in numerals.

HTh	TTh	Th	H	T	O
●● ●●	●●	●●	●● ●●	●● ●●	●

Thousands			Ones		
H	T	O	H	T	O
●● ●●	●●	●●	●● ●●	●● ●●	●

  What is the same and what is different about these place value charts?

- Use counters to make the numbers on a place value chart.

  32,651 463,215 320,154 60,020

- Count in 100,000s from zero to 1 million.

- Use counters to make the numbers on the place value chart.

  372,524 206,401 300,042 71,560

Thousands			Ones		
H	T	O	H	T	O

  How would you say the numbers?

- What is the value of the 4 in each number?

  124,306 245,812 402,001

  321,247 604,513 45,872

- Write four numbers that have a 3 in the hundreds column.

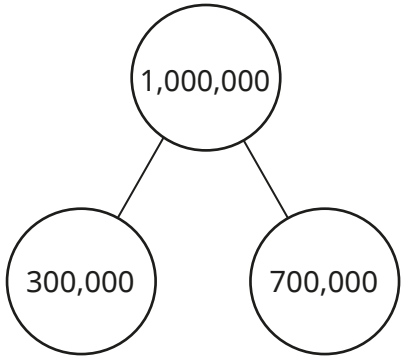
  Each number should have a different number of digits.

Numbers to 1,000,000

Reasoning and problem solving

Here are two ways of partitioning one million into multiples of 100,000

1,000,000	
600,000	400,000



How many other ways can you find to partition one million into multiples of 100,000?

Show your answers as bar models and part-whole models.

There are four more ways:

- 0 and 1,000,000
- 100,000 and 900,000
- 200,000 and 800,000
- 500,000 and 500,000

The numbers can be written in either order.

Use the digit cards to make as many 6-digit numbers as you can.

5	5	5	0	0	0

What is the greatest number you can make?

What is the smallest number you can make?

What is the difference between the greatest and smallest numbers?

Ten 6-digit numbers can be made:

555,000 505,050
550,500 505,005
550,050 500,550
550,005 500,505
505,500 500,055

555,000

500,055

54,945