Place value knowledge organiser

Maths

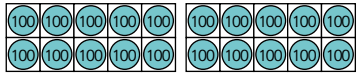
Thousands

There are 1,000 ones in a thousand.

There are 100 tens in a thousand.

There are 10 hundreds in a thousand.

20 hundreds = 2,000

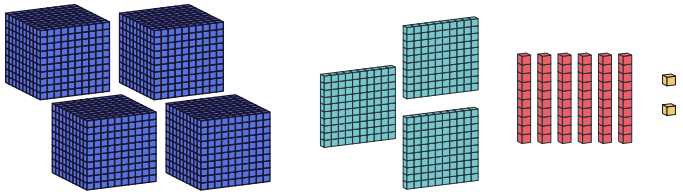


30 hundreds = 3,000

1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000

Represent 4–digit numbers

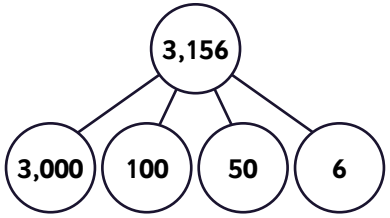
Thousands	Hundreds	Tens	Ones
1,000 1,000 1,000 1,000	100 100 100	10 10 10 10 10 10	1 1



There are 4 thousands, 3 hundreds, 6 tens and 2 ones. The number is 4,362 or four thousand, three hundred and sixty-two.

Partitioning

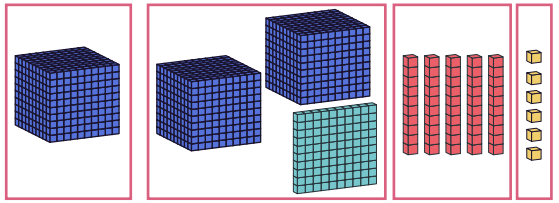
4-digit numbers can be partitioned into thousands, hundreds, tens and ones.



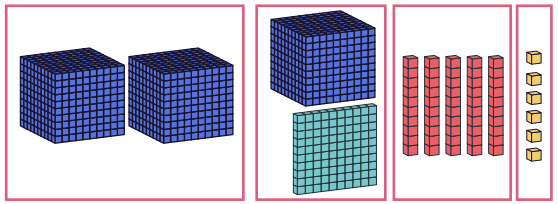
3,156 is equal to 3 thousands, 1 hundred, 5 tens and 6 ones.

3,156 = 3,000 + 100 + 50 + 6

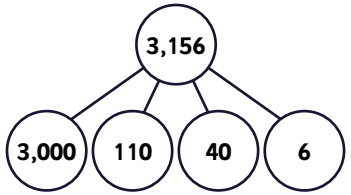
4-digit numbers can also be flexibly partitioned in many different ways.



3,156 = 1,000 + 2,100 + 50 + 6



3,156 = 2,000 + 1,100 + 50 + 6



3,156 = 3,000 + 110 + 40 + 6

1, 10, 100 or 1,000 more or less

When finding 1, 10, 100 or 1,000 more or less than a number you can add or remove 1 place value counter in the correct column.

Less

1 less is **7,950**

10 less is **7,941**

100 less is **7,851**

1,000 less is **6,951**

Thousands	Hundreds	Tens	Ones
1,000 1,000 1,000 1,000 1,000 1,000	100 100 100 100 100 100 100 100 100	10 10 10 10 10	1

More

1 more is **7,952**

10 more is **7,961**

100 more is **8,051**

1,000 more is **8,951**

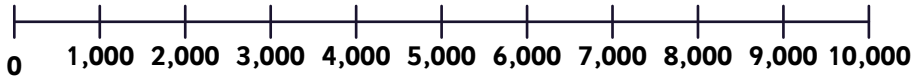
When there is 1 counter in the place value column and you are finding 1 less, you will need to use 0 as a place value holder.

When there are 9 counters in the place value column and you are finding 1 more, you will need to use 0 as a place value holder and add 1 more counter to the next column.

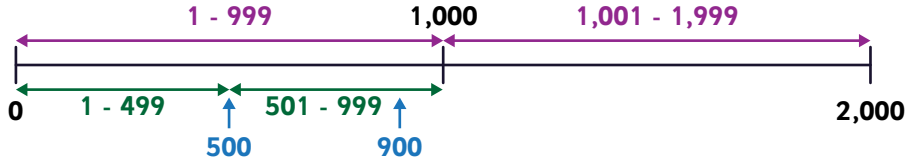
Number lines to 10,000

To find the value of each **interval** you need to find the **difference** between the **start and end value** and then **divide** that number by the number of intervals.

E.g., 10,000 ÷ 10 = 1,000 so each interval is worth 1,000.



Finding halfway points between intervals can help to estimate points on a number line.



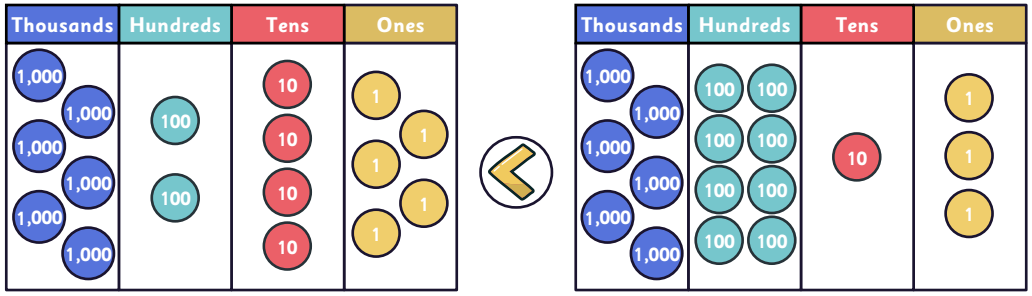
Compare and order numbers


less than


equal to


greater than

When comparing and ordering numbers, you must compare the number in the greatest place value column first!



ascending order (low to high)

1,089 | 1,098 | 1,809 | 1,908 | 1,980

descending order (high to low)

1,980 | 1,908 | 1,809 | 1,098 | 1,089

Roman numerals

When a symbol appears after a larger symbol it is added. **XI = X + I = 10 + 1 = 11**

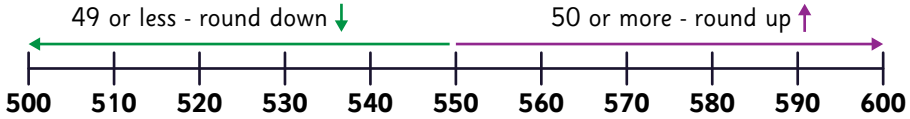
When a symbol appears before a larger symbol it is subtracted. **IX = X - I = 10 - 1 = 9**

1 = I	10 = X	60 = LX
2 - II	20 - XX	70 = LXX
3 = III	30 = XXX	80 = LXXX
4 = IV	40 = XL	90 = XC
5 = V	50 = L	100 = C

Rounding numbers

When rounding to the nearest 10, if the ones digit is:

When rounding to the nearest 100, if the tens and ones is:



When rounding to the nearest 1,000, if the hundreds, tens and ones is: