



Maths Knowledge Organiser

Year 6: Number and Place Value

Prior Knowledge (Y5 Unit 1, 2)

- Read and write numbers to 1,000,000
- Order and compare numbers to at least 1,000,000
- Determine the value of each digit to 1,000,000
- Count forwards or backwards in steps of powers of 10
- Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000
- Solve number problems

Structures and Representations

Place Value Grid

M	HTh	TTh	Th	H	T	O
●●●●	●●●●●	●●●●●●		●	●●	●●●●
4	5	9	0	1	2	4

Part-Whole Model

Number Line

Negative Numbers

You'll most often use negative numbers when looking at temperature.

Temperatures below zero will go into negative numbers.

What is the **difference** between 4 and -5?
The **difference** between -5 and 0 is 5, and the difference between 0 and 4 is 4. In total, the difference is 9.

$3 - 8 = -5$

$-6 + 11 = 5$

- Ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions, ten millions
- Place value
- Partition/partitioning
- Interval
- Estimate
- Compare/comparison
- Order
- Less than <, greater than >, equal to =
- Rounding, round up/down
- Negative, positive
- Odd, even
- Accurate, exactly, approximately

Compare and Order

↑ **Ascending**
Order *smallest to largest*

↓ **Descending**
Order *largest to smallest*

> **more than** < **less than** = **equal**

	equals	greater than	less than
	$26 + 38 = 8 \times 8$	$223\ 873 > 98\ 256$	$901\ 198 < 1\ 091\ 098$
	Both calculations have the value 64.	The number on the left has 2 hundred thousands and the number on the right has 0 hundred thousands.	The number on the right has 1 million and the number on the left has 0 millions.
smallest	81 782	127 352	127 835
	137 019	200 002	greatest



Numbers to Ten Million 10,000,000

3 926 471

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
3	9	2	6	4	7	1

three million, nine hundred and twenty-six thousand, four hundred and seventy-one

3 926 471
3 926 000
471

Tips and tricks for Rounding

- Find your number and circle it.
- Look next door.
- Less than four, just ignore.
- More than 4, add one more (to the circled number)
- Replace the rest with zeroes.

Round Any Number

Rounding to the nearest 1000

2000	← 2499	2500	→ 3000
	round down		round up

Rounding to the nearest 100 000

200 000	← 249 999	250 000	→ 300 000
	round down		round up

Rounding to the nearest 10 000

20 000	← 24 999	25 000	→ 30 000
	round down		round up

Rounding to the nearest 1 000 000

2 000 000	← 2 499 999	2 500 000	→ 3 000 000
	round down		round up