YR3 PLACE VALUE KNOWLEDGE ORGANISER

Key Concepts

- Recognising the place value of each digit in a three digit number
- 100s, 10s and 1s
- Read and write numbers up to 1000 in numerals and in words
- Number line to 1000
- Finding 10 and 100 more or less
- Compare and order objects and numbers up to 1000
- Count in 50s

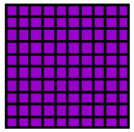
Key Vocabulary

- compare
- greater than >
- less than <
- numeral
- place value
- ones, tens, hundreds
- digit
- count in fifties
- represent
- increase
- decrease

Numbers to 1000 - Base 10

A three-digit number is made up of hundreds, tens and ones.

Base 10 can be used to represent numbers:

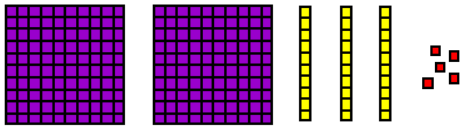


represents a hundred

represents a ten

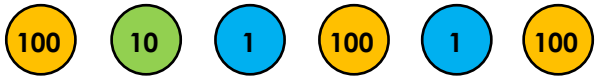
represents a one

This represents the number 235. It is made up of 2 hundreds, 3 tens and 5 ones.



Numbers to 1000 - Place Value Counters

Numbers can also be represented with place value counters:

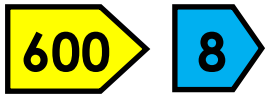


These counters are representing the number 312. It is made up of 3 hundreds, 1 ten and 2 ones.

Numbers to 1000 - Arrow Cards

Numbers can also be represented with place value arrow cards. These cards represent the number 638. It is made up of 6 hundreds, 3 tens and 8 ones.

In this second example, we only have a hundreds card and a ones card.



If we write 68, the 6 would not represent the 600 anymore. We need to have a place holder digit in the tens place and we use a zero for this. The number is written like this - 608.

Place Value of Digits

Place value helps us know the value of a digit, depending on its place in the number.

H	T	O
8	2	5

In the number above, the 8 digit is in the hundreds place so it really means 800.

The 2 digit is in the tens place so it really means 20.

The 5 digit is in the ones place so it means 5.

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Number Line to 1000

Numbers can be placed on a number line. A number line can start and finish with any number e.g.

When estimating where to place 200 on this number line, you need to look at the numbers that are already labelled. I know that 200 is halfway between 100 and 300 therefore I need to label 200 halfway along the number line.

Counting in 50s

50, 100, 150, 200, 250, 300, 350

I have noticed there are 2 lots of 50 in a hundred.

I have noticed I can use my 5 times table to help me count in 50s.

10 and 100 More or Less

To find 10 more or less than a number, you first need to find the digit in the tens place.

H	T	O
6	3	9

Finding 10 more will increase the tens digit by 1. So, in this example, the 3 will become a 4. 10 more than 639 will be 649.

Finding 10 less will decrease the tens digit by 1. So in this example, the 3 will become a 2. 10 less than 639 is 629.

I've noticed that the hundreds and ones digits didn't change.

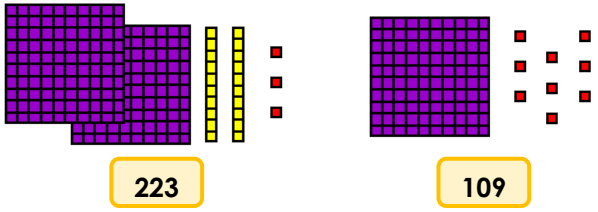
H	T	O
6	9	4

Finding 10 more when the number has a 9 in the tens place is slightly different. Adding 1 to the tens place would give 10, so to show that, the hundreds increases by 1 and a 0 is put in the tens place. 10 more than 694 is 704.

Finding 100 more or less is very similar to finding 10 more or less. Instead of changing the tens number, you change the hundreds numbers.

Ordering and Comparing Numbers

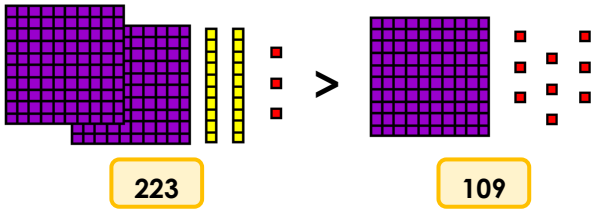
When we put numbers in order, we need to compare the value of their digits.



First, look at the hundreds digits in each number. 1 is the smaller hundred digit so 109 is the smaller number.

We can compare numbers and objects using the **<** and **>** symbols.

< = less than > = greater than.



Read and Write Numbers in Numerals and Words

Numbers can be written in both numerals and words. When writing a number in words, it is useful to think about the place value of the digits.

H	T	O
7	2	5

This would be written as seven hundred and twenty five.

H	T	O
4	0	3

When there is a zero, we don't need to write anything for that column. This is four hundred and three.