

Maths

Number and Place Value

Need a coherently planned sequence of lessons to complement this resource?

Assessment Statements
By the end of this unit;

children working towards the expected level will be able to:

- read and write numbers up to 100 000;
- identify the value of each digit in a number up to 100 000 using place value grids and counters;
- recognise concrete and visual representations of numbers with one decimal place;
- order numbers up to 100 000;
- compare numbers up to 100 000 using the greater than and less than symbols;
- round numbers to the nearest 10, 100, 1 000, 10 000 or 100 000 using a number line; calculate intervals across zero using a number line;
- compare and order negative numbers using a number line;
- identify negative numbers in context;
- recognise some powers of 10 within sequences;
- read Roman numerals up to 500 (D) using a symbol chart;
- identify years written in Roman numerals using a symbol chart;

children working at the expected level will be able to:

- read and write most numbers up to 1 000 000;
- identify the value of most digits in a number up to 1 000 000;
- use concrete, visual and abstract representations to help identify numbers with two decimal places;
- order most numbers up to 1 000 000;
- compare most numbers up to 1 000 000 using the greater than and less than symbols;
- round numbers up to 1 000 000 to the nearest 1000, 10 000 or 100 000 using a number line;
- compare and order negative numbers;
- compare and order negative numbers; solve age appropriate problems involving negative numbers;
- count forwards and backwards in steps of 10;
- read Roman numerals up to 1000 (M);
- identify years written in Roman numerals;
- solve reasoning problems using all of the above skills.

Introduction

Teacher Note: The Y5 Place Value objectives read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit and round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 are closely linked to the Y5 fractions objectives read, write, order and compare numbers with up to three decimal places and round decimals with two decimal places to the nearest whole number and to one decimal place. Please head over to the Fractions Topic Area to find some more support lessons to support decimal place value.

In this unit, children will read, write, construct and deconstruct numbers up to 1 000 000. They will use concrete, visual and abstract methods to help identify the value of individual digits in numbers with up to six digits. As well as larger numbers, children are introduced to the concept of decimal numbers in preparation for the designated book in Spring term. They revisit comparisons of numbers using the greater than and less than symbols and then develop their skills by reasoning about numbers. Children will focus on rounding any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 or 100 000. They will work with negative numbers, counting forwards and backwards across zero. They will use negative numbers in context to solve problems. Children will count forwards and backwards in different powers of 10. They will have the opportunity to use all of their number and place value skills to solve a range of problems. Finally, children will extend their knowledge of Roman numerals to represent numbers up to 1000 and read years written in Roman numerals.

Resources
In addition to your standard maths resources, you may need place value counters, scissors, glue or sticky tape, playing cards, D9 dice and 1-d die.

Number and Place Value
Maths | Year 5 | Steps to Progression Overview

The aim of this overview is to support teachers using PlanIt Maths to show the most coherent and progressive sequence to teach each area of maths. We also want to fully support teachers who use the White Rose Maths scheme of learning to make full use of the resources available within PlanIt Maths. Wherever possible, lesson packs have been matched to each of the small steps on the White Rose Maths scheme of learning.

Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value			Number: Addition and Subtraction		Statistics		Number: Multiplication and Division		Perimeter and Area		Consolidation
Spring	Number: Multiplication and Division			Number: Fractions						Number: Decimals and Percentages		Consolidation
Summer	Number: Decimals			Geometry: Properties of Shapes			Geometry: Position and Direction		Measurement: Converting Units		Measurement: Volume	Consolidation

See our [Number and Place Value Steps to Progression](#) document.



Read and Write Numbers to 100 000



Aim

- To read and write numbers up to at least 100 000.

Success Criteria

- I can read and write numbers up to 100 000 in words.
- I can read and write numbers up to 100 000 in digits.
- I can partition numbers up to 100 000.
- I can use different representations to make numbers up to 100 000.



Remember It



Partition the numbers and write the value of each number in words. An example has been given.

421	$400 + 20 + 1$	four hundred and twenty-one
909		
1 208		one thousand, two hundred and eight
2 580		
7070	$7000 + 70$	
9019		



Place Value



In year 4, we found out that the value of a given digit is 10 times the size if it moves one place to the left on the place value grid.

	$\times 10$		$\times 10$	
Ten Thousands	Thousands	Hundreds	Tens	Ones
				●
		●		

10 is ten times the size of one.



What would ten times the size of one hundred be? **1 000**

Place Value



Add up the place value counters to help find the value.





Ten Thousands	Thousands	Hundreds	Tens	Ones
				

Place Value



Add up the place value counters to help find the value.



Ten Thousands	Thousands	Hundreds	Tens	Ones
				

Place Value



22 110

22 120

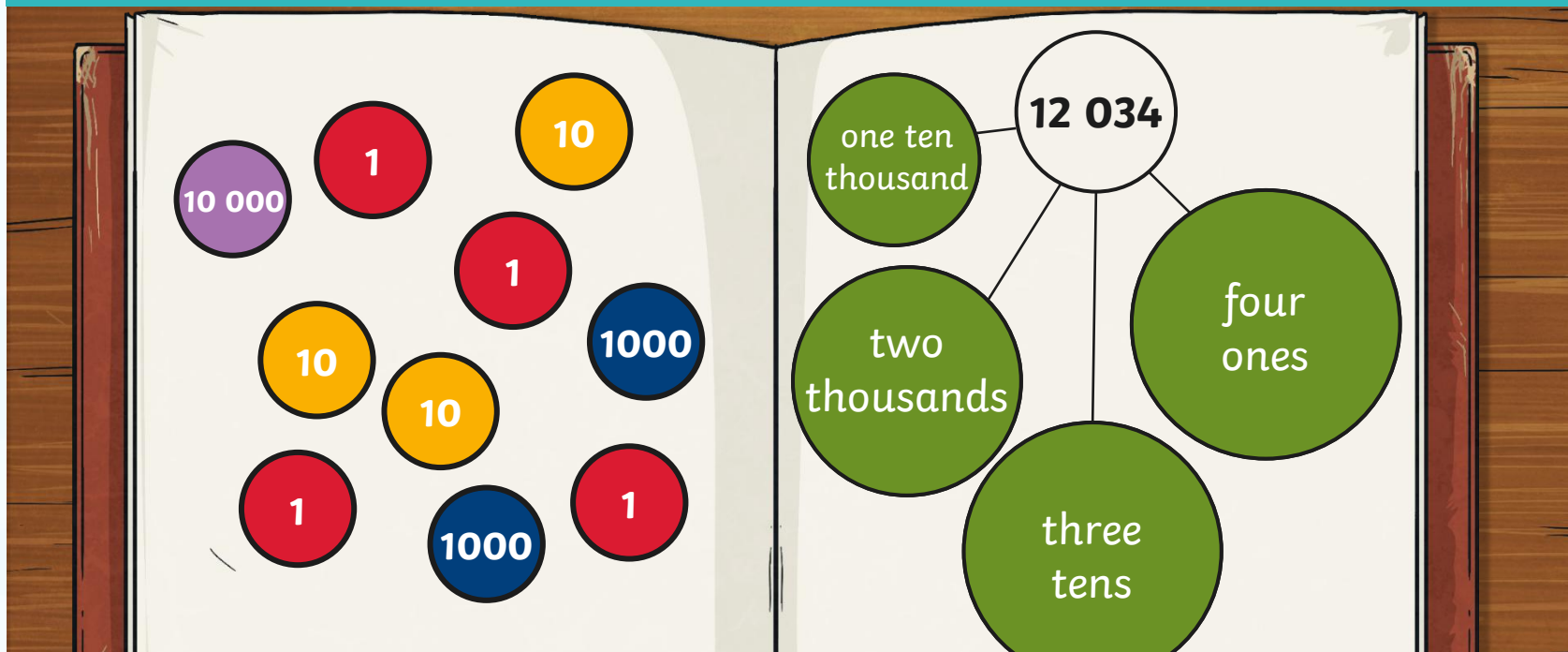
22 109

Ten Thousands	Thousands	Hundreds	Tens	Ones

Parts of Numbers



John makes the number 12 034 from a random selection of place value counters.



Can you describe each part of this number?

Parts of Numbers



John makes the number 12 034 from a random selection of place value counters.

one ten thousand

nine thousands

four hundreds

zero tens

five ones

19 405

nineteen thousand, four hundred and five



Reading Numbers



We can use a place value grid to help us read large or small numbers.

We always enter numbers into the place value grid starting from the right.

76 293

millions	Ten Thousands	Thousands	Hundreds	Tens	Ones
	7	6	2	9	3

Reading Numbers



The place value grid helps us to see the value of each digit in the number, so that we can read it easily.

76 293

Ten Thousands	Thousands	Hundreds	Tens	Ones
7	6	2	9	3

seventy-six thousand, two hundred and ninety-three

Reading Numbers



Use the place value grid to help you read the amounts shown.

95 550

ninety-five thousand, five hundred and fifty

23 405

twenty-three thousand, four hundred and five

90 019

ninety thousand and nineteen

Ten Thousands	Thousands	Hundreds	Tens	Ones
9	0	5	0	9



Reading Numbers



Use a place value grid to help read the following numbers out loud.

10 806

Ten thousand, eight hundred and six

76 293

Seventy-six thousand, two hundred and ninety-three

80 002

Eighty-thousand and two

99 019

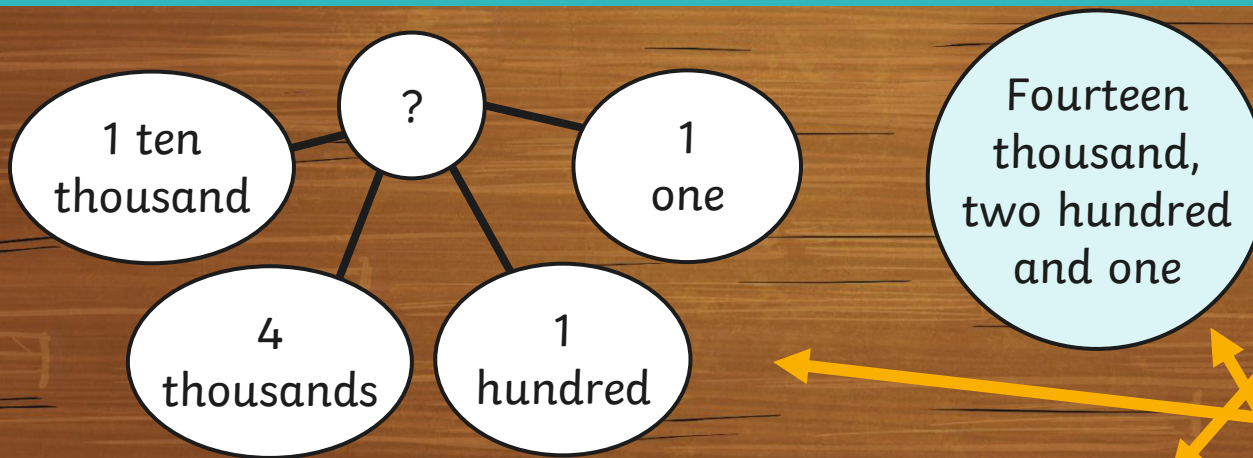
Ninety-nine thousand and nineteen



Reading Numbers



Use a place value grid to help read the following numbers out loud.



Ten Thousands	Thousands	Hundreds	Tens	Ones
10 000	1000 1000	100		1

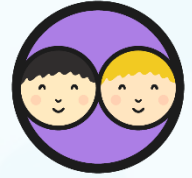
11 201

14 101

14 201



Lucky Dip



With a partner, choose 10 place value counters at random.

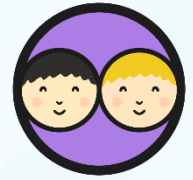
Use a place value grid to help sort the counters into the correct sections, representing a number up to 100 000.

Read the number out loud and check that your partner agrees.



Ten Thousands	Thousands	Hundreds	Tens	Ones

Composing Numbers



Use a place value grid to help you to write each number in words and digits. Be careful, as some may be written out of order.

★	
★★ ★★	four ten thousands, two thousands, three hundreds, four tens and nine ones
★★ ★★ ★★	three tens, seven thousands, five ones, seven ten thousands and zero hundreds

12 001

twelve thousand and one

42 349

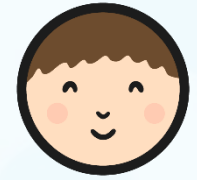
forty-two thousand, three hundred and forty-nine

77 035

seventy-seven thousand and thirty five



Read and Write Numbers to 100 000 Activity Sheet



Read and Write Numbers to 100 000

To read and write numbers to at least 100 000.

1. Match the representation to the correct number.

43 250

44 304

one hundred, one ten, three thousands, four ten thousands and four ones



2. Complete the table to correctly show the different representations

Number as Digits	Number in Words	Partitioned
		six ones, ten thousand
	eight thousand, five hundred and sixty-nine	
		seven ones
90 009		

3. Write the partitioned numbers in words.

seven ones, two ten thousands, nine tens and one thousand

fourteen hundreds

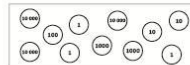
Read and Write Numbers to 100 000

To read and write numbers to at least 100 000.

1. Match the representation to the correct number.

92 764

32 123

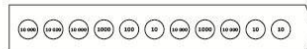


ninety-two thousand, seven hundred and sixty-four

2. Draw counters to represent the correct place value of each number

Number as Digits	Number in Words	Partitioned
		six ones, ten thousand
12 453		
	eight thousand, five hundred and sixty-nine	
		four tens

3. James starts at the number shown and counts forwards in 100's. What number will he say second?



Read and Write Numbers to 100 000

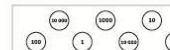
To read and write numbers to at least 100 000.

1. Match the representation to the correct number.

21 101

12 207

21 112



twelve thousand, two hundred and seven

twenty-one thousand, one hundred and one

2. Draw counters to represent the correct place value of each number shown.

a. 1582

Ten Thousands	Thousands	Hundreds	Tens	Ones

b. 5 009

Ten Thousands	Thousands	Hundreds	Tens	Ones

c. 28 082

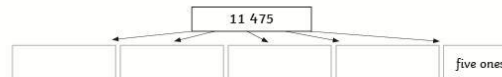
Ten Thousands	Thousands	Hundreds	Tens	Ones

3. Write the numbers in words.

56 939

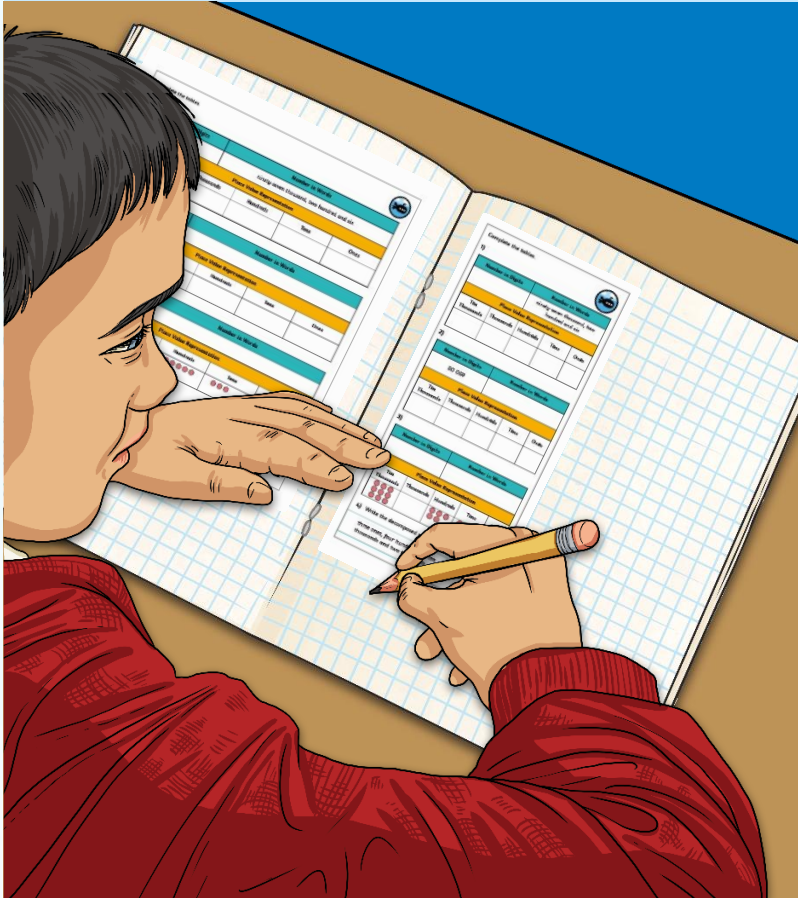
91 007

4. Complete the partition diagram to help describe the place value of each digit in the number.





Diving into Mastery

Dive in by completing your own activity!



Complete the tables.



- 1)

Number in Digits		Number in Words				
		ninety-seven thousand, two hundred and six				
Place Value Representation						
Ten Thousands	Thousands	Hundreds	Tens	Ones		
- 2)

Number in Digits		Number in Words				
80 059						
Place Value Representation						
Ten Thousands	Thousands	Hundreds	Tens	Ones		
- 3)

Number in Digits		Number in Words				
●●●		●●●●● ●●●				
Place Value Representation						
Ten Thousands	Thousands	Hundreds	Tens	Ones		
- 4) Write the decomposed number in words and digits.

three ones, four hundreds, six ten thousands and two thousands

ns are correct and which are

teacher's earnings in words.

a mistake in one of your



Number Puzzles



Can you match up these numbers in words and digits?

10 002

ten thousand and two

78 029

ten thousand and twenty nine

40 389

forty thousand, three hundred and eighty six

10 029

eighty-nine thousand and three

89 003

seventy-eight thousand and twenty nine



Aim



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