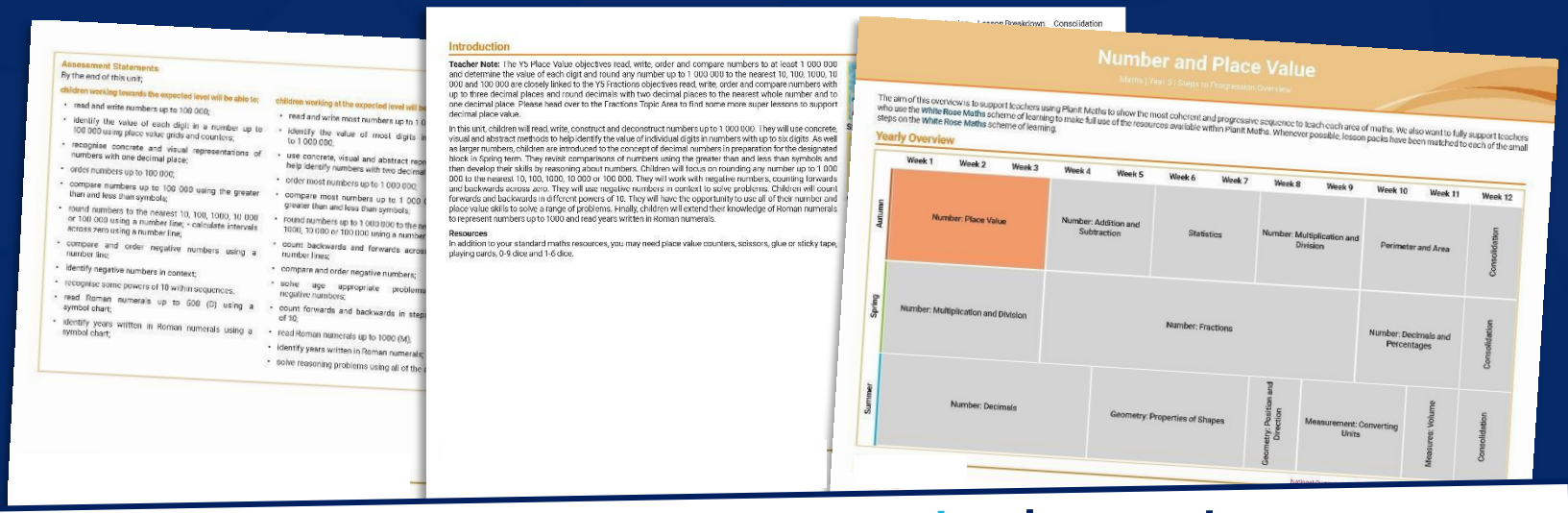
Maths

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, 1000, 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

- read and write most numbers up to 1
- identify the value of most digits i to 1 000 000;
- use concrete, visual and abstract repr help identify numbers with two decima
- order most numbers up to 1 000 000;
- compare most numbers up to 1 000 greater than and less than symbols;
- round numbers up to 1 000 000 to the ne 1000, 10 000 or 100 000 using a number
- count backwards and forwards across number lines;
- compare and order negative numbers;
- solve age appropriate problems 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

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 super 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 block 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, 0-9 dice and 1-6 dice.

Lesson Breakdown Consolidation

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	Measures: Volume	Consolidation

See our Number and Place Value document.

Read and Write Numbers to 1 000 000

Aim

- To read and write numbers up to at least 1 000 000.

Success Criteria

- I can read and write numbers up to 1 000 000 in words.
- I can read and write numbers up to 1 000 000 in digits.
- I can partition numbers up to 1 000 000.
- I can make numbers up to 1 000 000.

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
1	909		
2			one thousand, two hundred and eight
3	78 560		
4		60 000 + 200 + 3	
5	90 092		

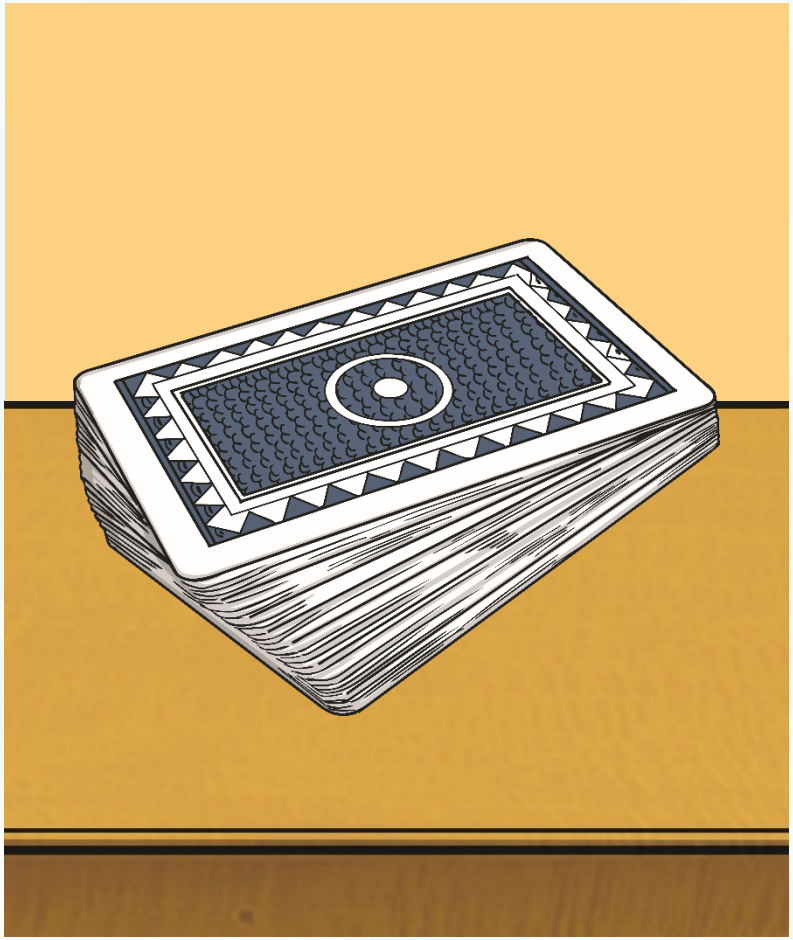
Card Game

Shuffle a deck of cards.

You and your partner should each draw 5 cards at random.

Arrange your cards to make a 5-digit number.

Who can make the greatest number?

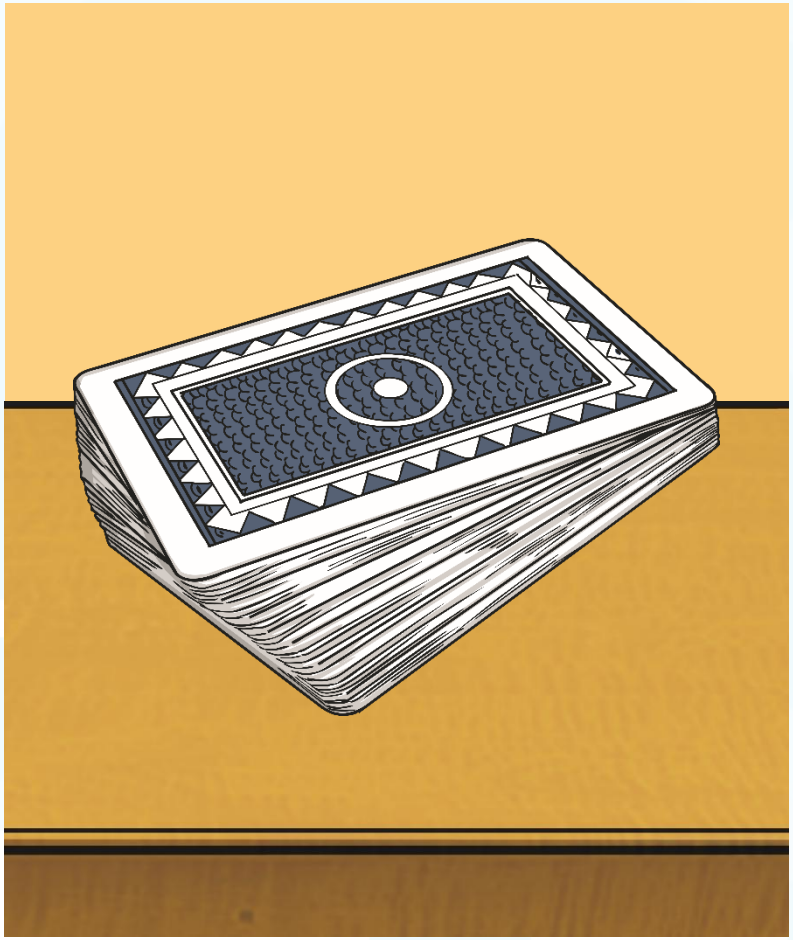


Card Game

Shuffle the deck of cards again.

Draw another 5 cards each.

Who can arrange their cards to make the smallest 5-digit number?

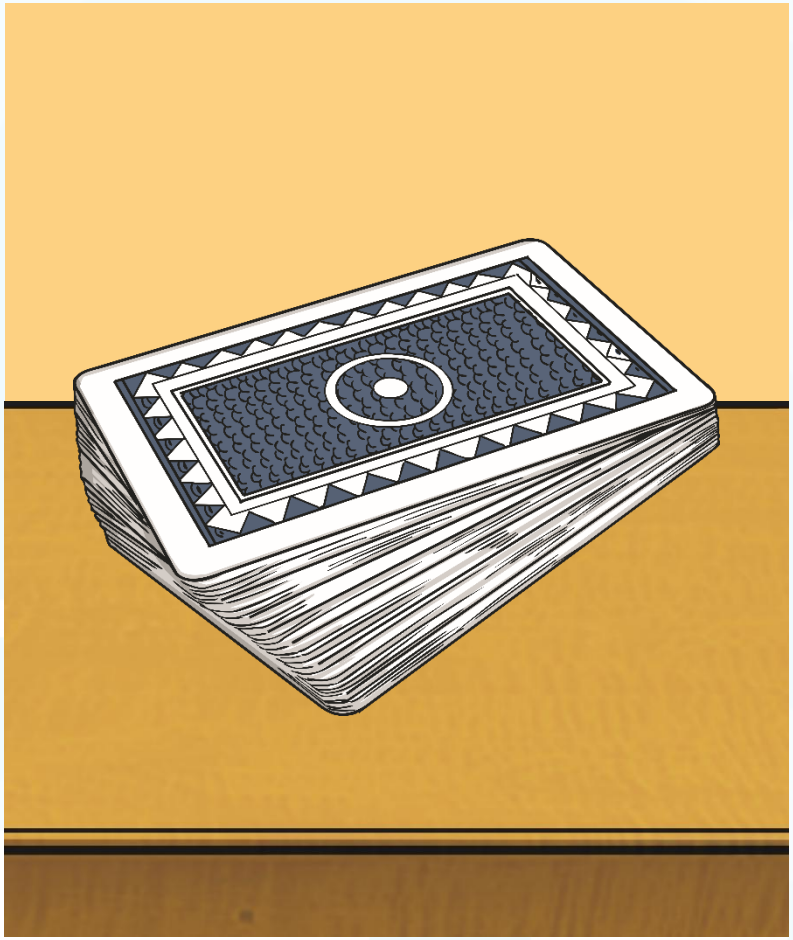


Card Game

Shuffle the deck of cards again.

Draw another 5 cards each.

Who can arrange their cards to make a number closest to 50 000?



The Rich List

Whole Class

The Rich List is a list of the richest people in the world. Lots of famous people appear on The Rich List, such as singers, actors and writers.

Many people on The Rich List earn millions of pounds for their work! It can be tricky to read such large numbers.

In today's lesson, we are going to look at how to read and write numbers up to at least one million.

Reading Numbers

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

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

576 293

Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
		5	7	6	2	9	3

Reading Numbers

Place value counters help to recognise the value of each digit in each number.

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

The same number, **576 293**, has been represented using place value counters.

Reading Numbers

What number has been represented with place value counters?
Remember to work from right to left.

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

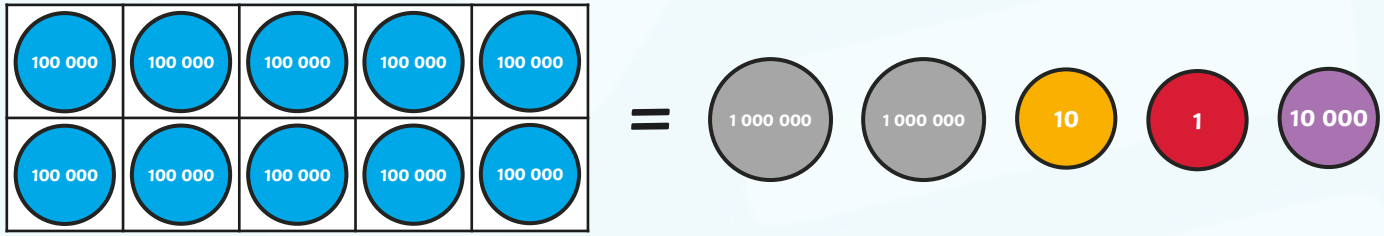
102 111

122 121

100 211

Reading Numbers

What number has been represented with place value counters?
Remember to work from right to left.



Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
1 000 000 1 000 000		10 000			10	1

one million, ten hundred thousand, ten thousand and eleven

1 101 011

two million, ten thousand and eleven

Reading Numbers

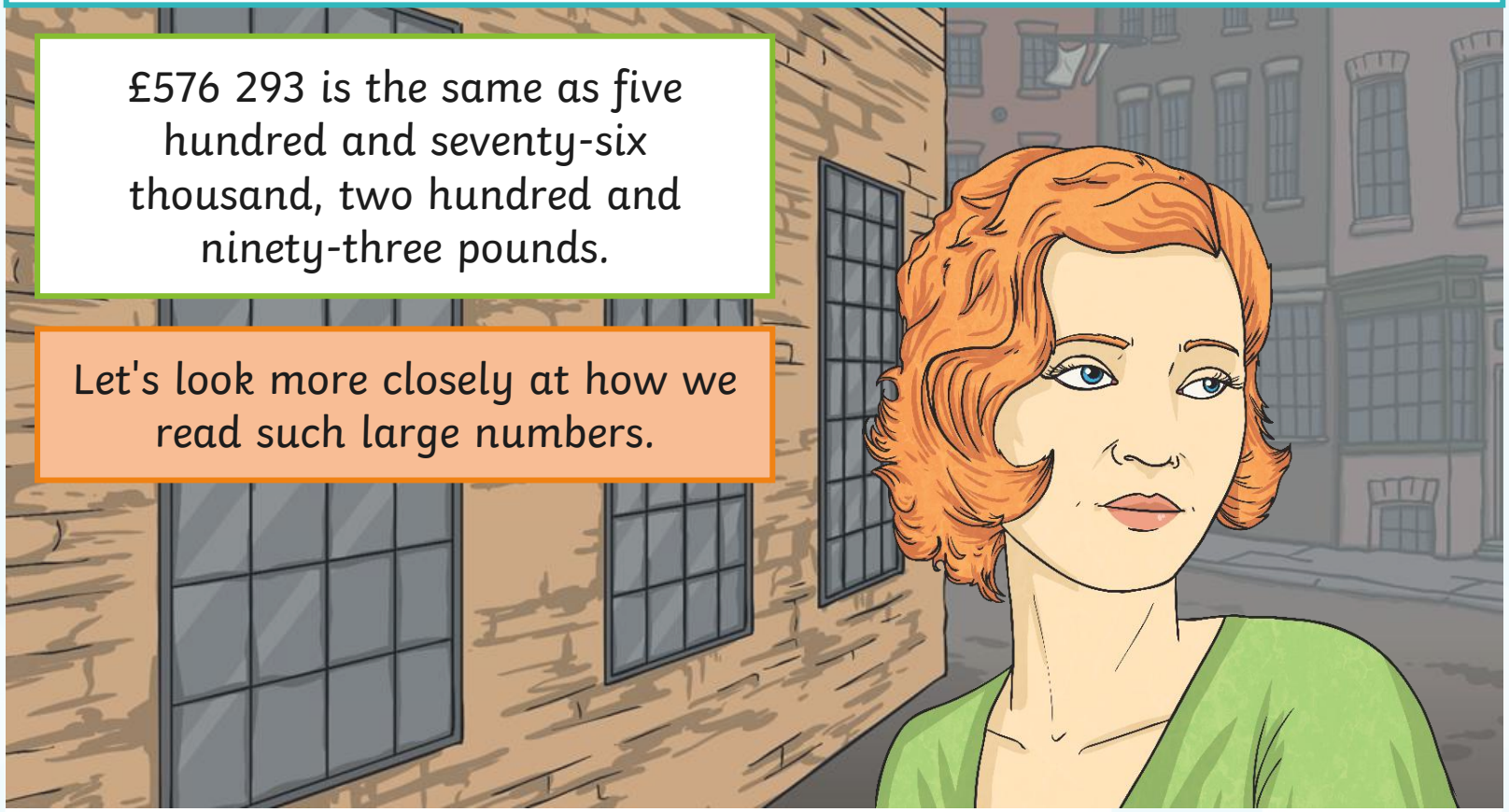
Whole Class

Ms Story is a famous writer.

Reading Numbers

Whole Class

Were you able to read it?



£576 293 is the same as five hundred and seventy-six thousand, two hundred and ninety-three pounds.

Let's look more closely at how we read such large numbers.

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.

576 293

Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
		5	7	6	2	9	3

Five hundred and seventy-six thousand, two hundred and ninety-three.

Reading Numbers

Use the place value grid to help you read how much money these celebrities earned:

Tara Singer earned £764 830.	×
Thomas Theatre made £57 847.	×
Dorothy Dancer earned £2 648 539.	×

Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	2	6	5	8	8	4	0

Two million, six hundred and forty-eight thousand

Fifty-seven thousand, eight hundred and forty-seven pounds.

Parts of Numbers

Each digit in a number tells us about a different part of the number.

A pop band earned £675 209 last month.
We can split this number into its separate parts.

675 209

six hundred thousands

seven ten thousands

five thousands

two hundreds

zero tens

nine ones

Parts of Numbers

A girl band earned £802 684.

Can you describe each part of this number?

802 684

- eight hundred thousands
- zero ten thousands
- two thousands
- six hundreds
- eight tens
- four ones

Parts of Numbers

Can you work out how much Nicki Artist earned by putting together the parts of the number? Give the number in digits and in words.

three hundred thousands	one ten thousand
nine thousands	four hundreds
zero tens	five ones

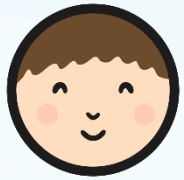
Nicki Artist earned **£319 405 or three hundred and nineteen thousand, four hundred and five pounds.**

Parts of Numbers

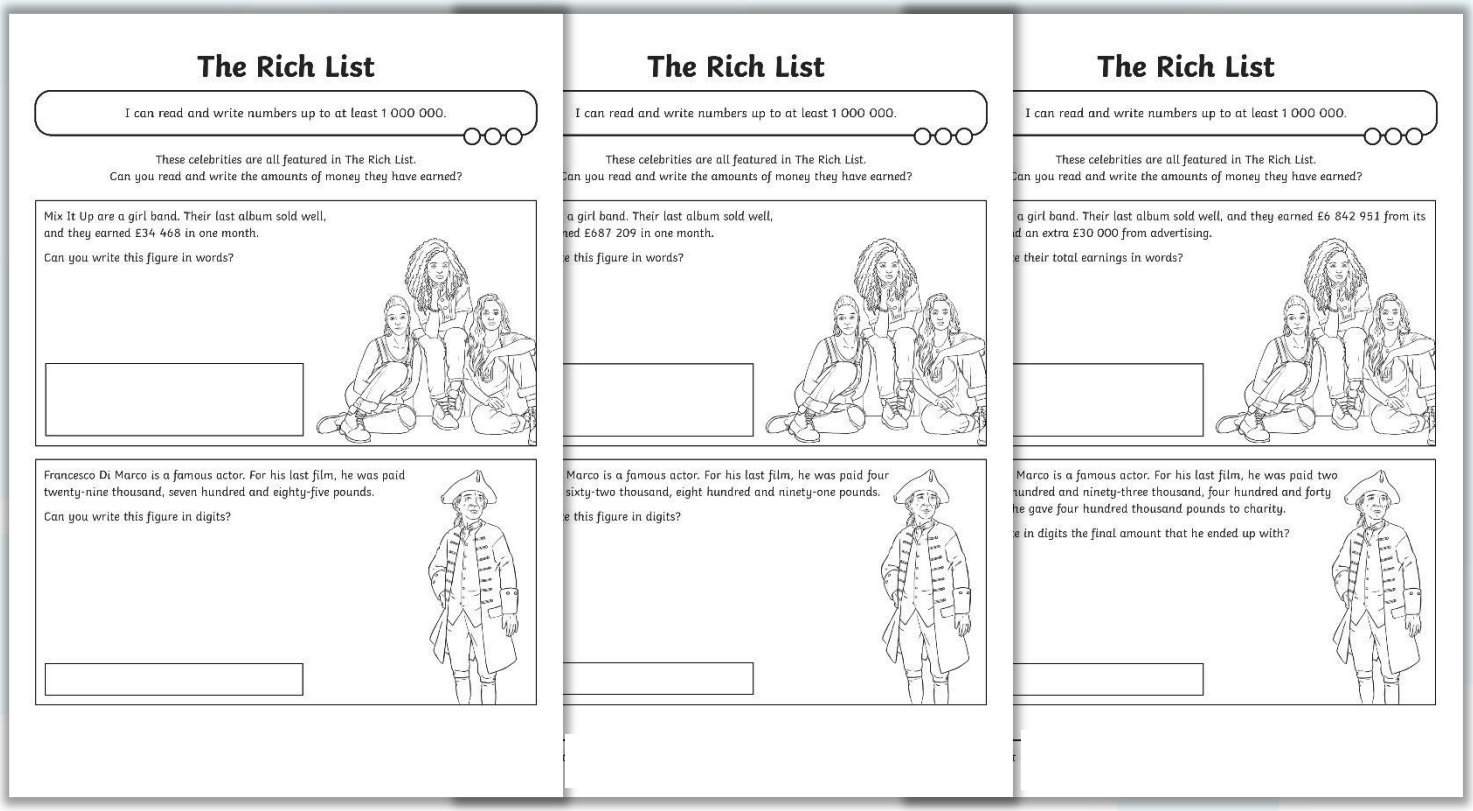
Choose the parts of numbers in one of these columns and give the number they make in words and digits. Be careful as some may be written out of order.

★	★★	★★★
five ten thousands, seven thousands, three hundred, four tens and nine ones	three tens, seven thousands, five ones, eight hundred thousands, seven ten thousands and zero hundreds	four millions, six ones, four tens, eight hundred thousands, nine hundreds, three ten thousands and zero thousands
57 349 **fifty-seven thousand, three hundred and forty-nine**	**877 035** **eight hundred and seventy-seven thousand and thirty-five**	**4 830 946** **four million, eight hundred and thirty thousand, nine hundred and forty-six**

The Rich List Activity



Can you read and write the amounts that the different celebrities have earned?



The Rich List

I can read and write numbers up to at least 1 000 000.

These celebrities are all featured in The Rich List.
Can you read and write the amounts of money they have earned?

Mix It Up are a girl band. Their last album sold well, and they earned £34 468 in one month.

Can you write this figure in words?

Francesco Di Marco is a famous actor. For his last film, he was paid twenty-nine thousand, seven hundred and eighty-five pounds.

Can you write this figure in digits?

The Rich List

I can read and write numbers up to at least 1 000 000.

These celebrities are all featured in The Rich List.
Can you read and write the amounts of money they have earned?

a girl band. Their last album sold well, ned £687 209 in one month.

e this figure in words?

Marco is a famous actor. For his last film, he was paid four sixty-two thousand, eight hundred and ninety-one pounds.

e this figure in digits?

The Rich List

I can read and write numbers up to at least 1 000 000.

These celebrities are all featured in The Rich List.
Can you read and write the amounts of money they have earned?

a girl band. Their last album sold well, and they earned £6 842 951 from its d an extra £30 000 from advertising.

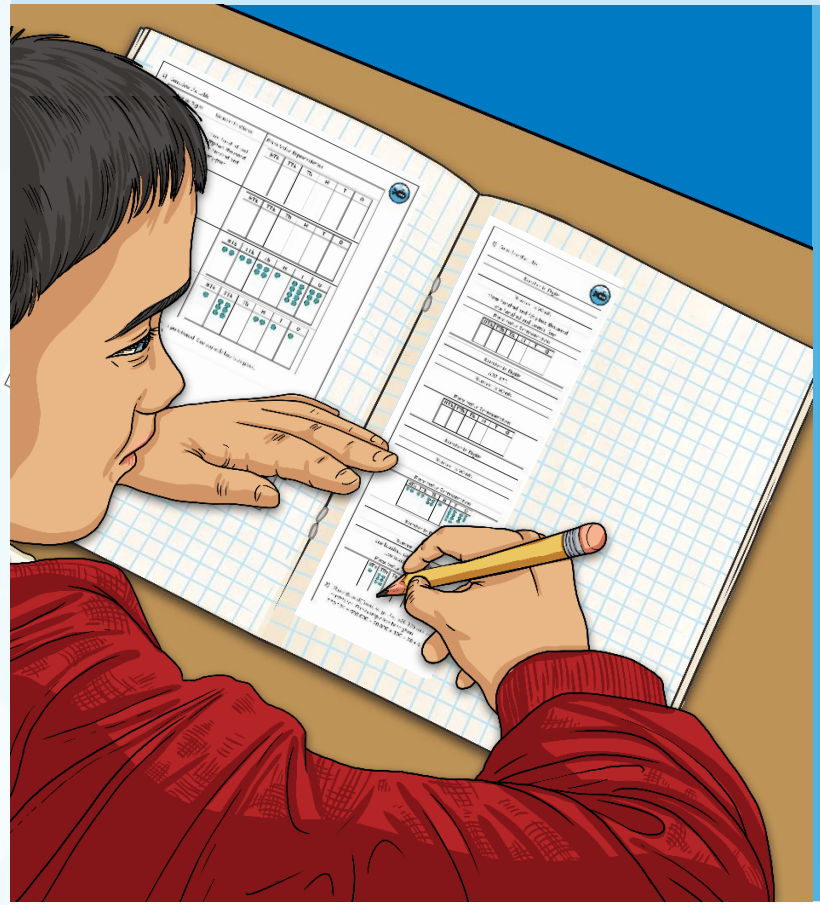
e their total earnings in words?

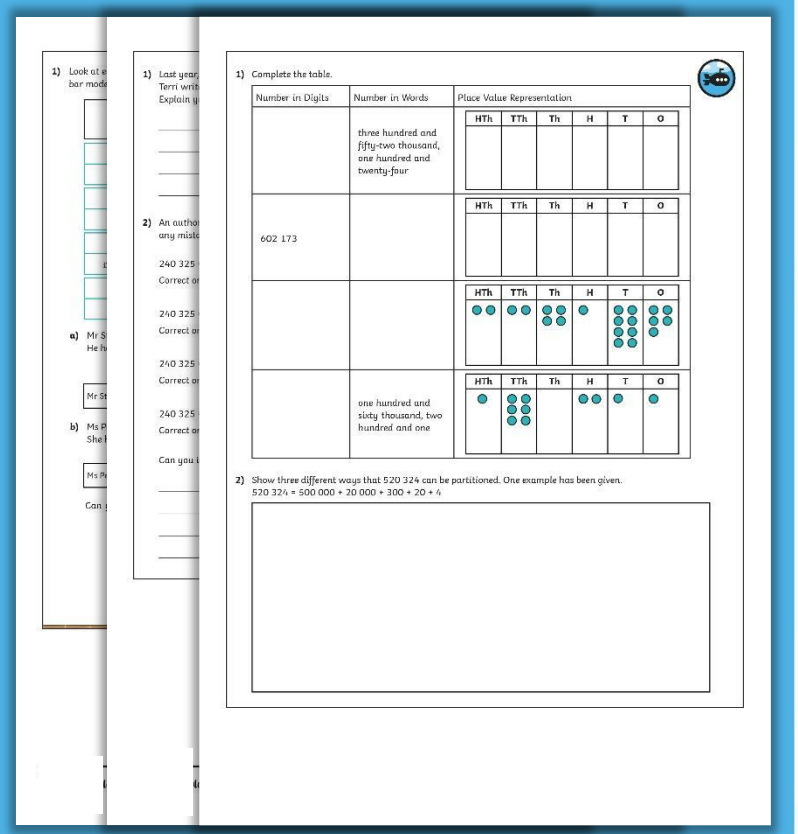
Marco is a famous actor. For his last film, he was paid two hundred and ninety-three thousand, four hundred and forty he gave four hundred thousand pounds to charity.

e in digits the final amount that he ended up with?

Diving into Mastery

Dive in by completing your own activity!





1) Complete the table.

Number in Digits	Number in Words	Place Value Representation
	three hundred and fifty-two thousand, one hundred and twenty-four	HTh TTh Th H T O
602 173		HTh TTh Th H T O
		HTh TTh Th H T O
	one hundred and sixty thousand, two hundred and one	HTh TTh Th H T O

2) Show three different ways that 520 324 can be partitioned. One example has been given.
520 324 = 500 000 + 20 000 + 300 + 20 + 4

Number Puzzles

Can you match up these numbers in words and digits?

676 280	four hundred and fifty-three thousand, seven hundred and ninety-one
409 163	six hundred and seventy-six thousand, two hundred and eighty
453 791	six million, eight hundred and ninety-three thousand, one hundred and one
4 391 512	four million, three hundred and ninety-one thousand, five hundred and twelve
6 893 101	four hundred and nine thousand, one hundred and sixty-three

Aim

- To read and write numbers up to at least 1 000 000.

Success Criteria

- I can read and write numbers up to 1 000 000 in words.
- I can read and write numbers up to 1 000 000 in digits.
- I can partition numbers up to 1 000 000.
- I can make numbers up to 1 000 000.