



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 able to:

- read and write most numbers up to 1 000 000;
- identify the value of most digits in numbers 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;
- 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, D-9 dice and 1-d die.

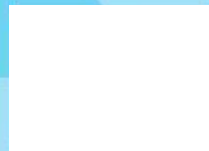
Number and Place Value
Maths | Year 5 | Scope to Progression Overview

The aim of the 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

Roman Numerals



Aim

- To read Roman numerals.

Success Criteria

- I can identify the value of the I, V, X, L, C, D and M letter symbols used in Roman numerals.
- I can identify how Roman numerals are combined to represent numbers.
- I can read Roman numerals.
- I can read years written in Roman numerals.

Remember It



Write the value of the underlined digit in each 4-digit number.

18 467
60

20 504
20 000

32 918
8

54 963
900

13 521
3000

79 055
70 000

Roman Numerals

In our base 10 place value number system, we use the digits 0–9. The position of the digits tells us about the value of the digits. We use zero as a place holder.

Hello, my name is Albus and I'm an archaeologist. I will be helping you to read Roman numerals.

10 000s	1000s	100s	10s	1s
5	7	6	0	3

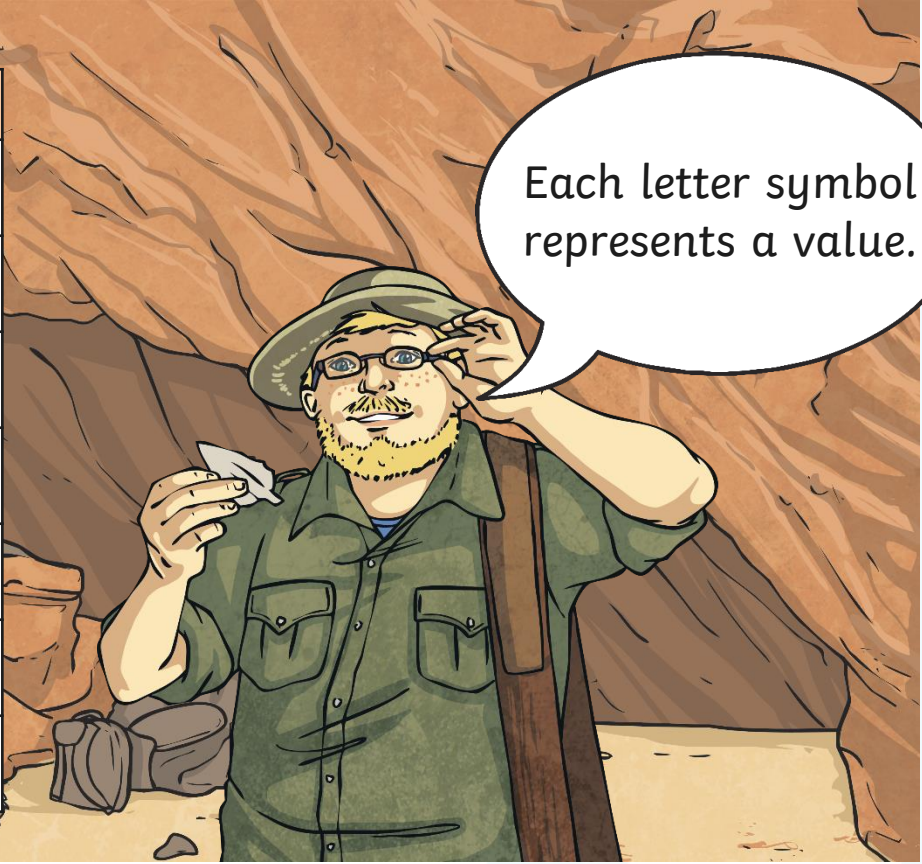
Roman Numerals

Around 2000 years ago, the Romans used a different number system. They used letter symbols that combined together to represent values. They did not use zeros or have any placeholders at all!

I	V	X	L	C	D	M
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Roman Numerals

Letter	Value
I	1
V	5
X	10
L	50
C	100
D	500
M	1000



Each letter symbol represents a value.

Roman Numerals

Can you see a pattern in how these numbers are written as Roman numerals?

Thousands		Hundreds		Tens		Ones	
M	1000	C	100	X	10	I	1
MM	2000	CC	200	XX	20	II	2
MMM	3000	CCC	300	XXX	30	III	3
		CD	400	XL	40	IV	4
		D	500	L	50	V	5
		DC	600	LX	60	VI	6
		DCC	700	LXX	70	VII	7
		DCCC	800	LXXX	80	VIII	8
		CM	900	XC	90	IX	9

For the value of 9, the Romans put the smaller value letter symbol first, to show that we should subtract it from the larger value symbol. This rule is repeated for the values of 90 and 900.

$$\begin{aligned}IX &= 10 - 1 \\XC &= 100 - 10 \\CM &= 1000 - 100\end{aligned}$$

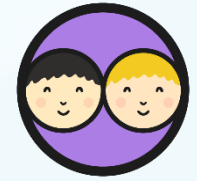
Roman Numerals

Thousands		Hundreds		Tens		Ones	
M	1000	C	100	X	10	I	1
MM	2000	CC	200	XX	20	II	2
MMM	3000	CCC	300	XXX	30	III	3
		CD	400	XL	40	IV	4
		D	500	L	50	V	5
		DC	600	LX	60	VI	6
		DCC	700	LXX	70	VII	7
		DCCC	800	LXXX	80	VIII	8
		CM	900	XC	90	IX	9

Finally V = 5.
The Roman numeral reads 3645.

MMMDCXLV

3000 600 40 5



Read like a Roman

It's time to test out your knowledge!

Can you read
each Roman
numeral?

MCCLXXI

1271

MDXXXIV

1534

MMDCCCLII

2852

MMMCMXVI

3916

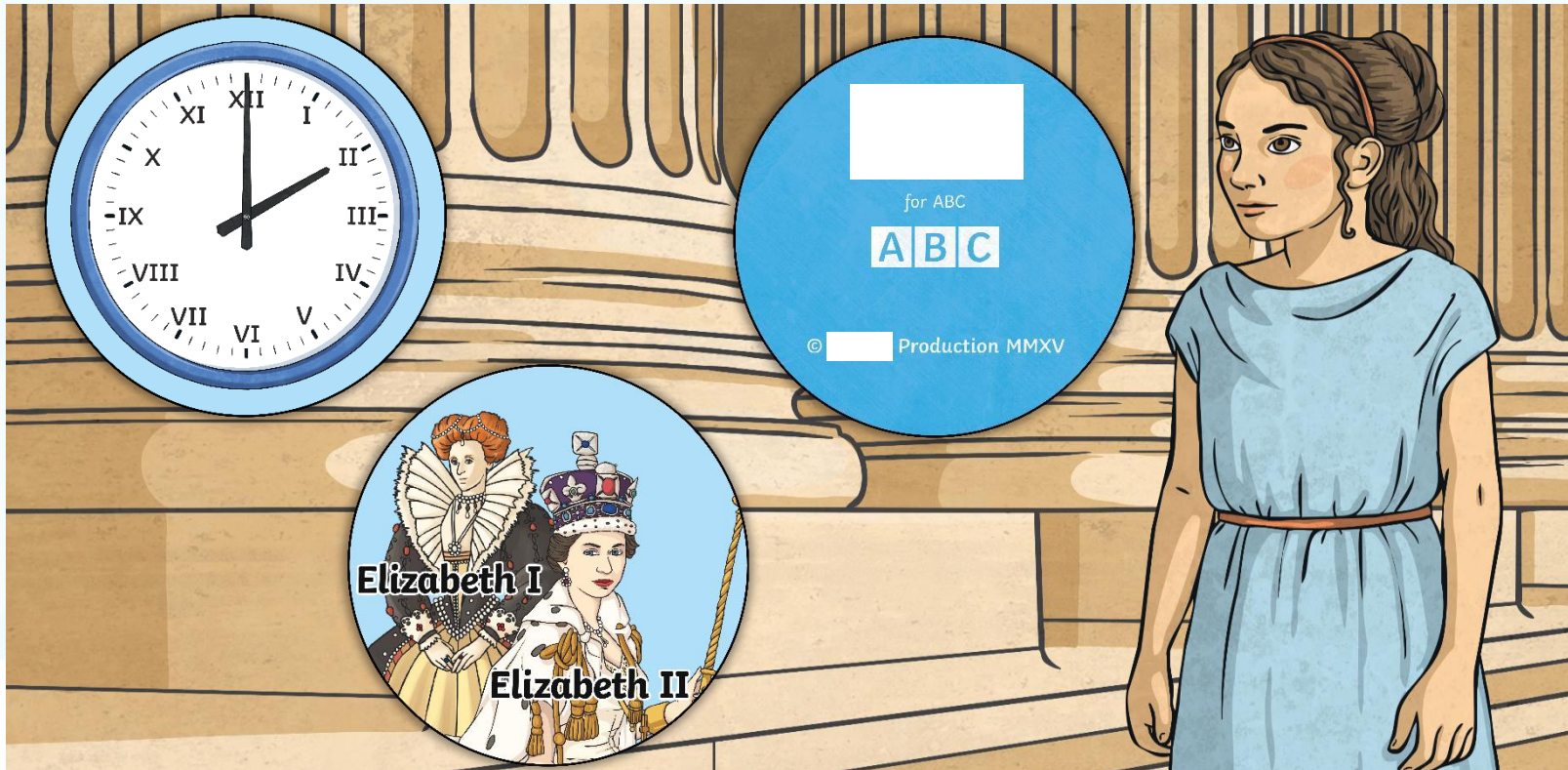
Thousands		Hundreds		Tens		Ones	
M	1000	C	100	X	10	I	1
MM	2000	CC	200	XX	20	II	2
MMM	3000	CCC	300	XXX	30	III	3
		CD	400	XL	40	IV	4
		D	500	L	50	V	5
		DC	600	LX	60	VI	6
		DCC	700	LXX	70	VII	7
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Roman Numerals Today

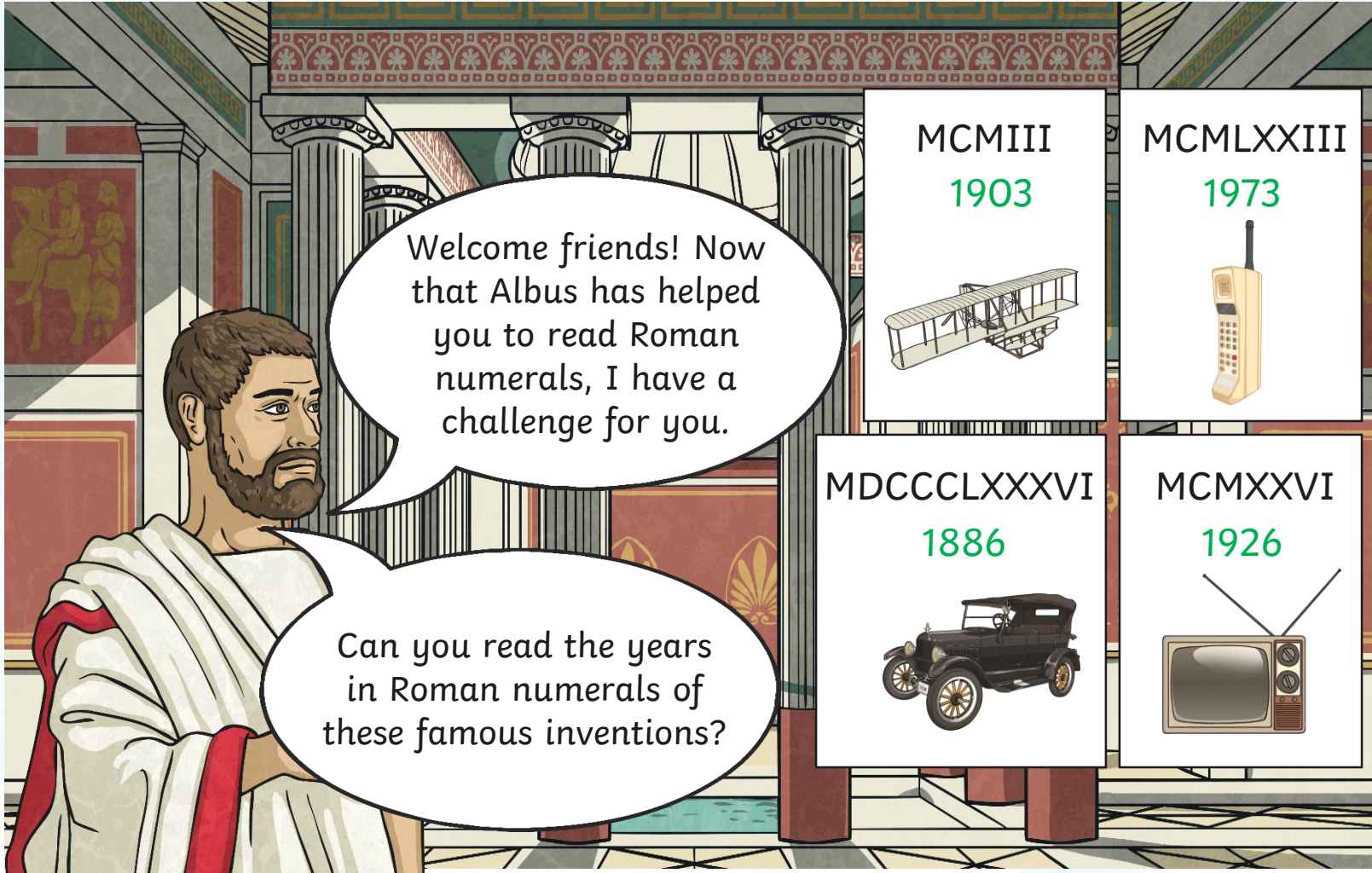


Roman numerals are still used in our everyday lives.

Can you think of somewhere you have seen Roman numerals?




Roman Numerals Challenge



Welcome friends! Now that Albus has helped you to read Roman numerals, I have a challenge for you.

Can you read the years in Roman numerals of these famous inventions?

MCMIII
1903



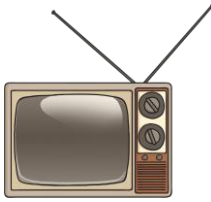
MCMLXXIII
1973



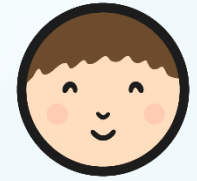
MDCCCLXXXVI
1886



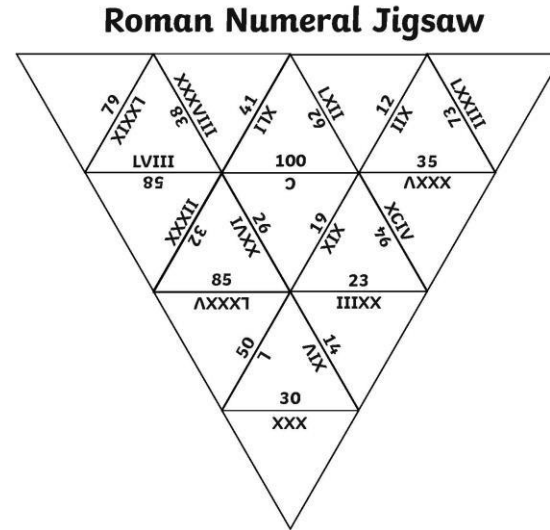
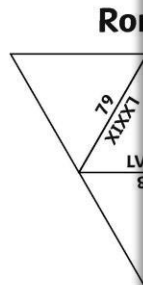
MCMXXVI
1926



Roman Numerals Jigsaw

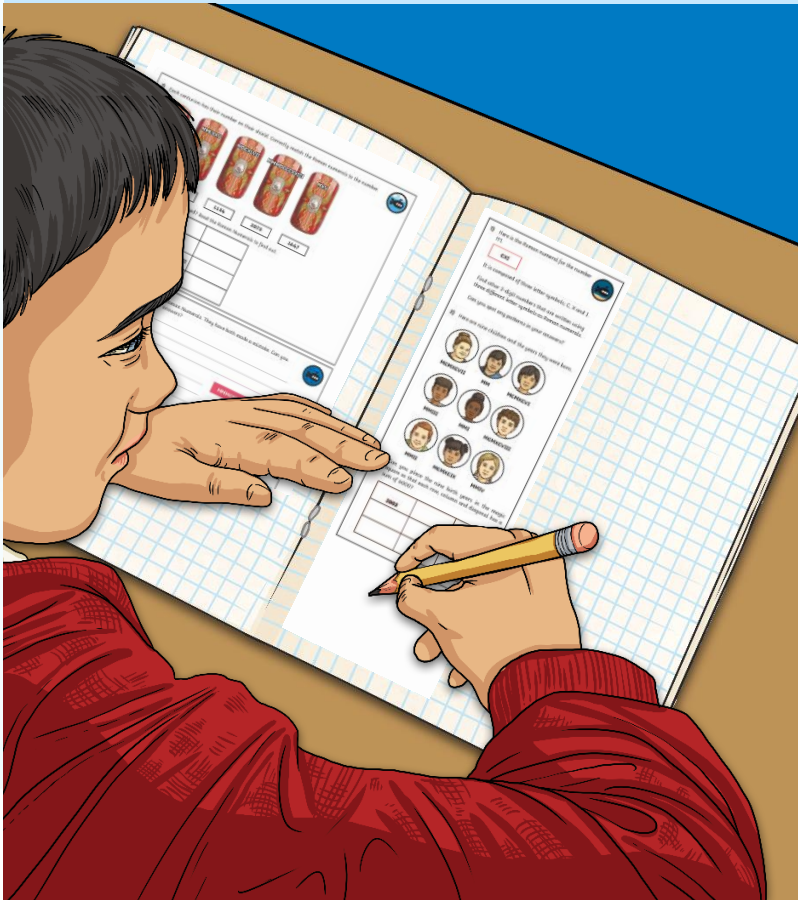


Complete the Roman Numerals Jigsaw by matching the Roman numerals with the correct numbers.






Diving into Mastery



Dive in by completing your own activity!







1) Each centurion has their number on their shield. Correctly match the Roman numerals to the number.




1015 1154 2075 1647 3823



2) Here are some films and the year they were released. Write the year in Roman numerals.

	Snow Story MMXIII	
	Lion Prince MCMXCIV	
	Twinkl Adventure MCMLXXXII	
	Animal Story MMII	





1) Each centurion has their number on their shield. Correctly match the Roman numerals to the number.







1015 1154 2075 1647 3823

2) Here are some films and the year they were released. Write the year in Roman numerals.

	Snow Story MMXIII	
	Lion Prince MCMXCIV	
	Twinkl Adventure MCMLXXXII	
	Animal Story MMII	

4192  Jamil

film is re. It was MCMXCIX.  Jamil

as the most letter symbols.

Matching Mistakes



2914

1435

1340

2513

3494

MMMCDXCIV

MCCCXL

MMDXIII

MCDXXXV

MMCMXIV

Answer

Answer

Answer

Answer

Answer

Can you spot the mistakes? Explain your reasoning.

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