Place Value

Identify and write Roman numerals

Objectives

Day 1

Read/write Roman numerals to 1000 (M).

Day 2

Recognise years written in Roman numerals.

Place Value

Identify and write Roman numerals

Starters

Day 1

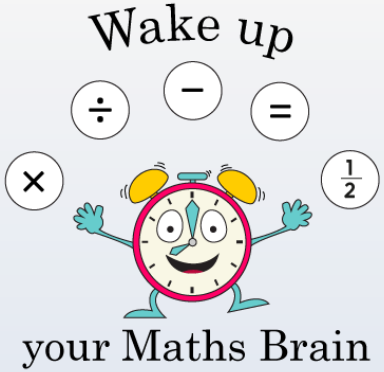
Read the time on a clock with Roman numerals (pre-requisite skills)

Day 2

Write numbers less than 100 using Roman numerals (pre-requisite skills)

Place Value

Identify and write Roman numerals

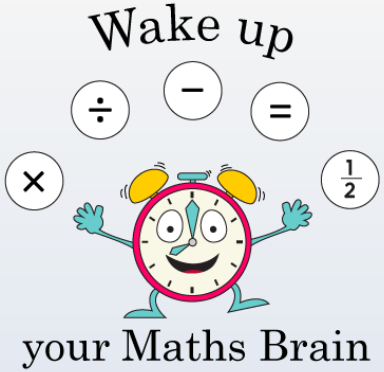


Starter

Read the time on a clock with Roman numerals

Place Value

Identify and write Roman numerals



Starter

Write numbers less than 100 using Roman numerals

Place Value

Identify and write Roman numerals

Objectives

Day 1

Read/write Roman numerals to 1000 (M).

Day 1: Read/write Roman numerals to 1000 (M).

We're going to write numbers 1 to 10 using Roman numerals.

Now we're going to write the multiples of 10 from 10 to 100 using Roman numerals.

I
II
III
IV
V
VI
VII
VIII
IX
X

X
XX
XXX
XL
L
LX
LXX
LXXX
XC
C

Can you remember what comes next?

What comes next?

What comes next?

Can you r… what comes next?

What co…

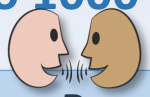
Write 28 using Roman numerals.

Write 41 using Roman numerals.

Write 54 using Roman numerals.

Write 99 using Roman numerals.

Day 1: Read/write Roman numerals to 1000 (M).



Here are some Roman numbers:
CCXI, CDXXVII, DCCLV.
Talk to a partner to work out how we would usually write these numbers.

to write the
from 100 to
an numerals.

I	X	C
II	XX	CC
III	XXX	CCC
IV	XL	CD
V	L	D
VI	LX	DC
VII	LXX	DCC
VIII	LXXX	DCCC
IX	XC	CM
X	C	M

How do you think the multiples of 100 from 500 to 1000 are written?

Roman numerals

Sheet 1

Write the next two numbers in each sequence.

I.	XXII	XXIII	XXIV	_____	_____
II.	LI	LII	LIII	_____	_____
III.	XXVII	XXVIII	XXIX	_____	_____
IV.	XLVI	XLVII	XLVIII	_____	_____
V.	LXV	LXVI	LXVII	_____	_____
VI.	CI	CII	CIII	_____	_____
VII.	CXXV	CXXVI	CXXVII	_____	_____
VIII.	CCXVII	CCXVIII	CCXIX	_____	_____
IX.	CCLX	CCLXI	CCLXII	_____	_____
X.	DXXII	DXXIII	DXXIV	_____	_____
XI.	CDXV	CDXVI	CDXVII	_____	_____
XII.	DCXI	DCXII	DCXIII	_____	_____
XIII.	MII	MI	M	_____	_____

Challenge

Make up three more sequences with numbers goin your partner find the next two numbers?

Place Value

Identify and write Roman numerals

Objectives

Day 2

Recognise years written in Roman numerals.

Day 2: Recognise years written in Roman numerals.

Have you ever seen the year a film/TV programme was made written in Roman numerals at the end of the credits?

This year written in Roman numerals is MMXIX.

See how there is no symbol to say that there are no 100s in this number.

In fact, even in the number system which we use, there were no zeroes for hundreds of years! Historians generally agree that a Persian encyclopaedist (Muhammad ibn Ahmad al-Khwarizmi) wrote in around 976 that if in a calculation, no number appears in the place of tens, then a little circle should be used 'to keep the rows'. This circle was called 'empty' in Arabic and later became called zero.

Some children in our class were born in MMVIII.

In which year were other children born?

Day 2: Recognise years written in Roman numerals.

Dates		
DCCXCIII		Vikings begin to invade Britain
MLXVI		Battle of Hastings
MC		First record of football in England
MCCXV		Signing of Magna Carta
MCDXCII		Christopher Columbus sails to the Americas
MDV		Leonardo da Vinci completes the Mona Lisa
MDXV		Gunpowder plot
MDCLXVI	1666	Great fire of London
MDCCLXXVI		Americans declare independence from Britain
MDCCLXXXIX		The French revolution
MDCCCXXV		Stockton to Darlington Railway opens - world's first service of locomotive-hauled passenger trains
MDCCCXXXIII		Abolition of slavery Act (UK)
MCMXIV		Start of World War I
MCMXXXIX		Start of World War II
MCMXLVIII		Birth the of the NHS
MCMLXIX		First person on the moon
MCMLXXXIX		Fall of the Berlin wall
MCMXCIV		Nelson Mandela became the first black president of South Africa after he helped to end apartheid
MMI		Terrorist attack on the twin towers, New York
MMXII		London Olympic games

Here are some key dates in history.
Write the date of the Great fire of London in Hindu-Arabic numerals.

The only new bit of learning today is how to write numbers of 1000s.

Investigation:
Adult Sheet

Martian numbers

Children explore the facts that Arabic numbers use a base of 10, we can write numbers using a base of 3, and Roman numbers have no base.

Skills practised:

- Writing numbers using Roman numerals
- Writing numbers as Martian numbers (i.e. in base 3)

***Conjecture**: We can write numbers using base 10 (Arabic numbers) or using no base (Roman numerals) or using any other base.*

What to do:

Children work individually or in pairs.

Imagine that there are Martians! They have only one hand... and it has three fingers.

1. Write the first thirty numbers first as Arabic numbers (normal numbers!) then as Roman numerals.
2. Now we are going to write each of these as Martian numbers!

Martians only have 3 fingers so they count like this.

0	*1*	*2*
10	*11*	*12*
20	*21*	*22*
100	*101*	*102*
110	*111*	*112*
120	*121*	*122*
200	*201*	etc.

So the Martian way of writing four is 11.
The Martian way of writing ten is 101.
The Martian way of writing sixteen is 121.

3. Try to write the next ten numbers. Remember you cannot write any digit above 2!
4. What will happen when we get to the number after 222?

Compare the Arabic numbers, the Martian numbers and the Roman numerals.
What digits are missing from the Martian numbers?
What very important digit is missing from the Roman numerals?

Can you write the following numbers as Arabic numbers, as Roman numerals and as Martian numbers?

The day and month of your birthday. | James Bond's number | The number of children in your class

Think of some more special numbers to write in three different ways.

CHALLENGE! Can you perform a Martian addition?

$$\begin{array}{r} 1\,2\,1 \\ +\,1\,2\,2 \\ \hline \end{array}$$

Aims:

- To write Roman numerals
- To explore the use of a base to write numbers

Minimum number of calculations expected

N/A

Investigation:
Child Sheet

Martian numbers

Imagine that there are Martians! They have only one hand... and it has three fingers.

1. Write the first thirty numbers first as Arabic numbers (normal numbers!) then as Roman numerals.
2. Now we are going to write each of these as Martian numbers!

Martians only have 3 fingers so they count like this.

0	1	2
10	11	12
20	21	22
100	101	102
110	111	112
120	121	122
200	201	and so on

So the Martian way of writing four is 11.
The Martian way of writing ten is 101.
The Martian way of writing sixteen is 121.

3. Try to write the next ten numbers. Remember you cannot write any digit above 2!
4. What will happen when we get to the number after 222?

Compare the Arabic numbers, the Martian numbers and the Roman numerals.
What digits are missing from the Martian numbers?
What very important digit is missing from the Roman numerals?

Can you write the following numbers as Arabic numbers, as Roman numbers and as Martian numbers?

Arabic numbers	Roman numerals	Martian numbers
0		0
1	i	1
2	ii	2
3	iii	10
4	iv	11
...		

The day and month of your birthday.

James Bond's number

The number of children in your class

Think of some more special numbers to write in three different ways.

Challenge

Can you perform a Martian addition?

$$\begin{array}{r} 121 \\ +122 \\ \hline \end{array}$$

Dates

Sheet 1

Choose at least 8 dates and work out how we write them using Hindu-Arabic numerals.

DCCXCIII		Vikings begin to invade Britain
MLXVI		Battle of Hastings
MC		First record of football in England
MCCXV		Signing of Magna Carta
MCDXCII		Christopher Columbus sails to the Americas
MDV		Leonardo da Vinci completes the Mona Lisa
MDCV		Gunpowder plot
MDCLXVI		Great fire of London
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MCMXCIV		Nelson Mandela became the first black president of South Africa after he helped to end apartheid
MMI		Terrorist attack on the twin towers, New York
MMXII		London Olympic games

Challenge

Choose 3 more historical events and write the yea… …an numerals.

Challenge

Place Value

Identify and write Roman numerals

Well Done! You've completed this unit.

Objectives

Day 1

Read/write Roman numerals to 1000 (M).

Day 2

Recognise years written in Roman numerals.

Problem solving and reasoning questions

Write the current year in Roman numerals.

Write next year and the year after too.

Write the missing letters in this sequence of numbers:

LXIX, LXXIX, LXXXIX, □□IX, CIX, □□IX, □□□IX, □□□□IX, □□□□□

Do this calculation using Arabic numbers:

3,496 + 5,514

Now do it using Roman numbers.

What do you notice?

Which Roman number <100 uses the most numerals? Is this the same as the amount of money <£1 that uses most coins?

Problem solving and reasoning questions and answers

Write the current year in Roman numerals. Write next year and the year after too. (2019)
MMXIX, MMXX, MMXXI

Write the missing letters in this sequence of numbers:

LXIX, LXXIX, LXXXIX, □□IX, CIX, □□IX, □□□IX, □□□□IX, □□□□□

LXIX, LXXIX, LXXXIX, XCIX, CIX, CXIX, CXXIX, CXXXIX,
CXLIX

Do this calculation using Arabic numbers:

3,496 + 5,514 = 9010

Now do it using Roman numbers. What do you notice?

MMMCDXCVI + $\overline{V}$DXIV = $\overline{IX}$X. Difficult to line up in columns and tricky without a zero!

Which Roman number <100 uses the most numerals? Is this the same as the amount of money <£1 that uses most coins? LXXXVIII (88)

88p needs a minimum of 6 coins 50p, 20p, 10p, 5p, 2p, 1p (as does 89p, 98p and 99p).