Name _____ Date _____

Why zero matters

Roman numerals have no zero and no place value. Our digits have both.

1 Learn



The Romans could write 100 as C, but they had **no symbol for nothing**! Our numbers use **0** and **place value**, which makes numbers short and quick to write.

Roman: 7 symbols

XXXVIII =

Our digits: 2

Tens	Ones
3	8

In **38**, the 3 means **3 tens** because of **where it sits**. A Roman X is always 10, wherever it is.

7 or 70?

7 **70**

1. In **70**, the **0** says "no ones". It holds the ones place.

2. That pushes the 7 into the tens place, so it's worth 70.

3. Romans had no 0, so they used new symbols: **VII** and **LXX**.

Where did zero come from?

- **2,000 years ago** — Romans use I, V, X, L, C
- **1,400 years ago** — India: zero is a number
- **800 years ago** — our digits spread in Europe
- **Today** — 0 to 9 everywhere

Flip's tip: we still see Roman numerals on some clock faces, after the names of kings and queens, and as chapter numbers in books.

Warm up: write in Roman numerals. **3 =** _____ **30 =** _____

Grown-ups: the timeline dates are rounded. Ask "Why was 0 such a big idea?"

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2 Try it together a child and a grown-up, about 10 minutes



Digits against symbols

You need: paper and a pen.

1. Each choose numbers up to 100 that matter to you: an age, a house number, today's date, a page number.
2. Write each one in digits and in Roman numerals.
3. Count how many marks each way needs: digits, then Roman symbols.
4. Hunt: which number up to 100 needs the **most** Roman symbols? Who can find it first?

Our number	Digits used	Roman numeral	Symbols used

The number with the most symbols: _____

Grown-ups: talk about which way is quicker to write and to read. Then try adding XXVII and XIV without turning them into digits. Is it harder? (Romans often used a counting board for sums.)

3 Practise

A. True or false? Tick one.

	True	False
The Romans had a symbol for zero.		
In 50, the 0 shows there are no ones.		
A Roman X is worth 10, wherever it is written.		
Our digit 5 is always worth 5.		

Why zero matters

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B. Write each in Roman numerals. Is there a symbol for the 0?

Number	10	20	50	60	70	100
Roman						

C. The same digits can make different numbers. Draw a line to match.

14	LXI
41	XIV
16	XVI
61	XLI

D. Why are our digits easier than Roman numerals for big numbers? Write one reason.

Challenge

Sam says, "The Romans wrote zero as O." Is he right? How might a Roman show that there were no apples left?

I can… Tick when you can.

- [ ] explain that Roman numerals have no zero
- [ ] say how 0 keeps the other digits in the right place
- [ ] explain why our digits make big numbers shorter