THE MATHEMATICAL
ASSOCIATION OF VICTORIA

INVESTIGATIONS

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NESTA AND THE MISSING ZERO

Read *Nesta and the Missing Zero*, by Julie Leibrich and explore these investigations related to place value.
Note: the book is out of print, however there is a read-aloud of the text at www.youtube.com/watch?v=-4g7dPCHKGA

CREATIVE WRITING

Zero plays a critical role in our place value system. In the book Zero goes missing and lots of crazy things happen. Can you think of any other things that might happen if we didn't have zero in our number system? Write a story about the interesting things that might happen in a world without zero.

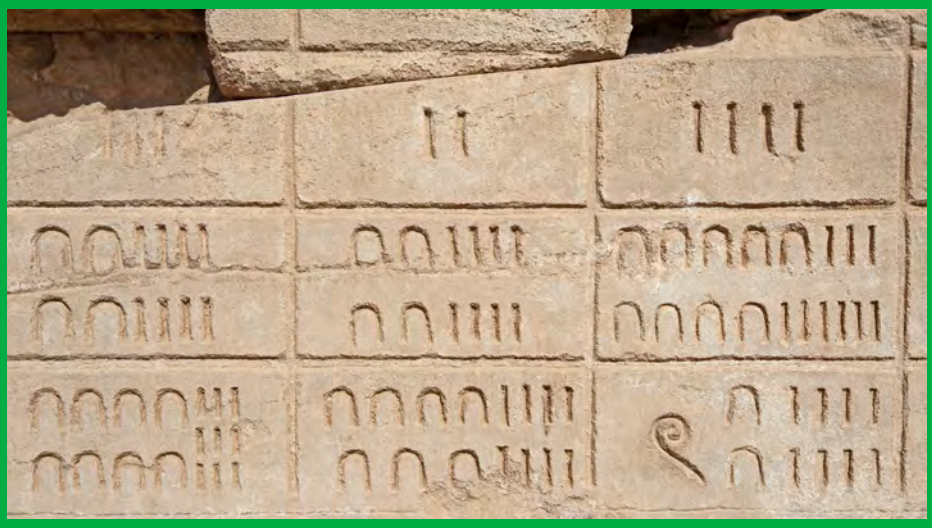
EXTENDING PROMPT

Think about the important role zero plays in decimal place value. What would happen if we didn't have zeros when we were attempting to write decimals? For example, would 1.04m be the same as 1.4m?

ROMAN AND EGYPTIAN NUMERAL INVESTIGATION

The number system we use is the Hindu-Arabic system. It uses the symbols 0, 1, 2, 3, 4, 5, 6 ,7, 8 and 9. The place value column in which these digits are located, determines their value. Their *place* in the number determines their *value*. Roman Numerals are another number system. Have you seen Roman Numerals? (in movies, clocks etc.)

Do you know any of the symbols used in the Roman Number system? What values do they represent? Have you seen the Egyptian number system? Do you know any of the symbols used?



NUMBER SYSTEM	POSTIVES	NEGATIVES	INTERESTING POINTS
EGYPTIAN			
ROMAN			
OUR NUMBER SYSTEM			

Share a summary of Roman and Egyptian Numerals with students – the Australian Maths and Science Institute has a resource which presents a simple summary of the Egyptian and Roman Number systems (pages 11-15). https://amsi.org.au/teacher_modules/pdfs/Using_place_value4-7.pdf

Can you create some 3, 4 or 5 digit numbers using Roman Numerals or Egyptian Numerals? What do you notice, what do you wonder?

The History of Zero by Tika Downey is a great student-friendly book to support student investigations of number systems.

Invite students to compare the Hindu-Arabic number system with the Roman and Egyptian systems using the table above as a prompt.

What kinds of investigations have you used in your classroom as a launch for mathematical exploration?
Our readers would love to hear your experiences. You can share your ideas with us at primenumber@mav.vic.edu.au.