

Document extract

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WRITING A MILLION

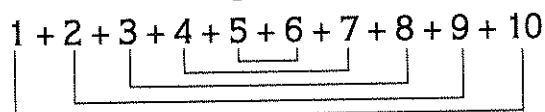
Mike Dolega finished writing the numbers from 1 to 1 000 000 on 19 February 1989. The Tasmanian man had spent 1 282 hours and used 97 ballpoint pens to fill the 40, 96-page exercise books. The process lasted over two years and has given Mike an appreciation of how many a million really is!

Further Investigations

The book *Counting on Frank* (The Learning Company/Creative Wonders, 1994) by Rod Clemments includes plenty of opportunities for students to estimate and experience working with large numbers. I have even heard of one group of students who, after reading the passage on the amount of ink in a ballpoint pen, tested the length of a line that could be drawn before the ink ran out. Consider how you would design such an experiment.

The Story of Gauss

Students could be told the story of Gauss—a famous mathematician who, at the age of 10, was punished for being naughty in class. The teacher told him to add all the numbers from 1 to 100. Most people would think that this punishment would take a long time to complete, so imagine the teacher's surprise when young Gauss finished the punishment in just a few minutes. Students should be given the opportunity to try the problem before explaining that he saw a pattern when the numbers were paired. The approach Gauss used may be illustrated using the numbers 1 to 10.

$$1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$$


Each pair of numbers adds to 11 and there five pairs, hence the total is 55.

WRITING A MILLION



*nine hundred and ninety-nine thousand, nine hundred and ninety-seven;
nine hundred and ninety-nine thousand, nine hundred and ninety-eight;
nine hundred and ninety-nine thousand, nine hundred and ninety-nine;
one million!*

Questions

Imagine writing all the numbers from one to a million!
How many pages of paper do you think you would use?
Explain how you arrived at your estimate.

Where will you find the information?

Hints and Ideas

I think it would depend on whether the numbers were written as words or numerals.



I once heard of a teacher punishing a child by asking him to add all the numbers from one to a hundred.

I heard he was able to add all the numbers from 1-100 in just a few seconds.



I wonder how he did it so quickly. It would take me ages!

What did you find out?

How will you present your findings?

Notes and Calculations

Findings



You might be surprised to learn that a Tasmanian man, Mike Dolega, actually wrote all the numbers from 1 to 1 000 000.