2 Reading and Writing Numbers

You will need

- base ten blocks

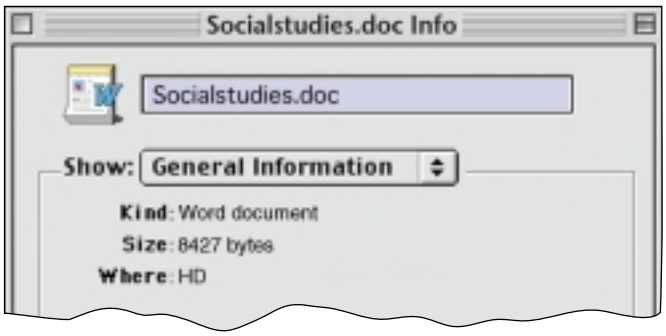
- a place value chart

Ten thousands	Thousands	Hundreds	Tens	Ones

Goal **Read, write, and model five-digit numbers.**

Aaron's friend asked him how he was doing with his two-page social studies report.

Aaron checked the information box on his computer. He said, "So far, it's only one page long, but that's 8427 bytes!"



? How can Aaron represent the possible number of bytes for a two-page report?

Aaron's Models

I can model 8427 with base ten blocks.

I'll show this amount twice to estimate the number of bytes for a two-page report.

Thousands	Hundreds	Tens	Ones
8	4	2	7
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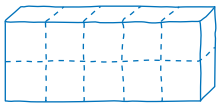
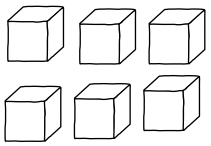
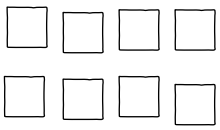
Now I'll regroup.

I know that I always regroup 10 blocks in a column as 1 block in the next column. I will need a new column.

The new column must be the **ten thousands** column.

Ten thousands	Thousands	Hundreds	Tens	Ones
1	6	8	5	4
				

I have 1 ten thousand, 6 thousands, 8 hundreds, 5 tens, 4 ones.

This is 10 000 + 6000 + 800 + 50 + 4 in **expanded form**.

This is 16 854 in **standard form**.

I can read it as "sixteen thousand eight hundred fifty-four."

Reflecting

1. Juanita's report was 35 004 bytes long. Write this number in expanded form. How many numbers did you add to show the expanded form? Explain.
2. 16 854 is a five-digit number. It represents the number of bytes in a two-page report. How many digits might it take to represent the number of bytes for a four-page report? Explain.
3. What is the greatest possible five-digit number? What is the least?

standard form

The usual way in which we write numbers.

When numbers greater than 9999 are written in standard form, the thousands part is separated from the rest of the number with a space to make it easier to read.

16 854

↑

space

Checking

4. A file on your computer is 33 284 bytes long.

a) Write this number in words.

b) Write this number in expanded form.

c) Describe or sketch a block model for 33 284.

Practising

5. Write each number in words and in expanded form.

a) 21 341

b) 50 120

c) 10 000 greater than 42 003

d) 1000 less than 30 004

6. Write each number in standard form.

a) thirty thousand thirteen

b) 20 000 + 8000 + 30 + 5

7. There were 10 651 athletes at the 2000 Summer Olympic Games.

a) Write 10 651 in words and in expanded form.

b) Model this number with base ten blocks. Sketch the model.

c) How is this number like 1651? How is it different?