

Modeling whole numbers

Prealgebra

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Content may be based on the "OpenStax Prealgebra 2e" textbook which is attributed below.
Attribution: Access for free at <https://openstax.org/books/prealgebra-2e/pages/1-introduction>.

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Defining a block notation

We can use **base-10 blocks** to represent whole numbers visually.

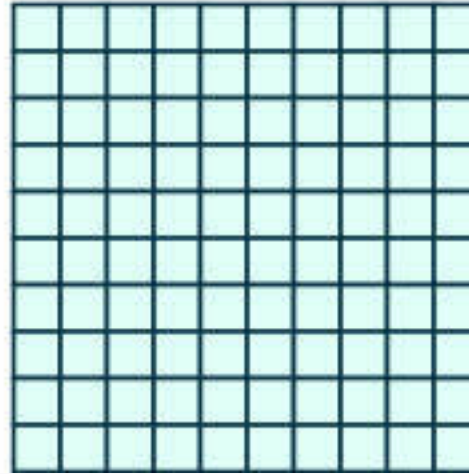
A single block
represents 1:



A rod
represents 10:



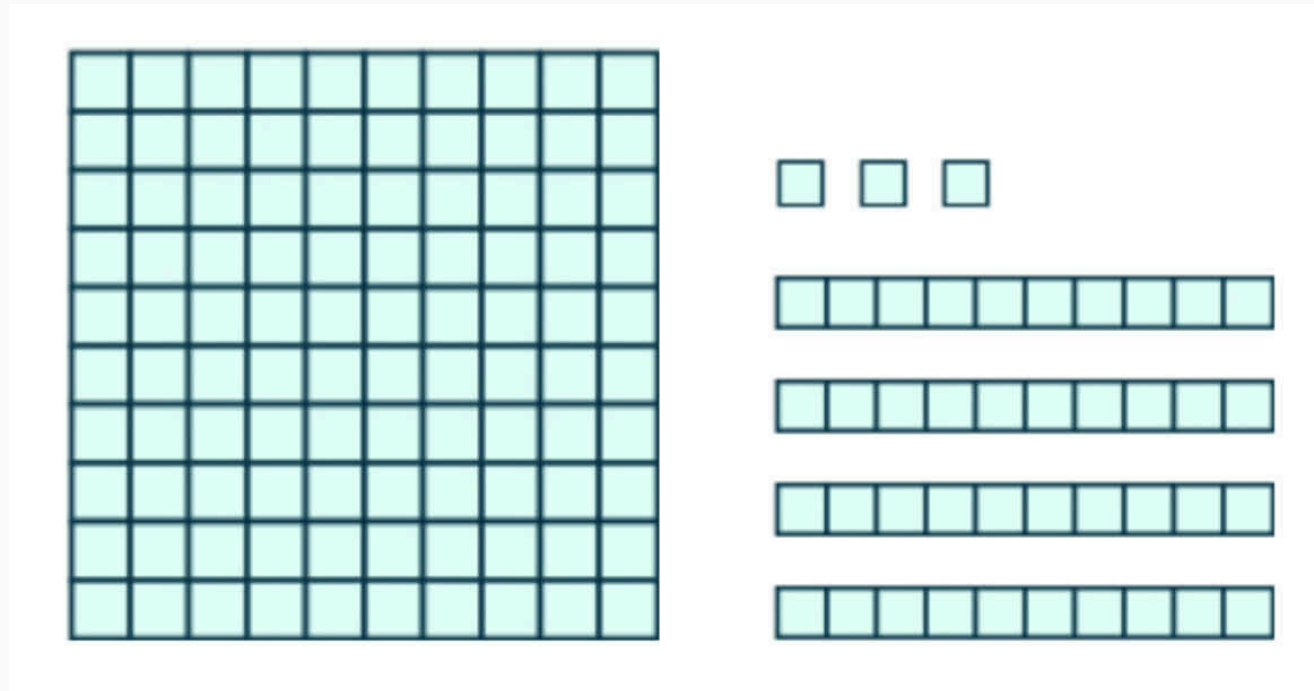
A square
represents 100:



Modeling whole numbers using blocks

- Using the **place value system**, the *value* of each digit in a number is associated with the position of that digit (or its *place*) within the number.

As an example, let's represent 143 in base-10 block notation.



Modeling whole numbers using tables

- Whole numbers can also be modeled using **tables**.
- Tables can help us understand the place value system.

Let's try modeling the number 143 using a table.

Digit	Place value	Number	Value	Total value
1	hundreds	1	100	100
4	tens	4	10	40
3	ones	3	1	+3
				Sum = 143

Practice Problem

Model the number 127 using base-10 block notation and a table.

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