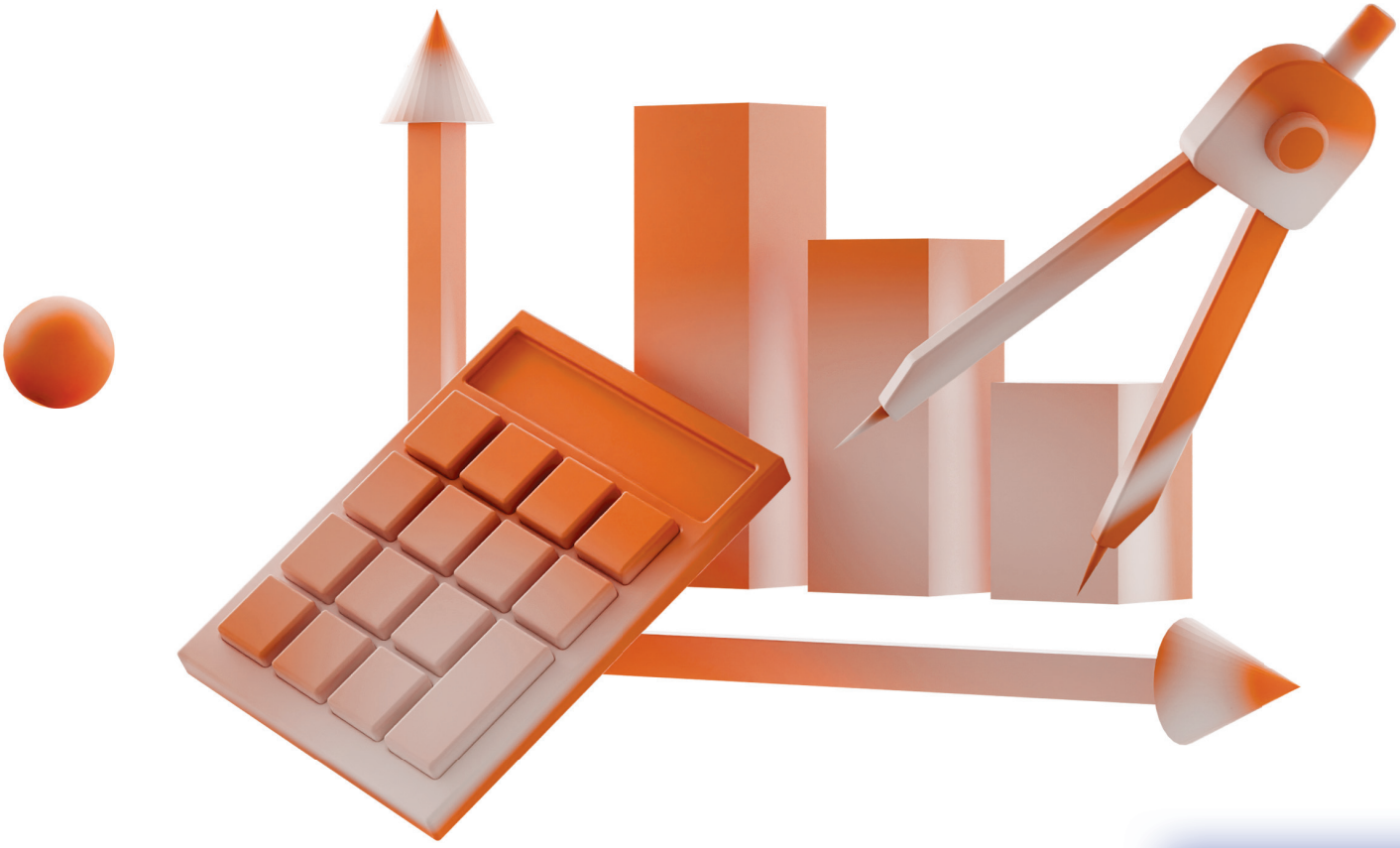
MASTERING MATH



TEACHER EDITION

ORANGE LEVEL

Editorial Project Manager:
Rabbi Levi Friedman

Editor:
Miriam Shulamis Eisemann

Project Director:
Rabbi Mordechai Resnick

Creative Director:
Glenna Daniel

Chief Curriculum Developer:
Chumy Spiegel

Graphic Designer:
Rodel Farinas

Author:
Miriam Olsberg

Contributing Authors:
Tamar Ginges
Rivki Steinhaus

Printed in the USA in August 2025.

ISBN: 978-1-968294-47-2

Achievements
Educational Services

1072 Madison Ave.
Lakewood, NJ 08701

www.achievementsES.com
info@achievementsES.com
800-742-1803

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WHOLE NUMBERS: Addition and Subtraction

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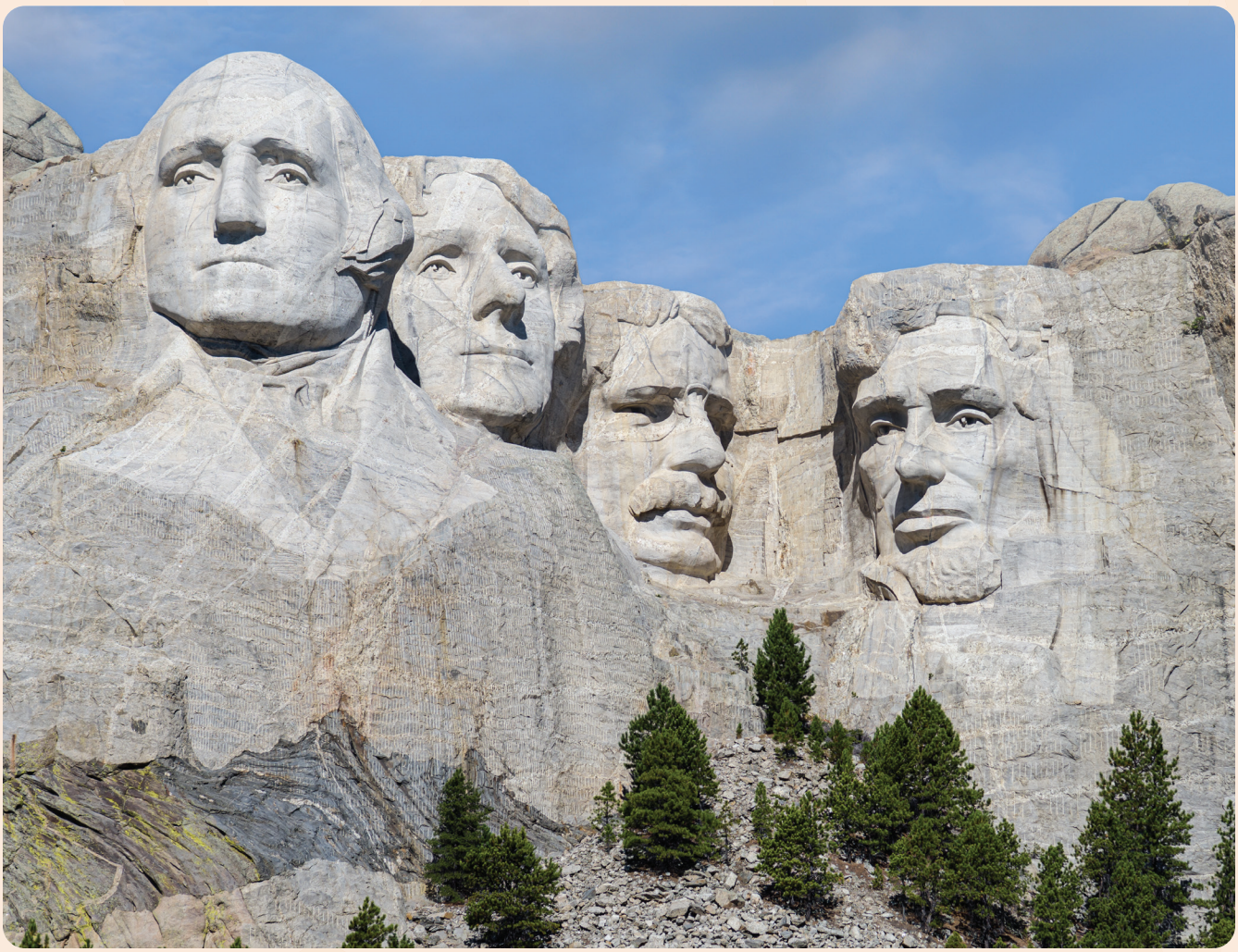
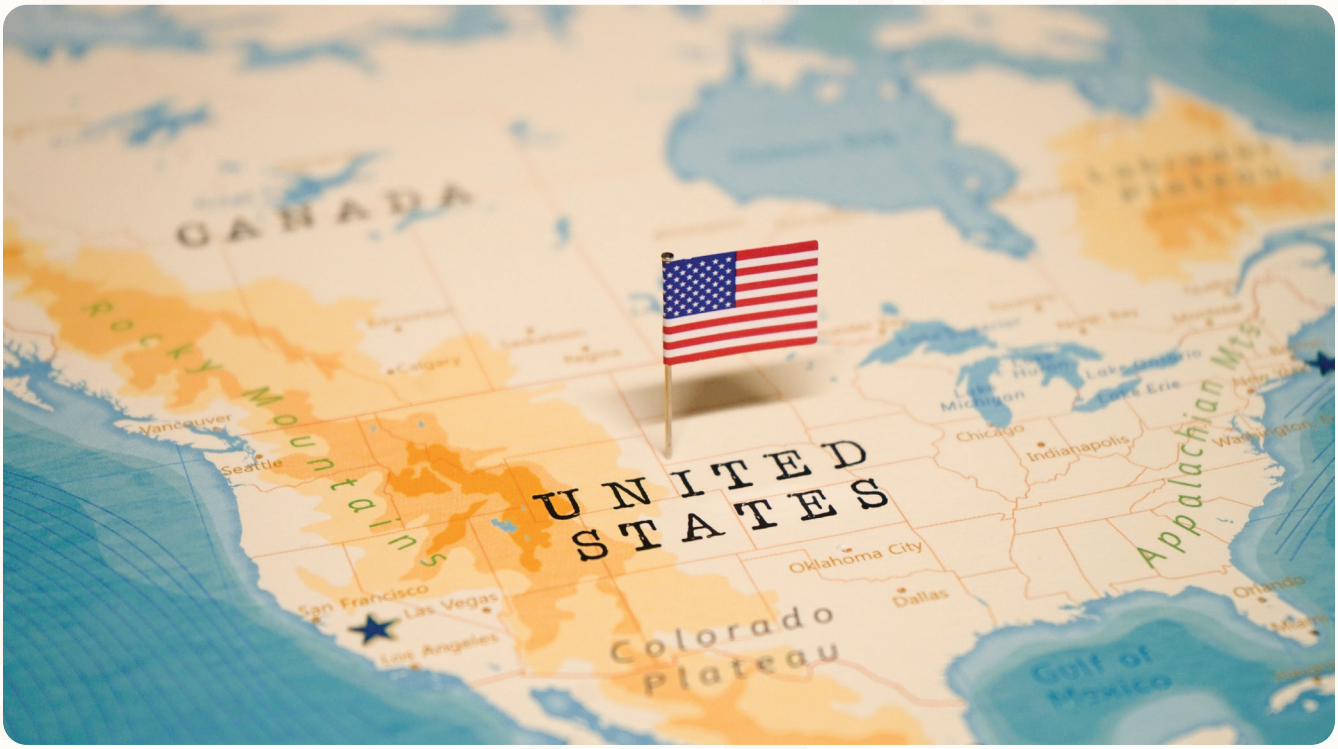


Place Value Through Millions

YOU WILL LEARN how to read and write numbers in standard and expanded form.



The total area of the United States is 3,796,742 square miles.

MILLIONS			THOUSANDS			ONES		
HUNDRED MILLIONS	TEN MILLIONS	MILLIONS	HUNDRED THOUSANDS	TEN THOUSANDS	THOUSANDS	HUNDREDS	TENS	ONES
		3	7	9	6	7	4	2

A period is a group of three numbers separated by a comma. When reading large numbers, you say the name of the period at each comma.

Example

How do you read 3,796,742?

"Three **million**, seven hundred ninety-six **thousand**, seven hundred forty-two."

Example

What is the value of the 3 in 3,816?

The value of the 3 is **3,000**.

A number can be written in four ways.

1. Standard form **65,712**
2. Expanded form **60,000 + 5,000 + 700 + 10 + 2**
3. Word form **Sixty-five thousand, seven hundred twelve**
4. Short word form **65 thousand, 712**

WHAT DO YOU THINK?

- How do commas help to read and write large numbers?

They separate between ones, thousands, and millions.

TRY IT

Write each number in expanded and word form.

1. 5,891

5,000 + 800 + 90 + 1

Five thousand, eight hundred ninety-one

2. 610,825

600,000 + 10,000 + 800 + 20 + 5

Six hundred ten thousand, eight hundred twenty-five

PRACTICE

Place the following numbers in the chart.

3. Four hundred two
4. Seventy-seven million, sixteen thousand, three hundred twenty-six
5. Six million, nine hundred three thousand, one hundred eight
6. Forty-five thousand, two hundred thirteen
7. One thousand, three hundred fifty-five

Place Value Chart is provided on the course USB to be used for extra practice in the classroom. The teacher should verbally dictate a number, and the students should fill it in on the chart.

	HUNDRED–MILLIONS	TEN–MILLIONS	MILLIONS	HUNDRED THOUSANDS	TEN–THOUSANDS	THOUSANDS	HUNDREDS	TENS	ONES
3.							4	0	2
4.		7	7	0	1	6	3	2	6
5.			6	9	0	3	1	0	8
6.					4	5	2	1	3
7.						1	3	5	5

Write the value of each underlined digit.

8. 9,548 — 500
9. 231,907 — 1,000
10. 60,550 — 60,000
11. 346,480 — 300,000
12. 1,990,425 — 900,000
13. 180 — 80
14. 390,600,112 — 90,000,000
15. 7,840 — 7,000
16. 10,460 — 400
17. 2,220 — 20

Write each number in standard form.

18. Seven thousand, eight hundred fifty — 7,850
19. 300,000 + 4,000 + 100 + 30 + 2 — 304,132
20. 99 million, 20 thousand, 510 — 99,020,510
21. Seventeen thousand, eight hundred forty-five — 17,845

22. 100 thousand, 630 — 100,630

23. 6,000 + 900 + 8 — 6,908

24. Three hundred thousand, one hundred sixteen — 300,116

25. 29 thousand, 577 — 29,577

26. 2,000,000 + 50,000 + 800 + 20 + 6 — 2,050,826

27. Five hundred nine million, twelve thousand, nineteen — 509,012,019

REAL–WORLD PROBLEM SOLVING

This table shows the areas of four states in square meters. Fill in the missing values.

	STATE	STANDARD FORM	EXPANDED FORM	WORD FORM	SHORT WORD FORM
28.	Texas	695,662,000	600,000,000+ 90,000,000+ 5,000,000+ 600,000+ 60,000+ 2,000	Six hundred ninety-five million, six hundred sixty-two thousand	695 million, 662 thousand
29.	Utah	219,882,000	200,000,000 + 10,000,000 + 9,000,000 + 800,000 + 80,000 + 2,000	Two hundred nineteen million, eight hundred eighty-two thousand	219 million, 882 thousand
30.	Rhode Island	4,001,000	4,000,000 + 1,000	Four million, one thousand	4 million, 1 thousand
31.	New Jersey	22,591,000	20,000,000 + 2,000,000 + 500,000 + 90,000 + 1,000	Twenty-two million, five hundred ninety-one thousand	22 million, 591 thousand

FUN FACT

The U.S. is surrounded by water on three sides, resulting in a total of over 150,000 kilometers of coastlines.