



Eureka Math Tips for Parents

Grade 2 • Module 5

Addition and Subtraction Within 1000 with Word Problems to 100

In this module, students build upon all their previous work with place value. They extend their work with addition and subtraction algorithms to numbers up to 1,000. Students continue to use drawings and models to strengthen and deepen their conceptual understanding. They also continue to work with various types of word problems with numbers up to 100.

Grade Level Standards

2.NBT.7, 2.NBT.8, 2.NBT.9

Student Report Card

Adds and subtracts up to 1000 using place value understanding.

Key Vocabulary



- **Algorithm:** a step-by-step procedure to solve a particular type of problem
- **Associative property** - The order of adding numbers will not change the sum (answer).
- **Compensation:** a simplifying strategy where students add or subtract the same amount to or from both numbers to create an equivalent but easier problem, e.g., $610-290 = 620-300 = 320$
- **Compose:** to make 1 larger unit from 10 smaller units
- **Decompose:** to break 1 larger unit into 10 smaller units
- **New groups below:** show newly composed units on the line below the appropriate place in the addition algorithm
- **Simplifying strategy:** e.g., to solve $299 + 6$, think $299 + 1 + 5 = 300 + 5 = 305$

How you can help at home:



- Help your student practice counting both backward and forward by 10s and 100s.
- Given any two- or three-digit number, help your student practice finding
 - 10 more or 10 less
 - 100 more or 100 less

Models and Representations

Strategies to add and subtract

Arrow Way

Students continue using the arrow way to record their mental math and to show changes by multiples of hundred, ten and one.

$$303 \xrightarrow{+30} 333 \xrightarrow{+7} 340$$

$$297 \xrightarrow{+3} 300 \xrightarrow{+200} 500 \xrightarrow{+40} 540 \xrightarrow{+6} 546$$

$$297 \xrightarrow{+249} 546$$

Number Bonds and Tape Diagrams

Students continue to add and subtract using number bonds and compensation strategies to make the problems easier to solve.

$$303 + 37$$

300 3

$$3 + 37 = 40$$

$$300 + 40 = 340$$

$$549$$

+3 546

+3 297

300 ?

$$549 - 300 = 249$$

Chip Model

When adding, students bundle groups of 10 and indicate carrying within the algorithm.

hundreds	tens	ones
... 303
		... + 37

hundreds	tens	ones
... 303
3	4	0

hundreds	tens	ones
... 546
		... - 297

hundreds	tens	ones
... 546
		... - 297

hundreds	tens	ones
... 546
		... - 297

hundreds	tens	ones
... 546
2	4	9

When subtracting, students are encouraged to "be a detective" and see if they need to do any unbundling before they can subtract.

Algorithm

The place value chart is slowly removed, ending with students using only the addition and subtraction algorithms.

$$\begin{array}{r} 303 \\ + 37 \\ \hline \end{array} \quad \begin{array}{r} 303 \\ + 37 \\ \hline 0 \end{array} \quad \begin{array}{r} 303 \\ + 37 \\ \hline 340 \end{array}$$

$$\begin{array}{r} 546 \\ - 297 \\ \hline \end{array} \quad \begin{array}{r} 546 \\ - 297 \\ \hline 249 \end{array} \quad \begin{array}{r} 546 \\ - 297 \\ \hline 249 \end{array}$$