Eureka Math Parent Guide

A GUIDE TO SUPPORT PARENTS AS THEY WORK WITH THEIR STUDENTS IN MATH.

GRADE 2
MODULE 5

GRADE FOCUS

Second Grade mathematics is about (1) extending students' understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

- Module 1: Sums and Differences to 20
- Module 2: Addition and Subtraction of Length Units
- Module 3: Place Value, Counting, and Comparison of Numbers to 1000
- Module 4: Addition and Subtraction Within 200 with Word Problems to 100
- » **Module 5: Addition and Subtraction Within 1000 with Word Problems to 100**
- Module 6: Foundations of Multiplication and Division
- Module 7: Problem Solving with Length, Money, and Data
- Module 8: Time, Shapes, and Fractions as Equal Parts of Shapes

LET'S CHECK IT OUT!

MODULE 5 FOCUS

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.

MORE SPECIFICALLY, CHILDREN WILL LEARN HOW TO:

- Add and subtract within 1000, using concrete models or drawings and strategies.
- Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- Explain why addition and subtraction strategies work, using place value and the properties of operations.

TOPIC OVERVIEW

Topics are the lessons within a module that help children master the skills above. Here are the lessons that will guide your child through Module 5:

- Topic A: Strategies for Adding and Subtracting Within 1,000
- Topic B: Strategies for Composing Tens and Hundreds Within 1,000
- Topic C: Strategies for Decomposing Tens and Hundreds Within 1,000
- Topic D: Student Explanations for Choice of Solution Methods

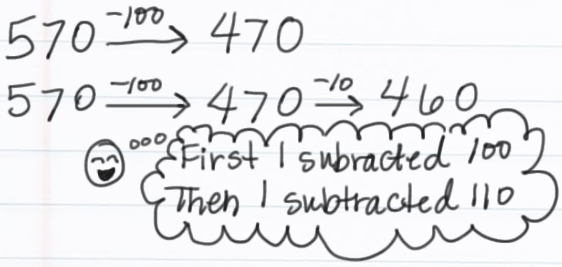
WORDS TO KNOW

- **Algorithm**: a step-by-step procedure to solve a particular type of problem
- **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

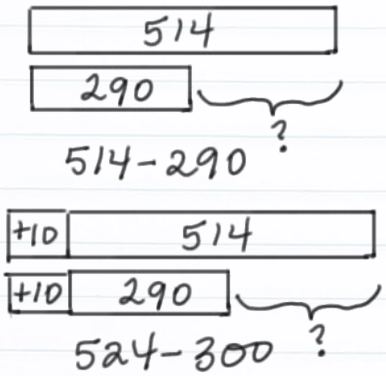
SAMPLE PROBLEMS

SAMPLE 1

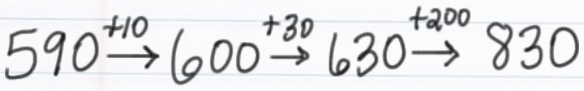
Strategy Example: the arrow way of showing 570 – 110. Notice that the solution builds on an easier problem first: 570 – 100. Then, students can complete the problem by subtracting 10 more.



Strategy Example: In this example of compensation, the subtraction problem 514 – 290 is made much simpler by adding 10 to both numbers before solving:



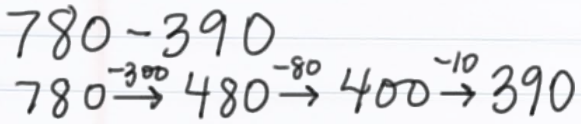
SAMPLE 2:



This is an example of how one might add 590 + 240 using the arrow way. Notice that 240 has been decomposed, or chunked, into 10 + 30 + 200 in order to make the adding easier.

SAMPLE 3:

This is a simple subtraction example of 780 – 390. In this case, 390 has been decomposed into 300, 80, and 10.



At first glance, arrow notation, or the arrow way of doing mathematical operations, may seem complicated. However, it is a very helpful method, and it is actually very similar to what many of us have naturally learned to do mentally while adding and subtracting.

The arrow way involves chunking a number into more manageable mental pieces in order to add or subtract. Students use numbers that they have become confident working with, such as 100 and 10, in order to simplify the problem. They record their mathematical thinking as an expression with arrows in between the numbers to show the chunks of numbers that they are working with as they go.

This method is just one of several that students will be encouraged to use throughout this module. By employing various models and strategies, students deepen their facility with the mathematics they are learning and eventually build a tool kit of strategies to choose from as math becomes more complex throughout the elementary grades

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, and/or 100 more or 100 less than the number.