

Curriculum Parent Overview (Grade 4)

MATHEMATICS

UNIT #7: HOW MANY PACKAGES AND GROUPS? (MULTIPLICATION AND DIVISION 3)

CONTENT FOCUS:

Students estimate products and practice strategies for solving multiplication problems with 2-digit factors. This includes solving measurement conversion problems. Students practice strategies for solving 2-digit by 2-digit and 4-digit by 1-digit multiplication problems, including breaking one or both factors apart, or changing the numbers to make an easier problem. Students use representations and story contexts to develop strategies for solving division problems with up to 4-digit dividends and 1-digit divisors.

UNIT FOCUS:

- Solving measurement problems: In this unit, students solve problems involving measurement and the conversion of measurements from a larger unit to a small unit. Students learn measurement equivalents within a single measurement system, and they record those equivalents in two-column tables. They use measurement equivalents for time, length, weight, mass, liquid volume, and capacity to solve word problems, including multi-step problems involving more than one operation.
- Solving multiplication problems: The focus of this unit is on helping students make sense of multiplication and division with larger numbers as they continue to connect these operations to images of what happens when numbers are multiplied or divided. In order to develop fluency with multiplying two 2-digit numbers, students build their procedures on images of multiplication that help them visualize and keep track of the parts of the problems, understand which numbers must be multiplied, and combine the subproducts to reach a solution. When students multiply 4-digit numbers by 1-digit numbers, they generally use the same strategies they have developed for 2-digit by 2-digit problems. Students usually find these problems easier to solve because they are only multiplying by a single-digit number. By the end of this unit, students should have efficient computational strategies that they can notate and explain for multiplying 2-digit by 2-digit and up to 4-digit by 1-digit numbers.
- Solving division problems: Just as with multiplication, working with larger numbers in division requires a grounding in images of division. Students should be able to work with both a grouping model and a sharing model of division as they develop ways of keeping track of parts of the problem. When solving problems in context that have a remainder, students also need to decide what to do with leftovers based on that context. To solve division problems with up to 4-digit dividends, students either use multiplication to build up groups of the divisor to the dividend, or they use division to break the dividend into parts. As in multiplication, working with multiples of 10, 100, and 1,000 is key, as is using their knowledge of multiplication or division facts.

MATHEMATICAL PRACTICES:

MP1: Make sense of problems and persevere in solving them.

MP2: Reason abstractly and quantitatively.

CONNECTIONS TO PREVIOUS CONTENT:

This unit continues to build on the ideas about multiplication and division that students worked on earlier in the year in Unit 3. Students have used arrays and images of groups to help them understand the structure of multiplication and division. They have used the relationship between multiplication and division to solve division problems. Students are expected to be able to solve 2-digit by 1-digit multiplication and division word problems.

CONNECTIONS TO FUTURE CONTENT:

This is the final Number and Operations unit in Grade 4. In Grade 5, students continue to work on refining multiplication strategies as they add to their repertoire of strategies and develop greater fluency, efficiency, and flexibility. Their work will include examining and using the algorithm for multiplication most commonly taught in the United States. Students also continue to develop and refine their strategies for solving division problems, with a greater emphasis on using strategies efficiently and notating solutions clearly and concisely.

MATH AT HOME:

- Everyday multiplication and division situations: Encourage your child to help you solve multiplication and division problems that come up in your daily activities. Think about party planning, sharing food, watching cars go by your home, etc.
- Review the Math Words and Ideas videos for this unit on SavvasRealize site.