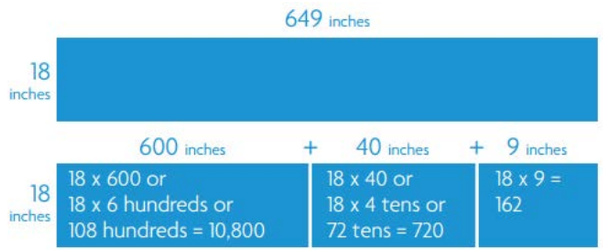
Examples of how students will develop their understanding of place value in Fourth Grade

Grade Three Mathematics	Grade Four Mathematics	Grade Five Mathematics
•Use place value understanding to round whole numbers to the nearest 10 or 100 •Quickly and accurately add and subtract numbers through 1000 •Use place value understanding to multiply and divide numbers up through 100 •Multiply one-digit whole numbers by multiples of 10 between 10 and 90. For example, 9x80 or 5x60	•Use place value understanding to round multi-digit whole numbers to any place •Use place value understanding to find products of two multi-digit numbers •Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right •Compare two multi-digit numbers based on the meanings of the digits in each place, using the symbols > (more than) , = (equal to), and < (less than)	•Use place value understanding to round decimals to any place •Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left •Read, write, compare decimals based on the meaning of the digits in the tenths, hundredths, and thousandths place, using the symbols >, =, <

To find the area of this rectangle, students can first break it down into three parts. The length of each part can then be multiplied by the width of 18. 18(600+40+9) = 18x600+18x40+18x9.



Students learn that 649 x 18 is also equal to (649x10) + (649x8) ➡

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 37
649
x 18
5192
6490
11,682
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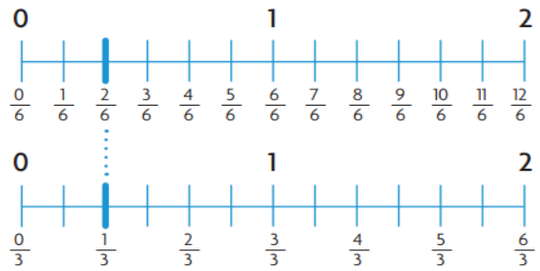
Examples of how students will learn about and work with fractions

Grade Three Mathematics	Grade Four Mathematics	Grade Five Mathematics
•Determine a fraction's place on the number line by defining the length from 0 to 1 as the whole and "cutting it" into equal parts •Understand two fractions as equal if they are the same size or at the same point on a number line •Compare the size of two different fractions of the same size object. For example, which is bigger, ⅛ of a pizza or ¼ of that same pizza?	•Break down a fraction into smaller fractions with the same denominator, or bottom number, in more than one way ($\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8}$) •Explain why a fraction is equal to another fraction •Add and subtract mixed numbers (whole numbers mixed with fractions, such as 1¼ with the same denominator •Multiply a fraction by a whole number	•Interpret a fraction as division of the numerator (the top number) by the denominator (the bottom number) •Add and subtract fractions with different denominators •Multiply a fraction by a whole number or another fraction •Divide fractions by whole numbers and whole numbers by fractions

Students will use the number line to break fractions into smaller fractions and to show that $\frac{2}{6} = \frac{1}{3}$



Understanding and creating equal fractions will prepare students for the next step: adding and subtracting fractions with different denominators.

@range Unified School District

A Parent's Guide to Mathematics Curriculum

"Tell me and I'll forget.
Show me and I'll remember.
Involve me and I'll understand."
-Confucius

FOURTH GRADE

Students Need Skills To Be Successful In the 21st Century!

In order for students to be 21st Century scholars Orange Unified School District is committed to ensuring that all students graduate high school with the skills they need to be successful in a global society. In mathematics, there are three shifts that will help prepare students for success in the 21st Century. First, instruction will concentrate on a more focused set of major math concepts and skills. This will allow students time to master these skills at a level of depth that leads to application and innovation. Second, concepts and skills are presented in a more organized way throughout the year and from one grade level to the next. This ensures a coherent learning sequence that supports students' mathematical development. Third, rich and challenging math content will be used to engage students in solving real-world problems in order to make math more relevant and meaningful.

The complete Math California Common Core State Standards for each grade level are available on the Orange Unified School District's website: www.orangeusd.org

What Your Child Will Learn In Fourth Grade

In grade four, your child will use addition, subtraction, multiplication, and division to solve word problems, including problems involving measurement of volume, mass, and time. Students will continue to build their understanding of fractions—creating equal fractions, comparing the size of fractions, adding and subtracting fractions, and multiplying fractions by whole numbers. They will also start to understand the relationship between fractions and decimals. Activities in these areas will include:

- Adding and subtracting whole numbers up to 1 million quickly and accurately
- Solving multi-step word problems, including problems involving measurement and converting measurements from larger to smaller units
- Multiplying and dividing multi-digit numbers
- Extending understanding of fractions by comparing the size of two fractions with different numerators (top numbers) and different denominators (bottom numbers)
- Creating equal fractions ($\frac{3}{4} = \frac{3x2}{4x2} = \frac{6}{8}$)
- Adding and subtracting fractions with the same denominator
- Building fractions from smaller fractions ($\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$)
- Connecting addition and subtraction of whole numbers to multiplying fractions by whole numbers
- Connecting addition of fractions to the concept of angle measurement
- Representing and interpreting data
- Converting fractions with denominators of 10 or 100 into decimals
- Locating decimals on a number line
- Comparing decimals and fraction using the symbols > (more than), = (equal to), < (less than)

Collaborating With Your Child's Teacher

You are an important part of your child's education! Reaching out to your child's teacher is highly encouraged and welcomed. Ask to see a sample of your child's work or bring a sample with you. Ask the teacher questions like:

- ✔ Is my child at the level where he/she should be at this point of the school year?
- ✔ What are my child's strengths in math?
- ✔ What do you think is giving my child the most trouble? How can I help my child grow in this area? What resources are available for support?
- ✔ What can I do to help my child with upcoming work?

Helping Your Child Learn Outside Of School

- ✔ Use everyday objects to allow your child to explore fractions. For example, use measuring cups to see how many times you have to refill a ¼ cup to equal a ½ cup or how many ⅓'s are in two cups. Describe two equal fractions using a measuring cup (filling a ¼ measuring cup twice is the same as filling one ½ measuring cup).
- ✔ Have your child write or describe fractions in different ways. For example, what are some different ways to make ¾? Answers could include ¼+¼+¼ or 3 x ¼.
- ✔ Ask your child create and describe equal fractions. For example, take a sheet of paper, fold the paper in half, and then unfold and shade ½. Then fold the paper in a half again. Unfold the paper and discuss the number of parts that are now shaded. Encourage your child to talk about ways to show that ½ =2/4.
- ✔ Encourage your child to try to make sense of problems and persevering when a problem seems difficult.
- ✔ Make generalizations based on structures or patterns of previous learning.