parent ROADMAP

SUPPORTING YOUR CHILD IN GRADE FOUR

MATHEMATICS

A Message from the Santa Ana Unified School District Superintendent

Dear Parents,

In this ever-changing world, our students must be equipped with the skills and knowledge to compete in a global society. The creation of the Common Core State Standards was a collaborative effort by State Governors and State Superintendents across the nation to create rigorous and consistent educational standards. Thus far, the Standards have been adopted by 46 states so that every student, whether in California, New York, or Colorado, will experience the same level of educational standards regardless of where they reside.

The Common Core State Standards will assist us in providing a world-class education that is preparing students to be college and career-ready as part of the District's Seven Building Blocks to Success. Santa Ana Unified School District already has a strong foundation of academic success, so the implementation of the Common Core State Standards will simply build upon that success. You will notice incremental changes in the instruction of the District as we move forward with implementing these new standards. While your child will continue to develop his or her skills in a subject, there will be a greater focus on applying them in real-world applications working with peers. We believe that together, we can collectively work to support your child to be a successful learner.

This booklet is being provided to you to demonstrate what your child will be learning in the classroom and how you can be an active participant in helping your student master skills at each grade level. I encourage you to read this booklet carefully so that you can discover a variety of ways to best support your child's success. As always, we invite you to be engaged. If you have any questions or concerns, please feel free to contact your child's principal or teacher.

Best regards,

Thelma Meléndez de Santa Ana, Ph.D.
Superintendent

What your child will be learning in grade four mathematics

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 ($\frac{3}{4} = \frac{3 \times 2}{4 \times 2} = \frac{6}{8}$)
- 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 fractions using the symbols > (more than), = (equal to), and < (less than)

Partnering with your child's teacher

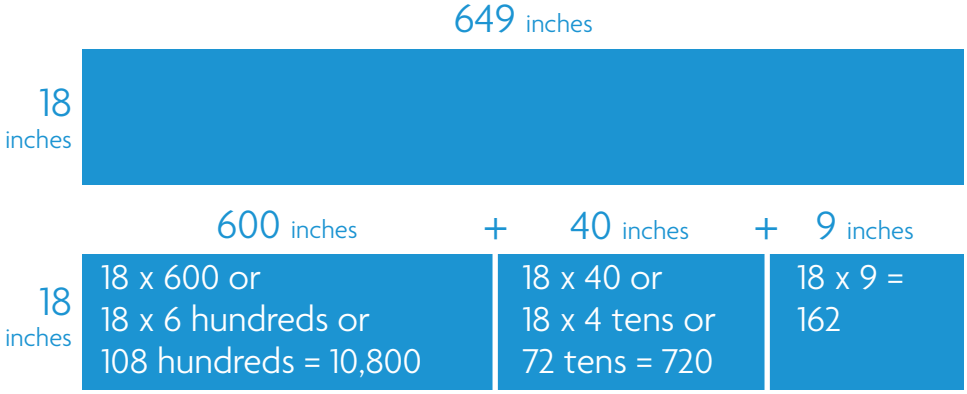
Don't be afraid to reach out to your child's teacher—you are an important part of your child's education. Ask to see a sample of your child's work or bring a sample with you. Ask the teacher questions like:

- Is my child at the level where he/she should be at this point of the school year?
- Where is my child excelling? How can I support this success?
- What do you think is giving my child the most trouble? How can I help my child improve in this area?
- What can I do to help my child with upcoming work?

Here are just a few examples of how students will develop and use their understanding of place value in grade four.

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 using knowledge of place value • 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, 9×80 or 5×60	• Use place value understanding to round multi-digit whole numbers to any place • 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 • Use place value understanding to find the product of two multi-digit numbers • Compare two multi-digit numbers based on 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 1/10 of what it represents in the place to its left • Read, write, and compare decimals based on the meanings of the digits in the tenths, hundredths, and thousandths place, using the symbols >, =, and <

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 use the concepts of area and place value as strategies to multiply multi-digit numbers. Students will explore a variety of strategies to deepen their understanding of multiplication.

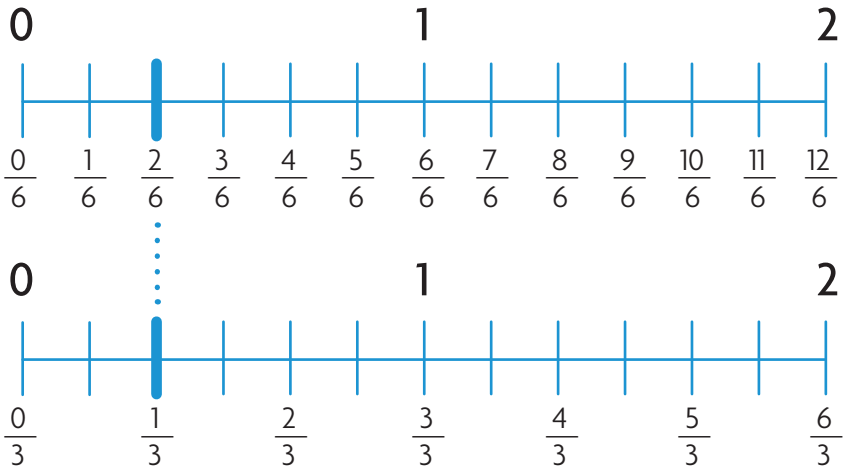
Students learn that 649 x 18 is also equal to (649 x 10) + (649 x 8).

```
  3 7
  649
x 18
 5192
6490
11,682
```

Here are just a few examples of how students will learn about and work with fractions in grade four.

Grade Three Mathematics	Grade four Mathematics	Grade Five Mathematics
• Determine a fraction's place on a 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, $\frac{1}{8}$ of a pizza or $\frac{1}{6}$ 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 $1\frac{1}{5}$) with the same denominators • 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.

Helping your child learn outside of school

1. Use everyday objects to allow your child to explore the concept of fractions. For example, use measuring cups so students 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. Have students describe two fractions that are equal using a measuring cup (filling a ¼ measuring cup twice is the same as filling one ½ measuring cup).
2. 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
3. Ask your child create and describe equal fractions. For example, have students take a sheet of paper, fold the paper in half, and then unfold and shade ½. Then have students take the same sheet of paper and fold the paper in a half again. Unfold the paper and have students discuss the number of parts that are now shaded. Encourage your child to talk about ways to show that ½ = ²⁄₄. (Students may continue this process creating other equal fractions.)
4. Encourage your child to stick with it whenever a problem seems difficult. This will help your child see that **everyone** can learn math.
5. Praise your child when he or she makes an effort and share in the excitement when he or she solves a problem or understands something for the first time.

Additional Resources

For more information on the Common Core State Standards for mathematics, go to http://www.corestandards.org/about-the-standards/key-points-in-mathematics or http://www.commoncoreworks.org.

For more information on the standards in mathematics related to place value (Number and Operations in Base Ten) or fractions, go to http://commoncoretools.me/category/progressions/.

For more information on helping your child learn mathematics (with activities from pre-school to grade five), go to http://www2.ed.gov/parents/academic/help/math/index.html.

For more information on Santa Ana Unified School District, go to http://www.sausd.us.