

## A SAMPLE OF WHAT YOUR CHILD WILL BE LEARNING

- 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 and different denominators
- Creating equal fractions ( $3/4 = 3 \times 2 / 4 \times 2 = 6/8$ )
- Adding and subtracting fractions with the same denominator
- Building fractions from smaller fractions
- 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

## MATHEMATICAL PRACTICES

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

## TALK TO YOUR CHILD'S TEACHER

Keep conversations focused on concepts your child will be learning.

Ask to see a sample of your child's work and ask the teacher questions such as:

- Is my child at the level where he/she should be at this point of the school year?
- Where is my child excelling?
- 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?

## ACTIVITIES FOR HOME TO SUPPORT LEARNING

- Ask your child to compare numbers using phrases like "times as much." For example, if the family cat weighs 8 lbs. and the family dog weighs 56 lbs., how many times as much does the dog weigh?
- Ask your child to help you compare fractional amounts—for example, if one recipe calls for  $2/3$  of a cup of oil, but another recipe calls for  $3/4$  of a cup of oil, which recipe calls for more oil? (In 5th grade, your child will learn ways to determine just how much more oil.)
- Ask your child to create and describe equal fractions. For example, have students take a sheet of paper, fold the paper in half, then unfold and shade  $1/2$ . 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  $1/2 = 2/4$ .

# 4th Grade

## Parent Resource

### Mathematics



## COMMON CORE STATE STANDARDS



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## EXAMPLES OF USE AND UNDERSTANDING OF PLACE VALUE

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.

$$18(600+40+9) = 18 \times 600 + 18 \times 40 + 18 \times 9$$

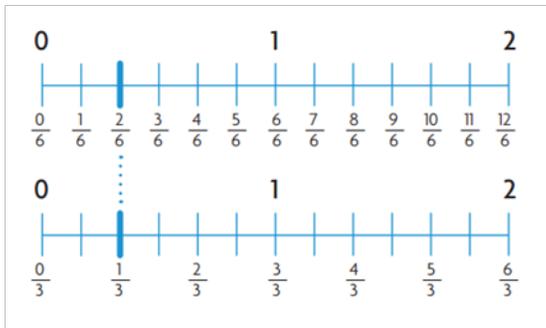


Students learn that  $649 \times 18$  is also equal to  $(649 \times 10) + (649 \times 8)$ .

$$\begin{array}{r} 37 \\ 649 \\ \times 18 \\ \hline 5192 \\ 6490 \\ \hline 11,682 \end{array}$$

## EXAMPLES OF WORKING WITH 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.

## Fractions

### 3rd Grade 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?

### 4th Grade Mathematics

- 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.

### 5th Grade Mathematics

- Interpret a fraction as division of the numerator by the denominator.
- 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.

## Place Value

### 3rd Grade Mathematics

- Use place value understanding to round whole numbers to the nearest 10 or 100.
- Quickly and accurately add and subtract numbers through 1,000.
- 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,  $9 \times 80$  or  $5 \times 60$ .

### 4th Grade Mathematics

- Use place value understanding to round multi-digit whole numbers to any place.
- Use place value understanding to find the product 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  $>$ ,  $=$ , and  $<$ .

### 5th Grade Mathematics

- 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, and compare decimals based on the meanings of the digits in the tenths, hundredths, and thousandths place, using the symbols  $>$ ,  $=$ , and  $<$ .