

KLSD

Parental Reference Guide Grade 3

A mathematics guide for parents

[Including website resources]

2013-2014

Parental Reference Guide: Mathematics Grade 3

[*Please see Vocabulary Guide as appropriate](#)

Educators throughout the country are working to improve teaching and learning to ensure that all students master skills they need to be successful. In mathematics, three significant changes will be reflected in this shift:

- Teachers will concentrate on teaching a more focused set of major math concepts and skills.
- Students will have time to master concepts and skills in a more organized way, building deeper-level understanding from one grade to the next.
- Teachers will use rich and challenging math content and will engage students in problem solving that reflects the real-world.

Grade 3 Mathematics

Third grade students will:

- Continue to build their concept of numbers, developing their understanding of fractions as numbers
- Learn the concepts behind multiplication and division
- Apply problem-solving skills and strategies for multiplying and dividing numbers through 100 to solve word problems
- Make connections between the concept of the area of a rectangle and multiplication and addition of whole numbers

Mathematics activities in these areas include the following:

- Understanding and explaining the process of multiplication and division
- Multiplying all one-digit numbers from memory as well as multiples of 10
- Solving two-step word problems using addition, subtraction, multiplication, and division
- Understanding the concept of area
- Relating the measurement of area to multiplication and division
- Understanding fractions as numbers
- Understanding and identifying a fraction as a number on a number line
- Comparing the size of two fractions
- Expressing whole numbers as fractions and identifying fractions equal to whole numbers (For example, recognizing that $\frac{3}{1}$ and 3 are the same number)
- Measuring and solving word problems involving weights and volumes
- Representing and interpreting data

Examples of how students will develop and use understanding of place value in grade three:

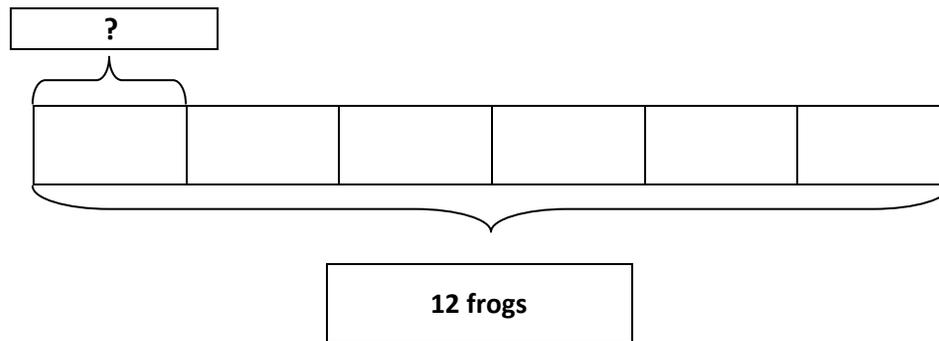
- Use place value understanding to round whole numbers to the nearest 10 or 100
- Quickly and accurately add and subtract numbers through 1000 using knowledge of place value
- Use place value understanding to multiply and divide numbers through 100
- Multiply one-digit whole numbers by multiples of 10 between 10 and 90 (For example, 9×80)

Examples of how third grade students will work with fractions:

- 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 pizza or $\frac{1}{6}$ of that same pizza?)

Third grade students use tape diagrams to problem solve for multiplication and division as well as for addition and subtraction. The following is an example of how your student may use a tape diagram to solve a division problem:

Mr. Ramirez divides 12 frogs equally into 6 groups for students to study. How many frogs are in each group? Label known and unknown information on the tape diagram to help you solve.

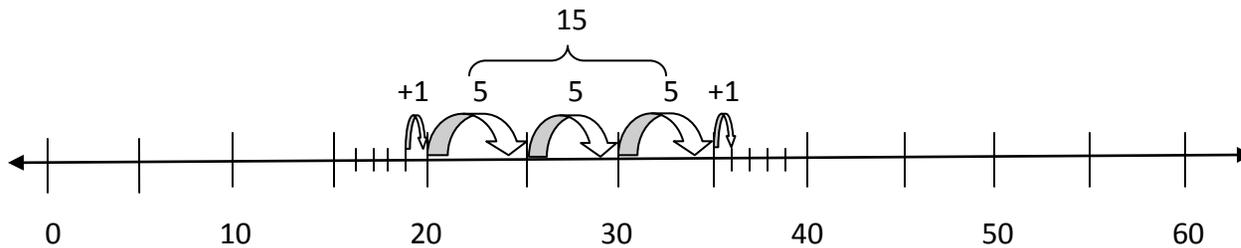


There are _____ frogs in each group.

Following is an example of a grade three word problem:

Michael spends 19 minutes on his math homework and 17 minutes on his science homework. How many minutes does Michael spend doing homework?

Students solve this problem by creating a number line prior to writing an equation to solve.



$$19 + 1 + 5 + 5 + 5 + 1 = 36$$

$$19 + 1 + 15 + 1 = 36$$

$$19 + 17 = 36$$

Answer: Michael spends 36 minutes on his homework

Parents are an important part of a child's education. Examples of mathematics activities you can engage in with your third grade child outside of school:

- Play math games with your child.
- Encourage your child to write or describe numbers in different ways. (For example $1450 = 14$ hundreds, 5 tens, and 0 ones.)
- Use everyday objects to explore the concept of fractions. (For example, use measuring cups to demonstrate how many $\frac{1}{3}$'s are in a whole, etc.)
- Ask your child to explain his/her reasoning and thinking when solving problems; students are required to Read Draw Write (RDW) to show their mathematical thinking for word problems.
- Encourage your child to stick with a challenging problem, allowing your child to see that everyone can learn math.
- Praise your child's efforts.

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Mathematics Reference Websites

<http://www.engageny.org/parent-and-family-resources>

<http://www.corestandards.org/math/practice>

<http://www.ixl.com/math/>

<http://illuminations.nctm.org>

http://www.mathplayground.com/common_core_state_standards_for_maths.html

*These guides were created with the help of many resources available on EngageNY.org including, but not limited to *Parent Roadmaps to Common Core Standards* from the Council of the Great City Schools."