NYC Department of Education
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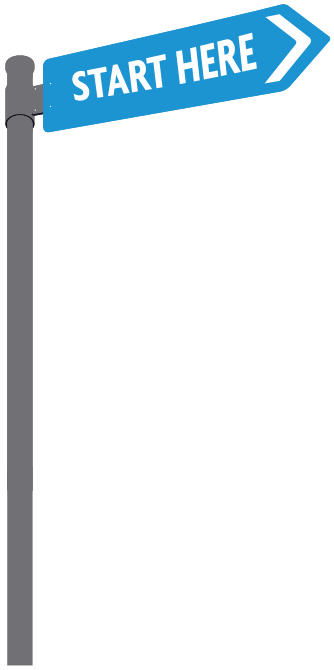
Council of the Great City Schools

parent ROADMAP

SUPPORTING YOUR CHILD IN GRADE ONE

MATHEMATICS



America's schools are working to provide higher quality instruction than ever before.

The way we taught students in the past simply does not prepare them for the higher demands of college and careers today and in the future. Your school and schools throughout the country are working to improve teaching and learning to ensure that all children will graduate high school with the skills they need to be successful.

In mathematics, this means three major changes. Teachers will concentrate on teaching a more focused set of major math concepts and skills. This will allow students time to master important ideas and skills in a more organized way throughout the year and from one grade to the next. It will also call for teachers to use rich and challenging math content and to engage students in solving real-world problems in order to inspire greater interest in mathematics.

What your child will be learning in grade one mathematics

In grade one, students will work with whole numbers and place value—including grouping numbers into tens and ones as they learn to add and subtract up through 20. Students will also use charts, tables, and diagrams to solve problems. Activities in these areas will include:

- Quickly and accurately adding numbers together that total up to 10 or less and subtracting from numbers up through 10
- Understanding the rules of addition and subtraction (for example, 5+2=2+5)
- Solving word problems that involve adding or subtracting numbers up through 20
- Understanding what the different digits mean in two-digit numbers (place value)
- Comparing two-digit numbers using the symbols **>** (more than), = (equal to) , and **<** (less than)
- Understanding the meaning of the equal sign (=) and determining if statements involving addition and subtraction are true or false (for example, which of the following statements are true? 3+3=6, 4+1=5+2)
- Adding one- and two-digit numbers together
- Measuring the lengths of objects using a shorter object as a unit of length
- Putting objects in order from longest to shortest or shortest to longest
- Organizing objects into categories and comparing the number of objects in different categories
- Dividing circles and rectangles into halves and quarters

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?
- 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?

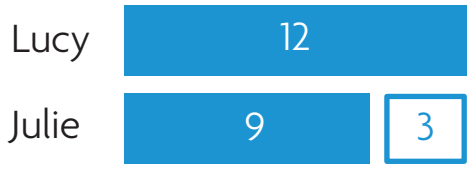
Here are just a few examples of the skills and strategies students will develop as they solve word problems in grade one.

Kindergarten Mathematics	Grade One Mathematics	Grade Two Mathematics
• Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (such as claps), acting out situations, verbal explanations, expressions, or equations • Solve word problems by adding or subtracting numbers up through 10 using objects and drawings	• Solve word problems by adding or subtracting numbers up through 20 • Solve addition and subtraction problems for different unknown numbers (20-?=15, 9+4=?)	• Solve one- and two-step word problems by adding or subtracting numbers up through 100

Examples of Grade One Word Problems

+ Addition	6 bunnies sat on the grass. Some more bunnies hopped over. Then there were 14 bunnies. How many bunnies hopped over?
− Subtraction	14 bunnies were sitting on the grass. Some bunnies hopped away. Then there were 5 bunnies. How many bunnies hopped away?
Comparison	Lucy has 12 apples. Julie has 9 apples. How many more apples does Lucy have than Julie?

Your child will use pictures and diagrams to show addition and subtraction and to compare amounts.

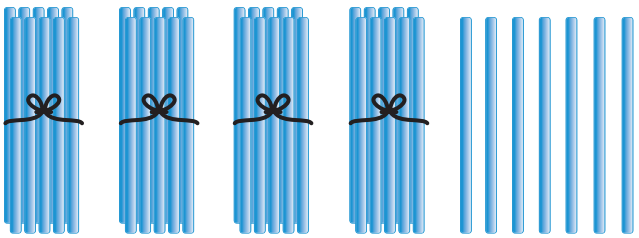


Lucy has three more apples than Julie.
Julie has three fewer apples than Lucy.

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

Kindergarten Mathematics	Grade One Mathematics	Grade Two Mathematics
• Count to 100 by ones and tens • Understand that numbers from 11 to 19 contain a ten and some leftover ones (for example, 14=10+4)	• Understand that 10 can be thought of as a bundle of ten ones—called a "ten" • Understand that the two digits of a two-digit number represent amounts of tens and ones (place value) • Add and subtract numbers through 100 using what students have learned about place value	• Understand that 100 can be thought of as a bundle of ten tens—called a "hundred" • Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones (place value) • Add and subtract numbers through 1000 using what students have learned about place value

Students use models and pictures to show that 47 is the same as 47 ones, or 4 tens + 7 ones, and to better understand the relative size of the units.

47 =  = 40 + 7

Your child will use this understanding of place value to add one- and two-digit numbers together.

47 + **2** = 49

Here, you **add** two more **ONES.**

47 + **20** = 67

Here, you **add** two more **TENS.**

Helping your child learn outside of school

1. Look for everyday opportunities to have your child do mathematics. For example, if you open a carton of eggs and take out seven, ask, "*How many are left in the carton?*"
2. Play math games with your child. For example, *"I'm thinking of a number. When I add five to it, I get 11. What is the number?"*
3. Encourage your child to read and write numbers in different ways. For example, what are some ways that you can make the number 15? 15 can be 10+5, 7+8, 20-5, or 5+5+5.
4. Have your child create story problems to represent addition, subtraction, and comparisons. For example, "*I have seven pennies. My brother has five pennies. How many pennies does he need to have the same number as I have? He needs two more pennies.*"
5. Encourage your child to stick with it whenever a problem seems difficult. This will help your child see that **everyone** can learn math.
6. 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), 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.