Department of Education
Carmen Fariña, Chancellor

Council of the Great City Schools

parent ROADMAP

SUPPORTING YOUR CHILD IN KINDERGARTEN

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 kindergarten mathematics

In kindergarten, your child will focus primarily on two important areas. The first is learning numbers and what numbers represent. The second is addition and subtraction. Students will also learn to identify and work with shapes. Activities in these areas include:

- Counting how many objects are in a group and comparing the quantities of two groups of objects
- Comparing two numbers to identify which is greater or less than the other
- Understanding addition as putting together and subtraction as taking away from
- Adding and subtracting very small numbers quickly and accurately
- Breaking up numbers less than or equal to 10 in more than one way (for example, 9=6+3, 9=5+4)
- For any number from 1 to 9, finding the missing quantity that is needed to reach 10
- Representing addition and subtraction word problems using objects or by drawing pictures
- Solving addition and subtraction word problems involving numbers that add up to 10 or less or by subtracting from a number 10 or less

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?

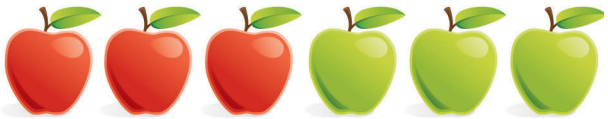
Here are just a few examples of the skills and strategies students will develop as they solve word problems in kindergarten.

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, and 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 Kindergarten Word Problems

+ **Addition**	Three red apples and three green apples are on the table. How many apples are on the table?
− **Subtraction**	Mom has ten apples. She gives one to Mary Ann. How many apples are left?

In kindergarten your child will use a variety of pictures and models to understand and solve addition and subtraction problems.

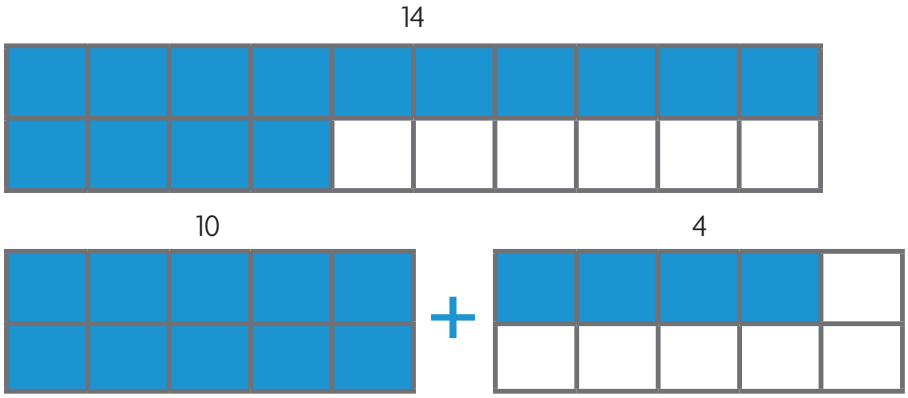


Here are just a few examples of how students will work with numbers and learn to think of ten as a unit—important building blocks for understanding place value.

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

Your child will learn to find the "partners" that make ten for any number. This drawing shows that if you have 8, it takes 2 more to make 10.

From there, students learn to think of ten as a unit and to break all the teen numbers down to a ten and some leftover ones.



Helping your child learn outside of school

1. Use everyday objects to allow your child to count and group a collection of objects.
2. Encourage your child to construct numbers in multiple ways. For example, what are some ways that you can make 10? Answers might include 5+5, 6+4, 8+2, etc. Have your child explain his or her thinking.
3. Have your child create story problems to represent addition and subtraction of small numbers. For example, "*Ann had eight balloons. Then she gave three away, so she only had five left.*"
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 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.