COMMON CORE STANDARDS:
Bringing Parents on Board
Sean Cavanagh
Assistant editor, Education Week
Common Core State Standards: Bringing Parents on Board

Expert Presenters:

Denise Walston, director of mathematics, Council of the Great City Schools, Wash.

Gina Kilday, K-6 mathematics coach, Exeter-West Greenwich Regional School District, R.I.
An on-demand archive of this webinar will be available at www.edweek.org/go/webinar in less than 24 hrs.
Parent Engagement
• What is the Council of the Great City Schools?

• What was the Councils’ involvement with the Common Core State Standards Initiative?
Advocacy for CCSS – Legislation and Research

• Provide a common set of expectations for our country

• Provide a common set of goals for academic attainment

• Elevate the rigor of instruction and address inequities

• Allow major school districts to share resources

• Prepare students for college and career
Academic Priorities

- Collaborate with the writers of the Common Core
- Videos: *From the Page to the Classroom*
- Parent Roadmaps
  - Mathematics
  - ELA
CGCS Parent Roadmaps

- Customizable K-8 in Mathematics and ELA
  - Parent-friendly language
  - Grade-level standards listed
  - Progression across three grade bands

- Translations currently available in Spanish
Components of Parent Roadmaps

- Why higher standards?
- What your child will be learning at the specific grade level?
- How is the technical language of the discipline addressed?
- How can parents partner with their child’s teacher?
- How does the concept or skill look across three grade levels?
- How can parents help their child learn outside of school?
Closer Look - Mathematics

- Parent Roadmaps, Grade Two
- Parent Roadmaps, Grade Eight
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.
In grade two, students will extend their understanding of place value to the hundreds place. They will use this place value understanding to solve word problems, including those involving length and other units of measure. Students will continue to work on their addition and subtraction skills, quickly and accurately adding and subtracting numbers up through 20 and also working with numbers up through 100. They will also build a foundation for understanding fractions by working with shapes and geometry. Activities in these areas will include:

- Quickly and accurately adding numbers together that total up to 20 or less or subtracting from numbers up through 20
- Solving one- and two-step word problems by adding or subtracting numbers up through 100
- Understanding what the different digits mean in a three-digit number
- Adding and subtracting three-digit numbers
- Measuring lengths of objects in standard units such as inches and centimeters
- Solving addition and subtraction word problems involving length
- Solving problems involving money
- Breaking up a rectangle into same-size squares
- Dividing circles and rectangles into halves, thirds, or fourths
- Solving addition, subtraction, and comparison word problems using information presented in a bar graph
- Writing equations to represent addition of equal numbers

An equation is a mathematical statement that uses numbers and symbols, such as $3 + 3 = 6$.

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

<table>
<thead>
<tr>
<th>Grade One Mathematics</th>
<th>Grade Two Mathematics</th>
<th>Grade Three Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solve word problems by adding or subtracting numbers up through 20</td>
<td>Solve one- and two-step word problems by adding or subtracting numbers up through 100</td>
<td>Solve two-step word problems by adding, subtracting, multiplying, or dividing numbers up through 100</td>
</tr>
</tbody>
</table>

Students in grade two will use diagrams such as this one to think through and solve one- and two-step word problems.

Julie has 35 books. Julie has 10 more books than Lucy. How many books does Lucy have? How many books do they have together?

**Step 1:** If Lucy has 10 less books than Julie, students first need to figure out what 10 less than 35 is.

35 books – 10 books = 25 books

**Step 2:** Students then have to add the number of books Julie has to the number of books Lucy has.

35 books + 25 books = 60 books

Total # of books they have together

Julie: 35

Lucy: 25

25 + 10 = 35

35 - 10 = 25

35 + 25 = 60

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?
Closer Look – Mathematics, Grade Two

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

### Grade One Mathematics
- 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

### Grade Two Mathematics
- 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

### Grade Three Mathematics
- Use place value understanding to round whole numbers to the nearest 10 or 100
- Quickly and accurately add and subtract numbers through 1000
- 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, 9·60 or 5·60

#### Students learn that
250 = 2 hundreds and 5 tens, 25 tens, or 250 ones.

```
250 = 2  +  5  +  0
   hundreds    tens   ones
```

#### Students apply their understanding that
5 tens + 5 tens = 10 tens, or 1 hundred, that can then be added to the hundreds place.

```
2 5 0 + 2 5 3 = 5 0 3
   hundreds   tens   ones       hundreds   tens   ones
```

### Helping your child learn outside of school
1. Play math games with your child. For example, “I’m thinking of a number. It has 5 tens, 3 hundreds, and 4 ones. What is the number? 354.” Or, using a deck of cards, deal two cards and ask your child to add the two numbers. You can also identify a target number and ask your child to either add or subtract to obtain that target number (use a target of 20 or less).
2. Have your child explain the relationship between different numbers without counting. For example, 147 is 47 more than 100 and three less than 150.
3. Encourage your child to stick with it whenever a problem seems difficult. This will help your child see that everyone can learn math.
4. 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 standards in mathematics related to place value (Number and Operations in Base Ten), go to [http://commoncoretools.me/category/progressions/](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](http://www2.ed.gov/parents/academic/help/math/index.html).
In grade eight, students take their understanding of unit rates and proportional relationships to a new level, connecting these concepts to points on a line and ultimately using them to solve linear equations requiring algebraic reasoning and knowledge of the properties of operations. Students will also expand their understanding of numbers beyond rational numbers to include numbers that are irrational—meaning that they cannot be written as a simple fraction, such as the square root of 2 or $\sqrt{2}$. Activities in these areas will include:

- Understanding that every rational number (such as $\frac{1}{4}$, 0.3, 2, or -2) can be written as a decimal, but that the decimal form of an irrational number (such as $\sqrt{2}$) is both non-repeating and infinite.
- Applying the properties of exponents to generate equivalent numerical expressions.
- Determining the value of square roots of small perfect squares (such as $\sqrt{4} = 2$) and cube roots of small perfect cubes (such as $\sqrt[3]{64} = 4$).
- Graphing proportional relationships and interpreting the unit rate as the slope (how steep or flat a line is).
- Solving and graphing one- and two-variable linear equations.
- Understanding that a function is a rule that assigns to each value of $x$ exactly one value of $y$, such as $y = 2x$, a rule that would yield such ordered pairs as $(2, 4)$, $(3, 6)$, and $(4, 8)$.
- Comparing the properties of functions represented in different ways (in a table, graph, equation, or description).
- Determining congruence (when shapes are of equal size and shape) and similarity (same shape but different size).
- Learning and applying the Pythagorean Theorem (an equation relating the lengths of the sides of a right triangle: $a^2 + b^2 = c^2$).
- Solving problems involving the volume of cylinders, cones, and spheres.

A linear equation is an equation such as $y = mx + b$ that makes a straight line when it is graphed. The solutions of the equation are the values of $(x, y)$ on the graph.
Here are just a few examples of how students will learn about and work with expressions and equations in grade eight.

### Grade Seven Mathematics
- Rewrite an expression in different forms to show how quantities are related.
- Use variables to represent quantities and construct simple equations and inequalities to solve problems.
- Solve multi-step word problems involving positive and negative numbers.
- Understand that solving an inequality or an equation such as \(14 \div (4x + 2) = 2\) means answering the question: what number does \(x\) have to be to make this statement true?

### Grade Eight Mathematics
- Understand the connections between proportional relationships, lines, and linear equations.
- Use linear equations to graph proportional relationships, interpreting the unit rate as the slope of the graph.
- Know and apply the properties of integer exponents (positive numbers, negative numbers, or 0) to write equivalent expressions (such as \(\sqrt{4} = \sqrt{4^2}\)).

### High School Mathematics
- Solve quadratic equations—equations that include the square of a variable, such as \(5x^2 - 3x = 0\).
- Use the structure of an expression to identify ways to rewrite it. For example, \(x^2 + x - 6 = (x - 2)(x + 3)\).

---

**Students interpret and compare linear relationships represented in different ways, making the connection between equations, tables of values, and graphs.**

**Problem:** Two cars are traveling from point A to point B. Their speeds are represented on a graph and in a table. Which car is traveling faster?

**Solution:** Even though car #1 starts out ahead by 4 miles, students identify the rate of change—or slope—of the equations presented in the table and graph as equal (55 miles per hour), meaning that both cars are traveling at the same speed.

### Additional Resources
1. Ask your child to do an Internet search to determine how mathematics is used in specific careers. This could lead to a good discussion and allow students to begin thinking about their future aspirations.
2. Have your child use magazines, clip art, and other pictures to find and describe examples of similar and congruent figures.
3. Using different objects or containers (such as a can of soup or a shoebox), ask your child to estimate surface area and volume, and check the answer together.
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. Prompt your child to face challenges positively and to see mathematics as a subject that is important. Avoid statements like “I wasn’t good at math” or “Math is too hard.”
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.


For more information on the standards in mathematics related to ratio and proportion and expressions and equations, go to [http://commoncoretools.me/category/progressions/](http://commoncoretools.me/category/progressions/).

For math games and challenges to do at home, go to [http://www.figurethis.org/download.htm](http://www.figurethis.org/download.htm), [www.2digame.com](http://www.2digame.com), and [http://www.kenKen.com/play_now](http://www.kenKen.com/play_now).
Using the Parent Roadmaps

- **Audiences**
  - Parents and other stakeholders

- **Purpose** - establish common understanding and language about the Common Core

- Parent fairs
- Community organizations
Additional Parental Resources

- Three-minute Common Core video
  - [www.cgcs.org](http://www.cgcs.org)
- Public Service Announcements (forthcoming)
Three minute video
Conclusion

Supporting our member districts

Denise M. Walston (Dwalston@cgcs.org), Mathematics
Robin Hall (Rhall@cgcs.org), English Language Arts/Literacy
Ricki Price-Baugh (RPriceBaugh@cgcs.org), Academics
HELPING PARENTS SUPPORT COMMON CORE MATH INSTRUCTION

A small district’s approach
Introduction

Gina Kilday
K-6 Math Coach
Exeter-West Greenwich School District
About our district

- A public, regional school district
- In rural Rhode Island
- 5 schools – 1 per grade span
- About 1,900 students K-12
- 14% free or reduced lunch
Parent Engagement in the District

- A very active Parent Teacher Association
- A bedroom community so many families with 2 working parents
Supporting Parents

- Adapting existing structures
- Implementing new Common Core specific supports
Parent Math Workshop Series

- Adults only
- Hands-on workshops covering grade span topics
- Ongoing workshops:
  - Developing Number K-2
  - Supporting Fact Mastery
  - Non-Traditional Algorithms
- New workshops:
  - Common Core Math and Exeter-West Greenwich
  - Using Online Tools to Support Math Instruction
- Adding Title I pre-program
Family Math Night

- A school-wide celebration of math
- Held in early spring
- Students come with family and friends
- Play games from the curriculum with explanations of the math being taught or reinforced
School Math Web Pages

- Grade-specific content with over 100 links by topic
- Provides a resource for parents to interact with appropriate math content
- To be aligned with the Common Core
- http://ewg.k12.ri.us/Math_Web/default.aspx
SnappSchool E-newsletter

- Curriculum-aligned weekly electronic newsletter
- Explains instructional expectations in lay terms
- Provides visual explanations of instructional strategies
- Suggests ways to reinforce that content at home
PTA Common Core Newsletters sent home and posted in each school

Great City Schools
Parent Concerns

- How can they support their child’s learning?
- What are the new expectations?
- Will children miss out during transition?
- Will everyone get what they need especially students who need remediation and those who need a challenge?
- Will the children be prepared for the new assessment?
Feel free to follow-up with me at: gina_kilday@ewg.k12.ri.us
An on-demand archive of this webinar will be available at www.edweek.org/go/webinar in less than 24 hrs.
Common Core State Standards: Bringing Parents on Board

Required Reading from Education Week:

Standards Backers Seek Out Support of Parents
Backers of the common-core academic standards have worked for years to secure the support of a diverse collection of elected officials, academic scholars, and school employees. Now they're ramping up efforts to court a different and potentially critically important audience: parents.

Additional Resources:
National PTA’s Parents' Guide to Student Success
The Parents’ Guide to Student Success was developed in response to the Common Core State Standards in English language arts and mathematics that more than 40 states have adopted.
Special Thanks To Our Breakfast Sponsor:

#edweeklive

Ed Week Leadership Forums

Road Maps to COMMON CORE Success

Registration Now Open!

Indianapolis
March 11, 2013

White Plains
March 21, 2013

www.edeweekevents.org/common-core-success