

Parental Reference Guide Grade 1

A mathematics guide for parents

[Including website resources]

2013-2014

Parental Reference Guide: Mathematics Grade 1

*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 1 Mathematics

In mathematics, first grade students will:

- Work with whole numbers and place value, grouping tens and ones.
- Learn to add and subtract through 20.
- Use charts, tables, and diagrams to solve problems.

Students will engage in activities to master the following:

- Quickly and accurately adding and subtracting through 10.
- Understanding rules of addition and subtraction ($5 + 2 = 2 + 5$).
- Solving word problems using numbers through 20.
- Understanding the meaning of digits in two-digit numbers (place value).
- Comparing two-digit numbers, using $>$, $<$, and $=$ symbols
- Adding one- and two-digit numbers.
- Measuring lengths.
- Putting objects in order, organizing, categorizing, and comparing objects.
- Dividing circles and rectangles into halves and quarters.

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

- Students will solve word problems by adding and subtracting numbers through 20.
- Students will solve problems for different unknown numbers ($20 - ? = 15$, $9 + 4 = ?$).
- Students will use pictures and diagrams to show addition and subtraction and to compare amounts.

Examples of skills and strategies grade one students will develop:

The following is an example of finding tens as a strategy to calculate sums in first grade:

$$7 + 4 + 3 = \square$$

- Students circle the numbers that make 10

$$\textcircled{7} + 4 + \textcircled{3} = \square \quad \text{Students add the 7 and the 3 to make ten.}$$

- Students then solve:

$$10 + 4 = \square$$

- Students draw a picture to represent the numbers



- Students count to see that $10 + 4 = 14$
- Students then complete the number sentence

$$7 + 4 + 3 = \boxed{14}$$

The following is an example of a first grade word problem:

Hallie has **18** markers and she has a box that holds **10** markers. If the marker box is full, **how many markers are outside of the box?**

- Students are invited to discuss tools used for counting tens:
 - ten frames
 - blocks
 - fingers (“the math tools we carry everywhere”)
 - pictures or symbols to represent numbers

$$\text{📦📦📦📦📦📦📦📦📦📦} + \text{📦📦📦📦📦📦📦📦} = 18$$

- $\text{👤👤} + \text{👤👤} = 18$

- $\text{// // // // // // // //} + \text{// // // // // // // //} = 18$

- $1 \text{ ten} + 8 \text{ ones} = 18$

- $10 + 8 = 18$

Students are guided to use known information: **10** markers fit into a box. Students count the remaining **8** markers, so they determine ***8 markers are outside of Hallie's marker box.***

Students are invited to think of ways to find the **difference** between **18** and **10**, introducing the concept of subtraction.

- To find the **difference** between two numbers, we can use **subtraction**.

$$18 - 10 = 8 \quad \text{or} \quad \begin{array}{r} 18 \\ - 10 \\ \hline 8 \end{array}$$

Students learn the relationship between addition and subtraction. In this example, of the **18** markers **10** markers could fit into the box. The **unknown number** was **8**, which students can find by counting on or by **subtracting** to find the **difference**.

The following are mathematics activities you can engage in with your first grade child outside of school:

- Invite your child to count and group everyday objects.
- Encourage your child to construct the number 10 in multiple ways (5 + 5, 6 + 4).
- Invite your child to create addition and subtraction story problems.
- Encourage your child to stick with a challenging problem, allowing your child to see that everyone can learn math.
- Praise your child's effort.

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/Activity.aspx?id=3565>

<http://illuminations.nctm.org/Search.aspx?view=search&type=ac&gr=Pre-K-2>

<http://www.sheppardsoftware.com/>

http://www.mathplayground.com/common_core_state_standards_for_mathematics.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.