KLSD

Parental Reference Guide Grade 2

A mathematics guide for parents

[Including website resources]

2013-2014

Parental Reference Guide: Grade 2 Mathematics

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.

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Grade 2 Mathematics

In mathematics, second grade students will:

- Understand place value to the hundreds place.
- Solve word problems, including units of measure.
- Continue to work on speed and accuracy in addition and subtraction skills (extending numbers through 100).
- Build foundation for understanding fractions through using shapes and geometry.

Students will engage in activities to master the following:

- Quickly and accurately adding and subtracting numbers to 20.
- Solving one- or two- step word problems using numbers through 100.
- Understanding the meaning of digits in three-digit numbers.
- Adding and subtracting three digit numbers.
- Measuring lengths in standard units (inches and centimeters).
- Solving word problems involving length.
- Solving word problems involving money.
- Breaking up a rectangle into same-size squares.
- Dividing circles and rectangles into halves, thirds, and fourths.
- Solving word problems using data presented in a bar graph.
- Writing equations to represent addition of equal numbers.

Example of skills and strategies students will develop to solve word problems in grade two:

- Students will use diagrams to think through and solve one- and two-step word problems such as this:
  - 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: **25** + 10 = 35, or 35 − 10 = **25**

- Step 2: 35 + 25 = **60**

J [35]
L [?] } 10

J [35]
L [   ] } ?
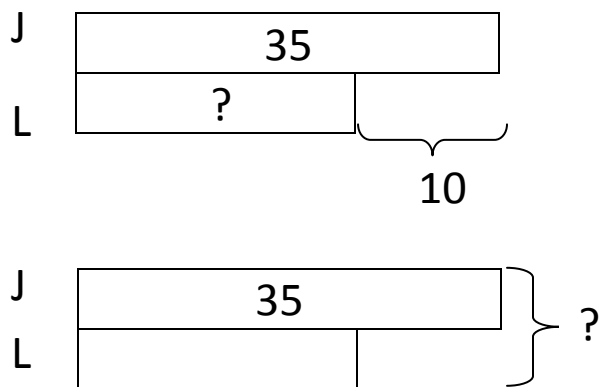
Students answer in a statement:

- Lucy has 25 books.
- Julie and Lucy have 60 books in all.

Examples of how second grade students will develop their understanding of place value:

- Understand that 100 can be thought of as a bundle of ten tens, called a "hundred."

- Understand that the digits of a three-digit number represent amounts of hundreds, tens, and ones (place value).
- Add and subtract numbers through 1000, using their knowledge of place value.

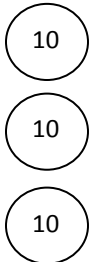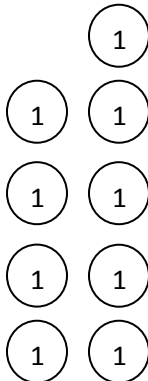**Examples of skills and strategies grade two students will develop:**

The following is an example of second grade computation:

$$24 + 15 =$$

Student solves with number bonds:

24   +   15

20   4   10   5

20 + 10 = 30

4 + 5 = 9

30 + 9 = 39

Students use place value charts and number disks to display each number:

HUNDREDS	TENS	ONES
	10 10 10	1 1 1 1 1 1 1 1 1

Students count as they place 24 above with 2 tens, 4 ones: "10, 20...21, 22, 23, 24."

Students count as they place 15 with 1 ten, 5 ones: "10, 11, 12, 13, 14, 15."

Students see that 24 + 15 = 3 tens 9 ones or 39.

Following is an example of second grade word problem.

With word problems, students use a "**R**ead, **D**raw, **W**rite" process (**RDW**). This sequence of questions helps to internalize the process.

- What do you see?
- Can you draw something?
- What can you draw?
- What conclusions can you make from your drawing?

Students redistribute values of a number to make a ten or any 'friendly' number.

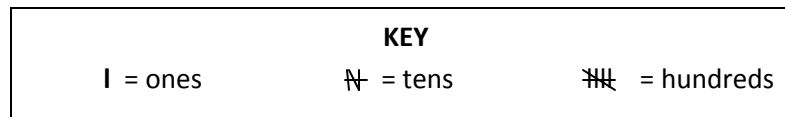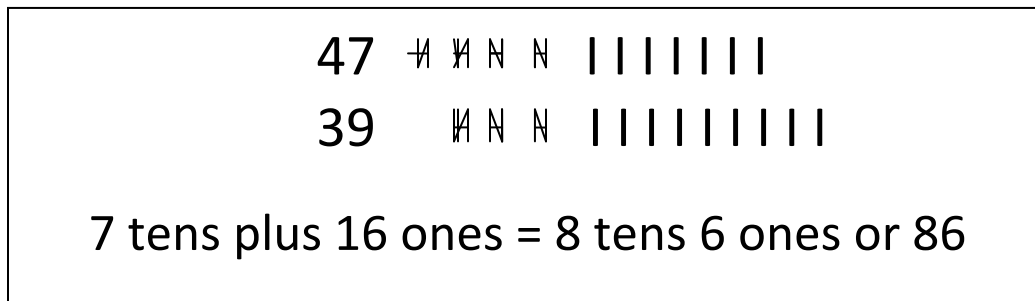**Following are three strategies students use to problem-solve:**

Farmer Adino's chickens laid 47 brown eggs and 39 white eggs.
How many eggs did the chickens lay in all?

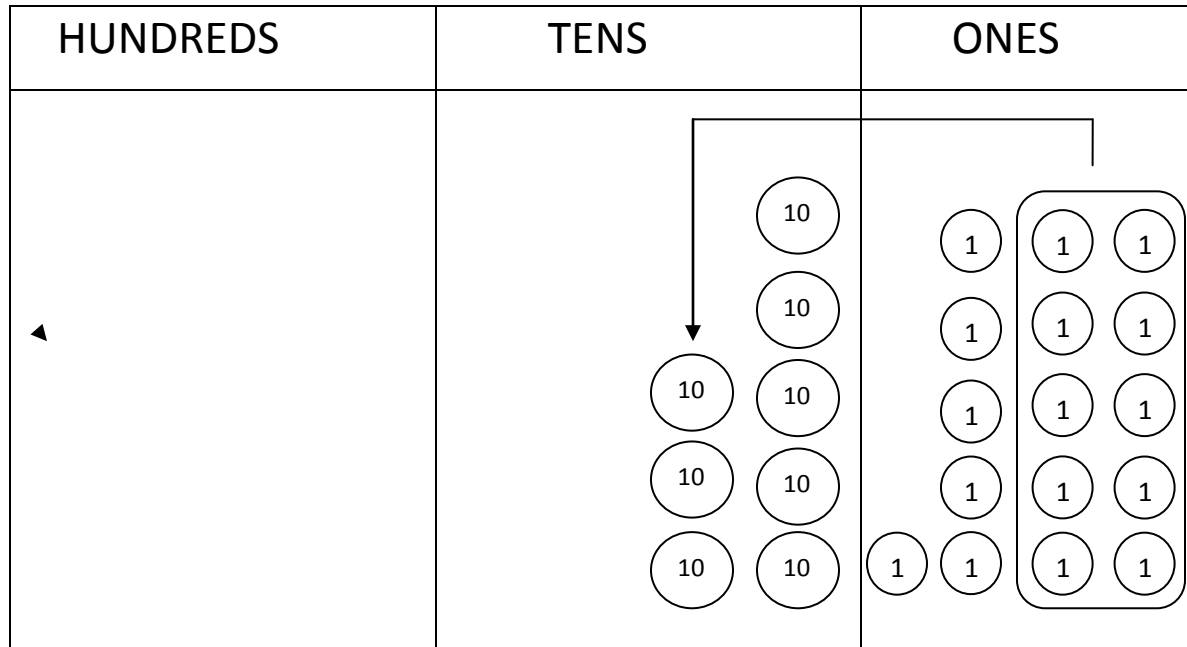- **Strategy 1:** Tape diagram

B	47
W	39
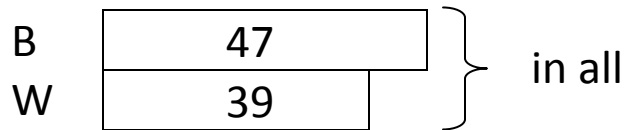
} in all

Students always write a statement and include the units: The chickens laid 86 eggs in all.

- **Strategy 2:** Bundles of tens and ones

47 ||||| ||||| \| \| |||||||

39 ||||| \| \| |||||||||

7 tens plus 16 ones = 8 tens 6 ones or 86

KEY

| = ones   \|\| = tens   卅ഥ = hundreds

- **Strategy 3:** Draw 47 with place value disks. Add 39 with disks. Regroup the ten ones.

HUNDREDS	TENS	ONES

47 + 39 = 86

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

- Play math games with your child.
- Have your child explain the relationship between different numbers without counting (Example: 147 is 47 more than 100 and 3 less than 150).
- 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 effort.

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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/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.