



Mathematics – Supporting 2nd Grade Students



What Students Learn In 2nd Grade 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 through 20
- Solving one- or 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. In 2nd grade 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.

Built on knowledge and skills from prior grade level	Performing on Grade Level	Preparing for next grade level
Grade One Mathematics Solve word problems by adding or subtracting numbers up through 20	Grade Two Mathematics Solve one- and two-step word problems by adding or subtracting numbers up through 100	Grade Three Mathematics Solve two-step word problems by adding, subtracting, multiplying, or dividing numbers up through 100



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

$$250 = \begin{array}{|c|} \hline 2 \\ \hline \text{Hundreds} \\ \hline \end{array} + \begin{array}{|c|} \hline 5 \\ \hline \text{Tens} \\ \hline \end{array} + \begin{array}{|c|} \hline 0 \\ \hline \text{Ones} \\ \hline \end{array}$$



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

$$\begin{array}{|c|} \hline 2 \\ \hline \text{Hundreds} \\ \hline \end{array} \begin{array}{|c|} \hline 5 \\ \hline \text{Tens} \\ \hline \end{array} \begin{array}{|c|} \hline 0 \\ \hline \text{Ones} \\ \hline \end{array} + \begin{array}{|c|} \hline 2 \\ \hline \text{Hundreds} \\ \hline \end{array} \begin{array}{|c|} \hline 5 \\ \hline \text{Tens} \\ \hline \end{array} \begin{array}{|c|} \hline 3 \\ \hline \text{Ones} \\ \hline \end{array} = \begin{array}{|c|} \hline 5 \\ \hline \text{Hundreds} \\ \hline \end{array} \begin{array}{|c|} \hline 0 \\ \hline \text{Tens} \\ \hline \end{array} \begin{array}{|c|} \hline 3 \\ \hline \text{Ones} \\ \hline \end{array}$$

Here is an example of how students will develop and use their understanding of place value in grade two.

Built on knowledge and skills from prior grade level	Performing on Grade Level	Preparing for next grade level
<p>Grade One Mathematics</p> <ul style="list-style-type: none"> 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 	<p>Grade Two Mathematics</p> <ul style="list-style-type: none"> 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 	<p>Grade Three Mathematics</p> <ul style="list-style-type: none"> Use place value understanding to round whole numbers to the nearest 10 or 100 Quickly and accurately add and subtract numbers through 1000 using knowledge of place value Use 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, 9×80 or 5×60



SECOND GRADE SAMPLE PROBLEM USING DIAGRAMS

Students in 2nd grade 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 Ely.

Question #1: **How many books does Ely have?**

Question #2: **How many books do they have together?**

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

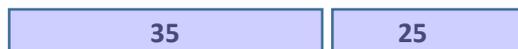
$$35 \text{ book} - 10 \text{ books} = 25 \text{ books}$$



How many books does Ely have? 25

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

$$35 \text{ book} + 25 \text{ books} = 60 \text{ books}$$



How many books do they have together? 60

