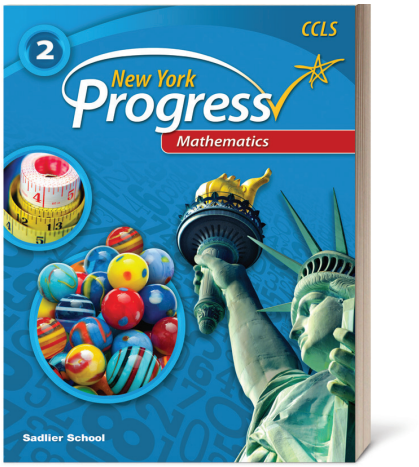
SADLIER

New York Progress Mathematics

Standards-Based Instruction & Practice



Aligned to the

New York State Learning Standards for Mathematics (Revised 2017)

Grade 2

Contents

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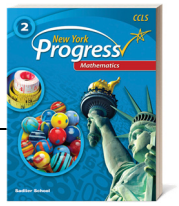
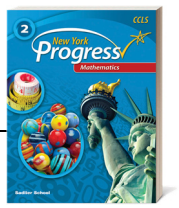


Grade 2

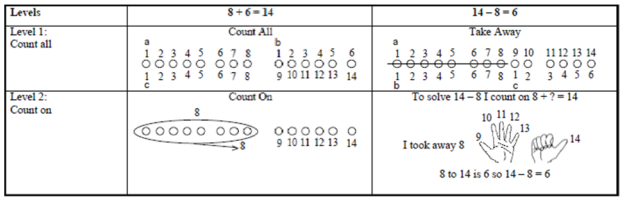
Operations & Algebraic Thinking

Grade 2 NYS Learning Standards for Mathematics	Sadlier New York Progress Mathematics, Grade 2
A. Represent and solve problems involving addition and subtraction.	
2.OA.A.1	
2.OA.A.1a 1a. Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. ADDITIONAL CLARIFICATION/EXAMPLES e.g., using drawings and equations with a symbol for the unknown number to represent the problem. In the chart below, the four unshaded (white) subtypes are mastered in Kindergarten. Grade 1 and 2 students work with all subtypes. Darker shading indicates the four difficult subtypes that students should work with in Grade 1 but need not master until Grade 2.	**Lesson 1** **Problem Solving: Addition**—pp. 10–17 **Lesson 2** **Problem Solving: Subtraction**—pp. 18–25
2.OA.A.1b 1b. Use addition and subtraction within 100 to develop an understanding of solving two-step problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. ADDITIONAL CLARIFICATION/EXAMPLES e.g., using drawings and equations with a symbol for the unknown number to represent the problem.	**Lesson 1** **Problem Solving: Addition**—pp. 10–17 **Lesson 2** **Problem Solving: Subtraction**—pp. 18–25

	Result Unknown	Change Unknown	Start Unknown
Add To	*A* bunnies sat on the grass. *B* more bunnies hopped there. How many bunnies are on the grass now? $A + B = \square$	*A* bunnies were on the grass. Some more bunnies hopped there. Then there were *C* bunnies. How many bunnies hopped over to the first *A* bunnies? $A + \square = C$	Some bunnies were sitting o the grass. *B* more bunnies hopped there. Then there we *C* bunnies. How many bunnie were on the grass before? $\square + B = C$
Take From	*C* apples were on the table. I ate *B* apples. How many apples are on the table now? $C - B = \square$	*C* apples were on the table. I ate some apples. Then there were *A* apples. How many apples did I eat? $C - \square = A$	Some apples were on the tab I ate *B* apples. Then there we *A* apples. How many apples were on the table before? $\square - B = A$
	Total Unknown	**Both Addends Unknown**	**Addend Unknown**
Put Together/ Take Apart	*A* red apples and *B* green apples are on the table. How many apples are on the table? $A + B = \square$	Grandma has *C* flowers. How many can she put in her red vase and how many in her blue vase? $C = \square + \square$	*C* apples are on the table. *A* a red and the rest are green. H many apples are green? $A + \square = C$ $C - A = \square$
	Difference Unknown	**Bigger Unknown**	**Smaller Unknown**
Compare	*"How many more?" version:* Lucy has *A* apples. Julie has *C* apples. How many more apples does Julie have than Lucy? *"How many fewer?" version:* Lucy has *A* apples. Julie has *C* apples. How many fewer apples does Lucy have than Julie? $A + \square = C$ $C - A = \square$	*Version with "More":* Julie has *B* more apples than Lucy. Lucy has *A* apples. How many apples does Julie have? *Version with "Fewer":* Lucy has *B* fewer apples than Julie. Lucy has *A* apples. How many apples does Julie have? $A + B = \square$	*Version with "More":* Julie has *B* more apples than Lucy. Julie has *C* apples. How many apples does Lucy have *Version with "Fewer":* Lucy has *B* fewer apples than Julie. Julie has *C* apples. How many apples does Lucy have $C - B = \square$ $\square + B = C$



Operations & Algebraic Thinking

GRADE 2 NYS LEARNING STANDARDS FOR MATHEMATICS	SADLIER NEW YORK PROGRESS MATHEMATICS, GRADE 2
B. Add and Subtract within 20.	
2.OA.B.2	
2.OA.B.2a 2a. Fluently add and subtract within 20 using mental strategies. Strategies could include: • making ten; e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14 • decomposing a number leading to a ten; e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9 • using the relationship between addition and subtraction; e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4 • creating equivalent but easier or known sums; and e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13. • counting on.  ADDITIONAL CLARIFICATION/EXAMPLES Note: Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies.	**Lesson 3** **Addition and Subtraction Facts to 20 (Fluency)**—pp. 26–33
2.OA.B.2b 2b. Know from memory all sums within 20 of two one-digit numbers. ADDITIONAL CLARIFICATION/EXAMPLES e.g., using drawings and equations with a symbol for the unknown number to represent the problem.	**Lesson 3** **Addition and Subtraction Facts to 20 (Fluency)**—pp. 26–33

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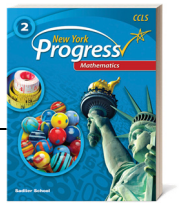

Operations & Algebraic Thinking

Grade 2 NYS Learning Standards for Mathematics	Sadlier New York Progress Mathematics, Grade 2
C. Work with equal groups of objects to gain foundations for multiplication.	
2.OA.C.3	
2.OA.C.3a 3a. Determine whether a group of objects (up to 20) has an odd or even number of members. ADDITIONAL CLARIFICATION/EXAMPLES e.g., by pairing objects or counting them by 2s.	**Lesson 4** **Odd and Even Numbers**—pp. 34–41
2.OA.C.3b 3b. Write an equation to express an even number as a sum of two equal addends.	**Lesson 4** **Odd and Even Numbers**—pp. 34–41
2.OA.C.4 4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns. Write an equation to express the total as a sum of equal addends.	**Lesson 5** **Arrays**—pp. 42–55

Number & Operations in Base Ten

Grade 2 NYS Learning Standards for Mathematics	Sadlier New York Progress Mathematics, Grade 2
A. Understand place value.	
2.NBT.A.1 1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. ADDITIONAL CLARIFICATION/EXAMPLES e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.	
2.NBT.A.1a 1a. Understand 100 can be thought of as a bundle of ten tens, called a "hundred."	**Lesson 6** **Place Value: Hundreds, Tens, and Ones**—pp. 56–63
2.NBT.A.1b 1b. Understand the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	**Lesson 6** **Place Value: Hundreds, Tens, and Ones**—pp. 56–63
2.NBT.A.2 2. Count within 1000; skip-count by 5s, 10s, and 100s..	**Lesson 7** **Skip Count by 5s, 10s, and 100s**—pp. 64–71
2.NBT.A.3 3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. ADDITIONAL CLARIFICATION/EXAMPLES e.g., expanded form: 237 = 200 + 30 + 7	**Lesson 8** **Read and Write Numbers to 1,000**—pp. 72–79

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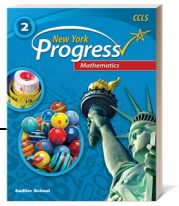

Number & Operations in Base Ten

Grade 2 NYS Learning Standards for Mathematics	Sadlier New York Progress Mathematics, Grade 2
2.NBT.A.4 4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	**Lesson 9** **Compare Numbers**—pp. 80–87
B. Use place value understanding and properties of operations to add and subtract.	
2.NBT.B.5 5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. ADDITIONAL CLARIFICATION/EXAMPLES Note: Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies.	**Lesson 10** **Add Two-Digit Numbers**—pp. 88–95 **Lesson 11** **Subtract Two-Digit Numbers**—pp. 96–103
2.NBT.B.6 6. Add up to four two-digit numbers using strategies based on place value and properties of operations.	**Lesson 12** **Add More than Two Numbers**—pp. 104–111
2.NBT.B.7 ADDITIONAL CLARIFICATION/EXAMPLES Note: • Fluency not expected until grade three. • A written representation is any way of representing a strategy using pictures or numbers.	
2.NBT.B.7a 1a. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written representation.	**Lesson 13** **Add Three-Digit Numbers within 1,000**—pp. 112–119 **Lesson 14** **Subtract Three- Digit Numbers within 1,000**—pp. 120–127
2.NBT.B.7b 1b. Understand that in adding or subtracting up to three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones, and sometimes it is necessary to compose or decompose tens or hundreds.	**Lesson 13** **Add Three-Digit Numbers within 1,000**—pp. 112–119 **Lesson 14** **Subtract Three- Digit Numbers within 1,000**—pp. 120–127
2.NBT.B.8 8. Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.	**Lesson 15** **Mentally Add and Subtract 10 or 100**—pp. 128–145
2.NBT.B.9 9. Explain why addition and subtraction strategies work, using place value and the properties of operations. ADDITIONAL CLARIFICATION/EXAMPLES Note: Explanations may be supported by drawings or objects.	**Lesson 10** **Add Two-Digit Numbers**—pp. 88–95 **Lesson 11** **Subtract Two-Digit Numbers**—pp. 96–103

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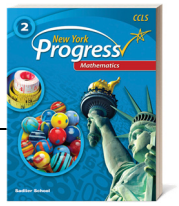
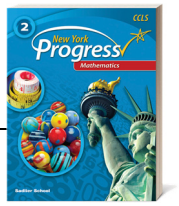


Measurement & Data

Grade 2 NYS Learning Standards for Mathematics	Sadlier New York Progress Mathematics, Grade 2
A. Measure and estimate lengths in standard units.	
2.MD.A.1 1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	**Lesson 16** **Measure Length: Inches and Feet**—pp. 146–153
2.MD.A.2 2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	**Lesson 17** **Measure Length: Centimeters and Meters**—pp. 154–161 **Lesson 18** **Use Different Units to Measure Length**—pp. 162–169
2.MD.A.3 3. Estimate lengths using units of inches, feet, centimeters, and meters.	**Lesson 19** **Estimate Length**—pp. 170–177
2.MD.A.4 4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard "length unit."	**Lesson 20** **Compare Lengths**—pp. 178–185
B. Relate addition and subtraction to length.	
2.MD.B.5 5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units. ADDITIONAL CLARIFICATION/EXAMPLES e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	**Lesson 21** **Add and Subtract Lengths**—pp. 186–193
2.MD.B.6 6. Represent whole numbers as lengths from 0 on a number line with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line.	**Lesson 22** **Number Line Diagrams**—pp. 194–201
C. Work with time and money.	
2.MD.C.7 7. Tell and write time from analog and digital clocks in five minute increments, using a.m. and p.m. Develop an understanding of common terms, such as, but not limited to, *quarter past, half past,* and *quarter to.*	**Lesson 23** **Tell and Write Time**—pp. 202–209
2.MD.C.8	
2.MD.C.8a 8a. Count a mixed collection of coins whose sum is less than or equal to one dollar.	**Lesson 13** **Add Three-Digit Numbers within 1,000**—pp. 112–119



Measurement & Data

Grade 2 NYS Learning Standards for Mathematics	Sadlier New York Progress Mathematics, Grade 2
ADDITIONAL CLARIFICATION/EXAMPLES e.g., If you have 2 dimes and 3 pennies, how many cents do you have?	
2.MD.C.8b 8b. Solve real world and mathematical problems within one dollar involving quarters, dimes, nickels, and pennies, using the ¢ (cent) symbols appropriately. ADDITIONAL CLARIFICATION/EXAMPLES Note: Students are not introduced to decimals, and therefore the dollar symbol, until Grade 4.	**Lesson 13** **Add Three-Digit Numbers within 1,000**—pp. 112–119
D. Represent and interpret data.	
2.MD.D.9 9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Present the measurement data in a line plot, where the horizontal scale is marked off in whole-number units.	**Lesson 25** **Line Plots**—pp. 218–225
2.MD.D.10 10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a picture graph or a bar graph.	**Lesson 26** **Picture Graphs**—pp. 226–233 **Lesson 27** **Bar Graphs**—pp. 234–247

	Total Unknown	Both Addends Unknown	Addend Unknown
Put Together/ Take Apart	*A* red apples and *B* green apples are on the table. How many apples are on the table? $A + B = \square$	Grandma has *C* flowers. How many can she put in her red vase and how many in her blue vase? $C = \square + \square$	*C* apples are on the table. *A* are red and the rest are green. How many apples are green? $A + \square = C$ $C - A = \square$
	Difference Unknown	**Bigger Unknown**	**Smaller Unknown**
Compare	*"How many more?" version:* Lucy has *A* apples. Julie has *C* apples. How many more apples does Julie have than Lucy? *"How many fewer?" version:* Lucy has *A* apples. Julie has *C* apples. How many fewer apples does Lucy have than Julie? $A + \square = C$ $C - A = \square$	*Version with "More":* Julie has *B* more apples than Lucy. Lucy has *A* apples. How many apples does Julie have? *Version with "Fewer":* Lucy has *B* fewer apples than Julie. Lucy has *A* apples. How many apples does Julie have? $A + B = \square$	*Version with "More":* Julie has *B* more apples than Lucy. Julie has *C* apples. How many apples does Lucy have? *Version with "Fewer":* Lucy has *B* fewer apples than Julie. Julie has *C* apples. How many apples does Lucy have? $C - B = \square$ $\square + B = C$

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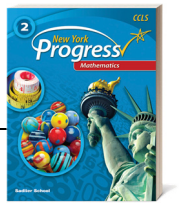

Geometry

Grade 2 NYS Learning Standards for Mathematics	Sadlier New York Progress Mathematics, Grade 2
A. Reason with shapes and their attributes.	
2.G.A.1 1. Classify two-dimensional figures as polygons or non-polygons.	**Lesson 28** **Identify and Draw Shapes**—pp. 248–255
2.G.A.2 2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	**Lesson 29** **Partition Rectangles into Same-Size**—pp. 256–263
2.G.A.3 3. Partition circles and rectangles into two, three, or four equal shares. Describe the shares using the words halves, thirds, half of, a third of, etc. Describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	**Lesson 30** **Equal Shares**—pp. 264–271