# New York Progress Mathematics 

Correlation to the New York State Next Generation Mathematics Learning Standards (2017) ироане une 2019

## Grade 2



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## NY-2.0A <br> OPERATIONS AND ALGEBRAIC THINKING

Grade 2 Content Standards

## Represent and solve problems involving addition and subtraction.

## NY-2.0A. 1

NY-2.OA.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.
e.g., using drawings and equations with a symbol for the unknown number to represent the problem.

NY-2.OA.1b Use addition and subtraction within 100 to develop an understanding of solving two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
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

## Lesson 1

Problem Solving: Addition—pp. 10-17

## Lesson 2

Problem Solving: Subtraction—pp. 18-25

## Add and subtract within 20.

## NY-2.OA. 2

NY-2.OA.2a Fluently add and subtract within 20 using mental strategies. Strategies could include:

- counting on;
- making ten;
- decomposing a number leading to a ten;
- using the relationship between addition and subtraction; and
- creating equivalent but easier or known sums.

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

## NY-2.0A OPERATIONS AND ALGEBRAIC THINKING

Grade 2 Content Standards

NY-2.OA.2b Know from memory all sums within 20 of two one-digit numbers.

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## Lesson 3

Addition and Subtraction Facts to 20 (Fluency)pp. 26-33

| Work with equal groups of objects to gain foundations for multiplication. |  |
| :--- | :--- |
| NY-2.OA.3 |  |
| NY-2.OA.3a Determine whether a group of <br> objects (up to 20) has an odd or even number <br> of members. | Lesson 4 <br> Odd and Even Numbers-pp. 34-41 |
| e.g., by pairing objects or counting them by 2's. |  |
| NY-2.OA.3b Write an equation to express an <br> even number as a sum of two equal addends. | Lesson 4 <br> Odd and Even Numbers-pp. 34-41 |
| NY-2.OA.4 Use addition to find the total number <br> of objects arranged in rectangular arrays with up <br> to 5 rows and up to 5 columns. Write an equation <br> to express the total as a sum of equal addends. | Lesson 5 <br> Arrays-pp. 42-55 |

## NY-2.NBT NUMBER AND OPERATIONS IN BASE TEN

Grade 2 Content Standards
Understand place value.
NY-2.NBT. 1 Understand that the digits of a threedigit number represent amounts of hundreds, tens, and ones.
e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.

NY-2.NBT.1a Understand 100 can be thought of as a bundle of ten tens, called a "hundred."

NY-2.NBT.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 O tens and O ones).

## Lesson 6

Place Value: Hundreds, Tens, and Ones-pp. 56-63

## Lesson 6

Place Value: Hundreds, Tens, and Ones-pp. 56-63

## NY-2.NBT NUMBER AND OPERATIONS IN BASE TEN

Grade 2 Content Standards
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| NY-2.NBT.2 Count within 1000; skip-count by 5's, <br> 10's, and 100's. | Lesson 7 <br> Skip Count by 5s, 10s, and 100s-pp. 64-71 |
| :--- | :--- |
| NY-2.NBT.3 Read and write numbers to 1000 <br> using base-ten numerals, number names, and <br> expanded form. <br> e.g., expanded form: 237 = 200 + 30 + 7 | Lesson 8 <br> Read and Write Numbers to 1,000-pp. 72-79 |
| NY-2.NBT.4 Compare two three-digit numbers <br> based on meanings of the hundreds, tens, and <br> ones digits, using >, =, and < symbols to record <br> the results of comparisons. | Lesson 9 <br> Compare Numbers-pp. 80-87 |

Use place value understanding and properties of operations to add and subtract.

NY-2.NBT. 5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Notes: Students should be taught to use strategies based on place value, properties of operations, and the relationship between addition and subtraction; however, when solving any problem, students can choose any strategy.

Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies.

NY-2.NBT. 6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

## Lesson 10

Add Two-Digit Numbers-pp. 88-95
Lesson 11
Subtract Two-Digit Numbers-pp. 96-103

## Lesson 12

Add More than Two Numbers-pp. 104-111

## NY-2.NBT NUMBER AND OPERATIONS IN BASE TEN

| NY-2.NBT.7 |  |
| :--- | :--- |
| NY-2.NBT.7a Add and subtract within 1000, | Lesson 13 |
| using |  |
| - concrete models or drawings, and | Add Three-Digit Numbers within 1,000-pp. |
| - strategies based on place value, |  |
| properties of operations, and/or the |  |
| relationship between addition and |  |
| subtraction. | Lesson 14 |
| Relate the strategy to a written <br> representation. | Subtract Three- Digit Numbers within 1,000-pp. |
| Notes: Students should be taught to use concrete <br> models and drawings; as well as strategies based <br> on place value, properties of operations, and the |  |
| relationship between addition and subtraction. |  |
| When solving any problem, students can choose |  |
| to use a concrete model or a drawing. Their |  |
| strategy must be based on place value, properties |  |
| operations, and/or the relationship between |  |
| addition and subtraction. |  |

## Use place value understanding and properties of operations to add and subtract.

NY-2.NBT. 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

## NY-2.NBT NUMBER AND OPERATIONS IN BASE TEN

Grade 2 Content Standards

NY-2.NBT. 9 Explain why addition and subtraction strategies work, using place value and the properties of operations.

Note: Explanations may be supported by drawings or objects.

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## Lesson 10

Add Two-Digit Numbers-pp. 88-95

## Lesson 11

Subtract Two-Digit Numbers—pp. 96-103

## NY-2.MD MEASUREMENT AND DATA

## Grade 2 Content Standards

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| Measure and estimate lengths in standard units. |  |
| :---: | :---: |
| NY-2.MD. 1 Measure the length of an object to the nearest whole by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. | Lesson 16 <br> Measure Length: Inches and Feet—pp. 146-153 <br> Lesson 17 <br> Measure Length: Centimeters and Meters-pp. 154-161 |
| NY-2.MD. 2 Measure the length of an object twice, using different "length units" for the two measurements; describe how the two measurements relate to the size of the unit chosen. | Lesson 18 <br> Use Different Units to Measure Length—pp. 162-169 |
| NY-2.MD. 3 Estimate lengths using units of inches, feet, centimeters, and meters. | Lesson 19 <br> Use Different Units to Measure Length—pp. 162-169 |
| NY-2.MD. 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 <br> Compare Lengths-pp. 178-185 |

## NY-2.MD

## MEASUREMENT AND DATA

Grade 2 Content Standards
New York Progress Mathematics, Grade 2

## Relate addition and subtraction to length.

NY-2.MD. 5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units.
e.g., using drawings and equations with a symbol for the unknown number to represent the problem.

NY-2.MD. 6 Represent whole numbers as lengths

## Lesson 21

Add and Subtract Lengths-pp. 186-193 from $O$ on a number line with equally spaced points corresponding to the numbers $0,1,2, \ldots$, and represent whole-number sums and differences within 100 on a number line.

## Lesson 22

Number Line Diagrams-pp. 194-201

| Work with time and money. |  |
| :--- | :--- |
| NY-2.MD.7 Tell and write time from analog <br> and digital clocks in five-minute increments, <br> using a.m. and p.m. Develop an understanding <br> of common terms, such as, but not limited to, <br> quarter past, half past, and quarter to. | Lesson 23 <br> Tell and Write Time-pp. 202-209 |
| NY-2.MD.8 |  |
| NY-2.MD.8a Count a mixed collection of coins <br> whose sum is less than or equal to one dollar. | Lesson 24 |
| e.g., If you have 2 quarters, 2 dimes and 3 pennies, pp. 210-217 <br> how many cents do you have? |  |
| NY-2.MD.8b Solve real world and <br> mathematical problems within one <br> dollar involving quarters, dimes, nickels, <br> and pennies, using the $\phi$ (cent) symbol <br> appropriately. | Lesson 24 |
| Note: Students are not introduced to decimals, and <br> therefore the dollar symbol, until Grade 4. |  |

## NY-2.MD <br> MEASUREMENT AND DATA

Grade 2 Content Standards

## Represent and interpret data.

NY-2.MD. 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.

NY-2.MD. 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 puttogether, take-apart, and compare problems using information presented in a picture graph or a bar graph.

## Lesson 25

Line Plots-pp. 218-225

## Lesson 26

Picture Graphs-pp. 226-233
Lesson 27
Bar Graphs-pp. 234-247

## NY-2.G <br> GEOMETRY

Grade 2 Content Standards
Reason with shapes and their attributes.
NY-2.G. 1 Classify two-dimensional figures as polygons or non-polygons.

NY-2.G. 2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

NY-2.G.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 28

Identify and Draw Shapes-pp. 248-255

## Lesson 29

Partition Rectangles into Same-Size—pp. 256263

## Lesson 30

Equal Shares-pp. 264-271

