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# NEW YORK STATE LEARNING STANDARDS FOR MATHEMATICS CORRELATED TO *MOVING WITH MATH® EXTENSIONS GRADE 2*

| | | Student Book | Skill Builders |
|---|---|---|---|
| | **PROBLEM SOLVING** | | |
| | **Students will build new mathematical knowledge through problem solving.** | | |
| **2.PS.1** | Explore, examine, and make observations about a social problem or mathematical situation | 37-39 | 27-1, 28-1 |
| **2.PS.2** | Interpret information correctly, identify the problem, and generate possible solutions | 37-39 | 27-1, 28-1 |
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| | **Students will solve problems that arise in mathematics and in other contexts.** | | |
| **2.PS.3** | Act out or model with manipulatives activities involving mathematical content from literature and/or story telling | | |
| **2.PS.4** | Formulate problems and solutions from everyday situations (e.g., counting the number of children in the class, using the calendar to teach counting). | 37-39 | 27-1, 28-1 |
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| | **Students will apply and adapt a variety of appropriate strategies to solve problems.** | | |
| **2.PS.5** | Use informal counting strategies to find solutions | | |
| **2.PS.6** | Experience teacher-directed questioning process to understand problems | | |
| **2.PS.7** | Compare and discuss ideas for solving a problem with teacher and/or students to justify their thinking | 37-39 | 27-1, 28-1 |
| **2.PS.8** | Use manipulatives (e.g., tiles, bocks) to model the action in problems | 14 | |
| **2.PS.9** | Use drawings/pictures to model the action in problems | 13, 37-39 | 27-1, 28-1 |
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| | **Students will monitor and reflect on the process of mathematical problem solving.** | | |

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| 2.PS.10 | Explain to others how a problem was solved, giving strategies and justifications | | |
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| | REASONING AND PROOF | | |
| | **Students will recognize reasoning and proof as fundamental aspects of mathematics.** | | |
| 2.RP.1 | Understand that mathematical statements can be true or false | | |
| 2.PR.2 | Recognize that mathematical ideas need to be supported by evidence | | |
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| | **Students will make and investigate mathematical conjectures.** | | |
| 2.RP.3 | Investigate the use of knowledge guessing as a mathematical tool | | |
| 2.RP.4 | Explore guesses, using a variety of objects and manipulatives. | | |
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| | **Students will develop and evaluate mathematical arguments and proofs.** | | |
| 2.RP.5 | Justify general claims, using manipulatives | 37-39 | 27-1, 28-1 |
| 2.RP.6 | Develop and explain an argument verbally or with objects | 37-39 | 27-1, 28-1 |
| 2.RP.7 | Listen to and discuss claims other students make | | |
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| | **Students will select and use various types of reasoning and methods of proof.** | | |
| 2.RP.8 | Use trial and error strategies to verify claims | | |
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| | COMMUNICATION | | |
| | **Students will organize and consolidate their mathematical thinking through communication.** | | |
| 2.CM.1 | Understand how to organize their thought processes | | |
| 2.CM.2 | Verbally support their reasoning and answer | | |
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| | **Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.** | | |

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| 2.CM.3 | Share mathematical ideas through the manipulation of objects, drawings, pictures, charts, and symbols in both written and verbal explanations | 14 | |
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| | **Students will analyze and evaluate the mathematical thinking and strategies of others.** | | |
| 2.CM.4 | Listen to solutions shared by other students | | |
| 2.CM.5 | Formulate mathematically relevant question | | |
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| | **Students will use the language of mathematics to express mathematical ideas precisely.** | | |
| 2.CM.6 | Use appropriate mathematical terms, vocabulary, and language | | |
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| | CONNECTIONS | | |
| | **Students will recognize and use connections among mathematical ideas.** | | |
| 2.CN.1 | Recognize the connections of patterns in their everyday experiences to mathematical ideas | | |
| 2.CN.2 | Understand and use the connections between numbers and the quantities they represent to solve problems | | |
| 2.CN.3 | Compare the similarities and differences of mathematical ideas | | |
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| | **Students will understand how mathematical ideas interconnect and build on one another to produce a coherent whole.** | | |
| 2.CN.4 | Understand how models of situations involving objects, pictures, and symbols relate to mathematical ideas | | |
| 2.CN.5 | Understand meanings of operations and how they relate to one another | 16 | 16-3 |
| 2.CN.6 | Understand how mathematical models represent quantitative relationships | | |
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| | **Students will recognize and apply mathematics in contexts outside of mathematics.** | | |
| 2.CN.7 | Recognize the presence of mathematics in their daily lives | | |

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| 2.CN.8 | Recognize and apply mathematics to solve problems | | |
| 2.CN.9 | Recognize and apply mathematics to objects, pictures and symbols | | |
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| | REPRESENTATION | | |
| | **Student will create and use representations to organize, record, and communicate mathematical ideas.** | | |
| 2.R.1 | Use multiple representations, including verbal and written language, acting out or modeling a situation, drawings, and/or symbols as representations | | |
| 2.R.2 | Share mental images of mathematical ideas and understandings | | |
| 2.R.3 | Use standard and nonstandard representations | | |
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| | **Students will select, apply, and translate among mathematical representations to solve problems.** | | |
| 2.R.4 | Connect mathematical representations with problem solving | | |
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| | **Students will use representations to model and interpret physical, social, and mathematical phenomena.** | | |
| 2.R.5 | Use mathematics to show and understand physical phenomena (e.g., estimate and represent the number of apples in a tree) | | |
| 2.R.6 | use mathematics to show and understand social phenomena (e.g., count and represent sharing cookies between friends) | | |
| 2.R.7 | Use mathematics to show and understand mathematical phenomena (e.g., draw pictures to show a story problem or show number value using fingers on your hand) | | |
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| | NUMBER SENSE AND OPERATIONS | | |
| | **Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.** | | |
| 2.N.1 | Skip count to 100 by 2's, 5's, 10's | 19 20, 23 | 30-1 to 30-3, 31-1, 31-2 |

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| 2.N.2 | Count back from 100 by 1'2, 5's, 10's using a number chart | | |
| 2.N.3 | Skip count by 3's to 36 for multiplication readiness | | |
| 2.N.4 | Skip count by 4's to 48 for multiplication readiness | | |
| 2.N.5 | Compare and order numbers to 100 | 2-4, 7, 40 | 2-1, 3-1, 29-1 to 29-3 |
| 2.N.6 | Develop an understanding of the base ten system: | | |
| | • 10 ones = 1 ten | 5, 25-27 | 4-1, 9-1, 31-1, 31-2 |
| | • 10 tens = 1 hundred | 19, 28, 29 | 7-1, 8-1 |
| | • 10 hundreds = 1 thousand | 29, 30 | 5-1, 5-2 |
| 2.N.7 | Use a variety of strategies to compose and decompose two-digit numbers | | |
| 2.N.8 | Understand and use the commutative property of addition | 12 | 15-1 |
| 2.N.9 | Name the number before and the number after a given number, and name the number(s) between two given numbers up to 100 (with and without the use of a number line or hundreds chart) | 8, 21, 24 | 5-2, 6-1, 14-1 |
| 2.N.10 | Use and understand verbal ordinal terms | 22 | 13-1 |
| 2.N.11 | Read written ordinal terms (first through ninth) and use them to represent ordinal relations | 22 | 13-1 |
| 2.N.12 | Use zero as the identity element for addition | | |
| 2.N.13 | Recognize the meaning of zero in the place value system (0-100) | | |
| 2.N.14 | Use concrete materials to justify a number as odd or even | | |
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| | **Students will understand meanings of operations and procedures, and how they relate to one another.** | | |
| 2.N.15 | Determine sums and differences of number sentences by various means (e.g.., families, related facts, inverse operations, addition doubles, and doubles plus one) | 9-11, 13-18, 31-36, 40-53 | 16-1 to 16-,4, 17-1, 18-1, 19-1, 50-3 |
| 2.N.16 | Use a variety of strategies to solve addition and subtraction problems using one- and two-digit numbers with and without regrouping | 9-11, 13-18, 31-36, 40-53 | 16-1 to 16-4, 17-1, 18-1, 19-1, 50-3 |

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| 2.N.17 | Demonstrate fluency and apply addition and subtraction facts up to and including 18 | 9-11, 13-18, 31-36, 40-53 | 16-1 to 16-4, 17-1, 18-1, 19-1, 50-3 |
| 2.N.18 | Use doubling to add 2-digit numbers | | |
| 2.N.19 | Use compensation to add 2-digit numbers | | |
| 2.N.20 | Develop readiness for multiplication by using repeated addition | | |
| 2.N.21 | Develop readiness for division by using repeated subtraction, dividing objects into groups (fair share) | 64 | 31-1, 31-2, 41-1, 42-1 |
| | | | |
| | **Students will compute accurately and make reasonable estimates.** | | |
| 2.N.22 | Estimate the number in a collection to 100 and then compare by counting the actual items in the collection | 25 | 31-1 |
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| | **ALGEBRA** | | |
| | **Students will perform algebraic procedures accurately.** | | |
| 2.A.1 | Use the symbols <, >, = (with and without the use of a number line) to compare whole numbers up to 100 | 4 | |
| | | | |
| | **Students will recognize, use, and represent algebraically patterns, relations, and functions.** | | |
| 2.A.2 | Describe and extend increasing or decreasing (+, -) sequences and patterns (numbers or objects up to 100) | 24 | 14-1 |
| | | | |
| | **GEOMETRY** | | |
| | **Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.** | | |
| 2.G.1 | Experiment with slides, flips, and turns to compare two-dimensional shapes | | |
| 2.G.2 | Identify and appropriately name two-dimensional shapes: circle, square, rectangle, and triangle (both regular and irregular) | 63 | 37-1, 37-2, 38-1, 38-2, 39-1, 39-2, 40-1, 40-2, 43-1, 44-1, 45-1 |
| 2.G.3 | Compose (put together) and decompose (break apart) two-dimensional shapes | | |

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| | **Students will identify and justify geometric relationships, formally and informally.** | | |
| 2.G.4 | Group objects by like properties | | |
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| | **Students will apply transformations and symmetry to analyze problem solving situations.** | | |
| 2.G.5 | Explore and predict the outcome of slides, flips, and turns of two-dimensional shapes | | |
| 2.G.6 | Explore line symmetry | 63 | 41-2, 42-2 |
| | | | |
| | MEASUREMENT | | |
| | **Students will determine what can be measured and how, using appropriate methods and formulas.** | | |
| 2.N.1 | Use non-standard and standard units to measure both vertical and horizontal lengths | 61 | 10-1, 12-1, 50-1 |
| 2..M.2 | Use a ruler to measure standard units (including whole inches and whole feet) | 61 | 10-1, 12-1, 50-1 |
| 2.M.3 | Compare and order objects according to the attribute of length | | |
| 2.M.4 | Recognize mass as a qualitative measure (e.g., Which is heavier? Which is lighter?) | | |
| 2.M.5 | Compare and order objects, using lighter than and heavier than | | |
| | | | |
| | **Students will use units to give meaning to measurements** | | |
| 2.M.6 | Know and recognize coins (penny, nickel, dime, quarter) and bills ($1, $5, $10, and $20) | 56-60 | 47-1, 48-1, 48-2 |
| 2.M.7 | Recognize the whole dollar notation as $1, etc. | 60 | 48-2 |
| 2.M.8 | Identify equivalent combinations to make one dollar | 58-60 | 48-2 |
| 2.M.9 | Tell time to the half hour and five minutes using both digital and analog clocks | 54, 55 | 49-1 to 49-3 |
| | | | |
| | **Students will develop strategies for estimating measurements.** | | |
| 2.M.10 | Select and use standard (customary) and non-standard units to estimate measurements | | |

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| | STATISTICS AND PROBABILITY | | |
| | **Students will collect, organize, display, and analyze data.** | | |
| 2.S.1 | Formulate questions about themselves and their surroundings | | |
| 2.S.2 | Collect and record data (using tallies) related to the question | 62 | |
| 2.S.3 | Display data in pictographs and bar graphs using concrete objects or a representation of the object | 62 | |
| 2.S.4 | Compare and interpret data in terms of describing quantity (similarity or differences) | | |
| | | | |
| | **Students will make predictions that are based upon data analysis.** | | |
| 2.S.5 | Discuss conclusions and make predictions from graphs | | |