Reading Public Schools

Instilling a joy of learning and inspiring the innovative leaders of tomorrow

First Grade Priority Areas

Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20 (OA)

First grade students will explore strategies for adding and subtracting whole numbers. They will utilize a variety of models to manipulate combinations and compare situations to develop meaning for the operations of addition and subtraction. They will understand increasingly complex strategies to approach number relationships while building the bridge between addition and subtraction relationships.

Developing understanding of whole number relationships and place value, including grouping in tens and ones (NBT)

Students will develop, discuss, and utilize methods to add within 100 and subtract multiples of 10. They will compare whole numbers to understanding and solve problems involving their relative sizes. They will think of numbers between 10 and 100 in terms of tens and ones. Through activities that build number sense, they will understand the order of the counting numbers and their relative magnitudes.

Developing understanding of linear measurement and measuring lengths as iterating length units (MD)

Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.

Reasoning about attributes of, and composing and decomposing geometric shapes (G)

Students will compose and decompose plane or solid figures and build understanding of part-whole relationships as well as the properties of the original and composite shapes. They will recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, building background knowledge for measurement and properties of congruence and symmetry.

Mathematical Practice Standards

- Making sense of problems and persevering in solving them
- Reasoning abstractly and quantitatively
- Constructing viable arguments and critiquing the reasoning of others
- Modeling with mathematics
- Using appropriate tools strategically
- Attending to precision
- Looking for and making use of structure
- Looking for and expressing regularity in repeated reasoning

Content Standards

Operations and Algebraic Thinking (OA)
- Represent and solve problems involving addition and subtraction
- Understand and apply properties of operations and the relationship between addition and subtraction
- Add and subtract within 20
- Work with addition and subtraction equations

Geometry (G)
- Reason with shapes and their attributes

Measurement and Data (MD)
- Measure lengths indirectly and by iterating length units
- Tell and write time
- Represent and interpret data
- Work with money

Number and Operations in Base Ten (NBT)
- Extend the counting sequence
- Understand place value
- Use place value understanding and properties of operations to add and subtract

Mathematics	Grade 1	
Concepts	**Essential Questions**	**Resources**
Operations and Algebraic Thinking (OA): **Represent and solve problems involving addition and subtraction**	• What are some of the ways to think about representing addition and subtraction problems? • What are ways to distinguish between addition and subtraction problems? • What strategies can be used to solve addition and subtraction problems?	Developing Number Concepts (bk 1 ch. 1,3; bk 2 ch.1) Math in Focus (ch 3, 4, 8, 13, 14) Calendar Math
Operations and Algebraic Thinking (OA): **Understand and apply properties of operations and the relationship between addition and subtraction**	• What are the rules that govern addition and subtraction? • What models effectively demonstrate addition and subtraction? • What strategies can I use for adding and subtracting? • How does the relationship between addition and subtraction help solve problems and help us check our answers?	Developing Number Concepts (bk 1 ch. 1,3; bk 2 ch.1, 2) Math in Focus (ch 2, 3, 4, 8, 13, 14, 17) Calendar Math
Operations and Algebraic Thinking (OA): **Add and Subtract within 20**	• What counting strategies help with addition and subtraction? • How can mental strategies (counting on, making ten, decomposing numbers, etc.) help when adding and subtracting? • How can benchmark numbers (5, 10) help me learn my facts?	Developing Number Concepts (bk 1 ch. 1,3; bk 2 ch.1,2,3; bk3 ch.1) Math in Focus (ch 3, 4, 8, 12, 13, 14, 16) Calendar Math
Operations and Algebraic Thinking (OA): **Work with addition and subtraction equations**	• Why do I need mathematical operations? • How do mathematical operations relate to one another? • How do you know which operation to use?	Math in Focus (ch 3, 4, 8, 10, 11, 12, 13, 14, 17, 19) Calendar Math
Number and Operations in Base Ten (NBT): **Extend the counting sequence**	• How can numbers up to 120 be counted, read, and written?	Developing Number Concepts (bk 1) Math in Focus (ch 1, 4, 12, 16) Calendar Math
Number and Operations in Base Ten (NBT): **Understand place value**	• How can numbers greater than 10 be shown, counted, read, and written? • What are two-digit numbers? • How can numbers to 100 be compared and ordered?	Developing Number Concepts (bk 1) Math in Focus (ch 12, 13, 16, 17) Calendar Math
Number and Operations In Base 10 (NBT): **Use place value understanding and properties of operations to add and subtract**	• What are strategies to add and subtract with tens and ones? • What strategies can you use to find 10 more or 10 less without counting? • What are strategies to add and subtract 10 or multiples of 10 with two-digit numbers? • How can you explain your reasoning?	Developing Number Concepts (bk 1,2) Math in Focus (ch 4, 8, 13, 14, 17) Calendar Math
Measurement and Data (MD): **Measure lengths indirectly and by iterating length units**	• How can objects be measured, compared, and ordered by length?	Developing Number Concepts (bk 1, ch 1,3; bk 3, ch. 1) Math in Focus (ch 9)
Measurement and Data (MD): **Tell and write time**	• How can time be recorded? • What are the differences/similarities between analog and digital clocks? • How can time to the half hour be read and written?	Math in Focus (ch 15)
Measurement and Data (MD): **Represent and interpret data**	• How can you organize data (information) in a visual way? • What questions do graphs help you ask and answer?	Developing Number Concepts (bk 1 ch. 3) Math in Focus (ch 11)
Measurement and Data (MD): **Work with money**	• What are the values of each of the U.S. coins? How do their values compare? • How do I write money with appropriate notation?	Math in Focus (ch 19)
Geometry (G): **Reason with shapes and their attributes**	• What are attributes of shapes? What are the differences between "defining" and "non-defining attributes"? • How can you describe and draw two and three-dimensional shapes? • How can you use 2D and 3D shapes to create other shapes? • How can circles and rectangles be partitioned into equal shares and what names can be given to these equal shares?	Developing Number Concepts (bk 1 ch. 1,3) Math in Focus (ch 5) Calendar Math

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Curriculum Guide Overview

Curriculum Guide	Curriculum guides are public documents that are aligned with the Massachusetts Department of Education Curriculum Frameworks. They focus on the set of standards that students will learn within certain disciplines at appropriate grade levels. Curriculum Guides are intended for teachers, parents, and the wider school community as an overview document of the course of study for the year.
Curriculum Map	Curriculum maps are internal documents utilized as planning tools for teachers. Curriculum maps keep a focus on the end-of-year standards and chart a course for the teaching and learning over the year. They are typically organized in a grade-level overview organized by month or marking period. Curriculum maps typically include; standards and expectations for the grade/content, essential skills/concepts, methods of assessment, and major content resources. Maps are never "done" as ongoing work of educators include revisions, additions, and re-visits to the maps. They provide an overview for the year while also allowing educators to see a vertical picture of how the content develops as students progress through each grade.
Standards	The standards used as the foundation of our curriculum come directly from the Massachusetts Department of Education Curriculum Frameworks. State standards may be viewed here: http://www.doe.mass.edu/frameworks/
Priority Areas	The state of Massachusetts identifies critical areas that should be the priority focus of that grade's instructional time.
Practice Standards	Practice Standards are a set of skills/behaviors that are replicated in grades preK-12 and are currently found in Mathematics, Social Studies, and Science standards. These standards describe ways in which students engage with the content and the level of application grows increasingly complex as students progress vertically throughout their education.
Content Standards	The Content Standards describe what students should know and be able to do within each grade-level.
Essential Questions	Essential questions are questions that are not answerable with an easy answer or a simple instruction. The purpose of essential questions is to provide opportunities for inquiry into the learning and act as an umbrella to anchor the unit/lesson.
Resources	Resources identified in Curriculum Guides are not intended to be exhaustive, nor are they intended to be prescriptive. The resources identified may function as a menu of curriculum resources from which educators identify the most appropriate tools to utilized in their classrooms. More specifics about identified resources are identified within the curriculum map documents.