Reading Public Schools

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

Third Grade Priority Areas

Developing understanding of multiplication and division and strategies for multiplication and division within 100 (OA, NBT)	Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.
Developing understanding of fractions, especially unit fractions (fractions with numerator 1) (NF)	Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.
Developing understanding of the structure of rectangular arrays and of area (G)	Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns, build a connection to multiplication, and justify using multiplication to determine the area of a rectangle.
Describing and analyzing two-dimensional shapes (G)	Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

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 multiplication and division
- Understand properties of multiplication and the relationship between multiplication and division
- Multiply and divide within 100
- Solve problems involving the four operations; identify/explain patterns in arithmetic

Number and Operations in Base Ten (NBT)
- Use place value understanding and properties of operations to perform multi-digit arithmetic

Number and Operations—Fractions (NF)
- Develop understanding of fractions as numbers

Measurement and Data (MD)
- Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects
- Represent and interpret data
- Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
- Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures

Geometry (G)
- Reason with shapes and their attributes

Concepts	Essential Questions	Resources
Operations and Algebraic Thinking (OA): **Represent and solve problems involving multiplication and division**	• What are different meanings for multiplication? • What are different meanings for division? • What strategies can be used to solve multiplication and division word problems? • How can multiplication and division situations be represented?	Math in Focus (ch 6,7,8) Developing Number Concepts (bk 3)
Operations and Algebraic Thinking (OA): **Understand properties of multiplication and the relationship between multiplication and division**	• How are multiplication and division related? • How can multiplication be used to solve real-world problems faster than addition? • What patterns can I find within multiplication facts that I can use to help me uncover the answers? • What are the properties of multiplication and how can they be applied?	Math in Focus (ch 6,7,8) Developing Number Concepts (bk 3)
Operations and Algebraic Thinking (OA): **Multiply and divide within 100**	• How can my knowledge of the relationship between multiplication and division help me fluently multiply and divide?	Math in Focus (ch 6,7,8) Developing Number Concepts (bk 3)
Operations and Algebraic Thinking (OA): **Solve problems involving the four operations, and identify and explain patterns in arithmetic**	• How do mathematicians think about the problems they need to solve? • How can I use the math that I know to find the answers to problems in my world?	Math in Focus (ch 9) Developing Number Concepts (bk 3) Understanding Numbers; Addition & Subtraction, Place Value, Decimals Calendar Math
Number and Operations in Base Ten (NBT): **Use place value understanding and properties of operations to perform multi-digit arithmetic**	• How does understanding place value help me understand multiplication? • What is special about multiplying by ten?	Math in Focus (ch 1,2,3,4,5,10) Understanding Numbers; Place Value, Addition & Subtraction Developing Number Concepts (bk 3)
Number and Operations –Fractions (NF): **Develop understanding of fractions as numbers**	• Where are fractions found in my world? • How can I understand amounts that are less than a whole, and numbers that are in between whole numbers?	Math in Focus (ch 14)
Measurement and Data (MD): **Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects**	• What are the differences between digital and analog clocks? • What makes the metric system of measurement easier to use than the customary system of measurement?	Math in Focus (ch 16) Understanding Numbers; Place Value
Measurement and Data (MD): **Represent and interpret data**	• How can I provide a visual representation of my information? • In what situations are graphs useful? • How can I use a scale to represent larger numbers in a graph? • What information can graphs help people see?	Math in Focus (ch 13)
Measurement and Data (MD): **Geometric measurement: understand concepts of area and relate area to multiplication and to addition**	• How would I explain what area is to a 2nd grader? • When would I want to find the area of something? • How is area related to multiplication and addition?	Math in Focus (ch 19) Understanding Numbers; Place Value Developing Number Concepts (bk 3)
Measurement and Data (MD): **Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures**	• When is it useful to be able to find the perimeter of a shape? • What is the difference between perimeter and area? How are they related?	Math in Focus (ch 19) Understanding Numbers; Place Value
Geometry (G): **Reason with shapes and their attributes**	• What are the defining characteristics of different types of polygons? • What are "defining" characteristics, what shapes share attributes?	Math in Focus (ch 18) Understanding Numbers; Place Value 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 revisits 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.