

Everyday Mathematics®

and the

COMMON CORE
STATE STANDARDS



Everyday Mathematics® and the Common Core State Standards



About *Everyday Mathematics*®

Everyday Mathematics was developed by the University of Chicago School Mathematics Project (UCSMP) to help all children learn more mathematics and become lifelong mathematical thinkers and problem solvers. Its instructional design was created to maximize learning by engaging students and developing concepts and skills over time in a wide variety of contexts.

A Research-Based Program

Everyday Mathematics is based on extensive research in mathematics education. The program was originally developed and field tested one grade level at a time in a decade-long process (1985–1996) to ensure that every lesson works in actual classrooms. These field



tests took place in classrooms nationwide. Researchers studied both teachers' implementation of the program and students' responses to it, including its effects on student achievement. Since then, the program has been classroom tested repeatedly, and improvements have been made continually based on results of these classroom tests as well as on advances in research into how children learn mathematics, new authoritative studies about school mathematics, and new evidence about what works best in classrooms across the nation and around the world. The result is a curriculum with an unmatched record of improved test scores.

A Design That Works

Traditional curricula teach topics in isolation, practice them intensively for a limited time, and then abandon them until they must be retaught the following year. To avoid this inefficient reteaching, the *Everyday Mathematics* curriculum is designed around the way children actually learn mathematics. Once a new concept or skill—such as performing division with decimals—is introduced, the curriculum strategically revisits it over time to reinforce recent and past learning, guide students towards mastery, and promote long-term retention. Over the years, the design of *Everyday Mathematics* has helped improve test scores and close achievement gaps nationwide. You can learn more about the results achieved with *Everyday Mathematics* at www.everydaymathsuccess.com.

About the Common Core State Standards

The Common Core State Standards (CCSS) were developed by the Council of Chief State School Officers and the National Governors Association Center for Best Practices (NGA Center). Work began in the summer of 2009 with the goal of creating common minimum education standards to be used across all states to help ensure consistent and high expectations regardless of zip code. On June 2, 2010, the CCSS were officially released and the state adoption phase began. The CCSS are meant to be the common *core*—they serve as the baseline from which states fill out their own frameworks. As of this writing, 36 states have officially adopted the CCSS.

There are two main parts to the CCSS: the Standards for Mathematical Practice, which outline *how* students should approach mathematics, and the Standards for Mathematical Content, which are *what* students should learn.

Standards for Mathematical Practice

What sets the CCSS apart from many existing state frameworks is the explicit requirement that specific mathematical practices be entirely incorporated into classroom instruction and given full attention within assessments. The practices identified by the CCSS are based on process standards identified by the National Council of Teachers of Mathematics (NCTM), the National Research Council, and other authoritative and expert sources. These standards define practices that should permeate instruction and assessment at all grade levels, Kindergarten through Grade 12. The Standards for Mathematical Practice are:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.¹

These standards are based on the practices of mathematicians and others who use mathematics expertly. They are meant to shift the focus of school mathematics away from teaching isolated skills and toward developing broadly applicable knowledge and powerful habits of mind.

Standards for Mathematical Content

The Standards for Mathematical Content resemble many existing state standards. They list specific skills and concepts to be taught, practiced, and mastered at each grade level. These content standards were written with several aims. One aim is to provide a foundation for a focused and coherent curriculum. Drawing on the *Curriculum Focal Points* from the National Council of Teachers of Mathematics, the Standards for Mathematical Content offer a curricular core that addresses what is known as the “mile-wide, inch-deep” problem while also maintaining a “balanced combination of procedure and understanding.” (CCSSM, p. 8) They are based on the best practices and research from across the nation and world, and they outline challenging content meant to hold up against the toughest international standards. (See the *Common Core State Standards for Mathematics* for a full list of works consulted.) For a complete list of the Standards of Mathematical Content and of the *Everyday Mathematics* lessons that address them, see page 11 of this brochure.

Implementing the CCSS

Many states already have standards that align fairly well to the CCSS, particularly to the Standards for Mathematical Content. So the *content* taught in many classrooms may remain similar. At the same time, there may be greater focus on the *processes* (the Standards for Mathematical Practice) to help students develop the critical-thinking and problem-solving skills they’ll need for twenty-first century careers.



Control Stays Local

There is no single CCSS curriculum. The standards “do not dictate curriculum or teaching methods.” (CCSSM, p. 5) As with any set of standards, implementation of the CCSS will ultimately be the responsibility of teachers, administrators, and local school boards.

More broadly, adoption of the CCSS is a state-by-state decision, and implementation will vary by state. If a state chooses to adopt the CCSS, it may include an additional 15% of its own custom standards to complete its framework.

Full Attention to the Standards for Mathematical Practice

The Standards for Mathematical Practice fundamentally affect instruction on a daily basis. Many existing mathematics programs, especially traditional basal textbooks, fall short in providing meaningful support for the sorts of mathematical practices called for in the CCSS. For many schools, figuring out how to induct students into the mathematical practices required by CCSS will be perhaps the greatest challenge in implementing these standards. *Everyday Mathematics* embeds these practices fully throughout its curriculum.

Assessment and Intervention

At this time, how the CCSS will be assessed is not clear.

“Like adoption of common core standards, it will be up to the states: some states plan to come together voluntarily to develop a common assessment system, based on the common core state standards.”²

As the assessment picture comes into focus, adjustments to curricula will probably be needed. This is certainly the case where certain intervention models are used as the CCSS give no guidance in the area:

“The Standards . . . do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations.” (*CCSSM*, p. 4)

In the long run, the CCSS may make assessment and intervention more coherent and effective, but a great deal of work remains to be done. As of this writing, the U.S. Department of Education has awarded \$330 million to two partnerships of states that will produce CCSS-aligned standardized tests no sooner than 2014.⁴ So it may be some time before we know how the CCSS will be assessed. In the meantime, what states and districts are to do is uncertain.

“There will be an ongoing state-led development process that can support continuous improvement of the standards.”³

The Beginning, Not the End

The current release of the CCSS marks the beginning, not the end, of the process. In the short term, clarifications and technical corrections to some standards are likely. In the longer term, new topics may be introduced, existing requirements may be reworked or eliminated entirely, and benchmarks may be shifted from one grade to another. For details of how the CCSS are intended to be a living, fluid document, refer to the Q&A section of the CCSS Web site at www.corestandards.org/frequently-asked-questions.

Everyday Mathematics and the Standards for Mathematical Practice

For twenty-five years, *Everyday Mathematics* has fully incorporated the skills and processes described in the Standards for Mathematical Practice. Meeting the Standards for Mathematical Practice will likely be especially challenging for schools using programs that give such practices only cursory attention. For schools using *Everyday Mathematics*, the transition will be much easier since the practices required by the CCSS are fundamental features woven throughout the entire program.

Reasoning and Problem Solving

The first four Standards for Mathematical Practice address reasoning and problem solving. (See page 3 of this brochure for a list of the Standards for Mathematical Practice.) Problem solving in *Everyday Mathematics* is much more than just finding solutions to word problems. It is a process of building mathematical models of situations drawn from purely mathematical contexts or from everyday life; applying mathematical tools, knowledge, and reasoning to the models to generate solutions; and checking whether the solutions fit the original situations and make sense.

Everyday Mathematics introduces children to problem solving and reasoning as early as Kindergarten in several ways. Children engage in Ongoing Daily Routines such as the Attendance Routine and Survey Routine. They tackle problems that emerge from everyday situations, such as sharing snacks equally or distributing supplies. And they solve number stories generated by their teachers or their classmates.



At later grades, students create number stories rooted in their everyday experiences—such as making purchases from vending machines—and model them using manipulatives, drawings, and number models. Students learn to ask questions that will help them solve the problems: *What do I know? What do I want to find out? What do I need to do to get there?* And, after they've arrived at a solution: *Does my answer make sense? How do I know?*

At all grade levels, special emphasis is placed on students sharing strategies and ideas. They explain and discuss the reasoning behind their methods and solutions. Through this process, students develop their reasoning and problem-solving strategies to become expert problem solvers.

Using Tools Appropriately and Effectively

The CCSS expect that students are “sufficiently familiar with tools appropriate for their grade to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations.” (CCSSM, p. 7) A “tool” in *Everyday Mathematics* is anything that can be used to facilitate mathematical thinking: calculators, rulers, scales, manipulatives, computational algorithms, and number grids are all mathematical tools. Through regular exposure to such tools, *Everyday Mathematics* students learn to choose when and how to use tools appropriately. This emphasis on the intelligent use of tools makes school mathematics better resemble how mathematics is done in everyday life.

Attending to Precision

The CCSS require that students attend to precision in their reasoning, calculation, and communication through careful use of words, symbols, and units as well as mathematical expressions and processes. In *Everyday Mathematics*, students learn to recognize various levels of precision. They learn to distinguish between an exact answer and an estimate; they learn to use the language of estimation to communicate their reasoning rooted in number sense; and, using that number sense, they determine when a certain level of precision is needed. Obtaining exact answers has always been and continues to be a major goal of *Everyday Mathematics*. But *Everyday Mathematics* also attends to the many situations in which exact answers are unnecessary or even impossible, situations in which estimates and approximations are more appropriate than exact answers.

Seeking Out Structure and Regularity

The last two Standards for Mathematical Practice require students to seek out underlying patterns and structures in problems and, from those patterns, generalize problem-solving methods and processes. The CCSS note that proficient students may be able to generalize equations and formulas based on repeated calculations.

Throughout the *Everyday Mathematics* curriculum, students are asked to develop their number sense, operations sense, function or pattern sense, and common sense and to bring all these senses to bear on problems in creative ways. Students draw on their mathematical knowledge to identify underlying structures and to identify new variations and extensions of familiar calculations.

As an example, consider how the computational method for finding the area of a rectangle is developed in Grade 3. Children begin by counting square units in rectangles and noting the number of squares in a row and the number of equal rows of squares inside the rectangles. By studying the patterns in their results, children are led to connect the area of a shape to the multiplication of its length and width. This type of teacher-guided investigation is commonplace in *Everyday Mathematics*.

Everyday Mathematics and the Standards for Mathematical Content

Even though *Everyday Mathematics* has been around for decades longer than the CCSS, the content of the two align quite well. There are several reasons for this.

Shared Origin

Everyday Mathematics and the CCSS have a shared origin in decades of research and authoritative opinion. *Everyday Mathematics* was built and is constantly revised using an ever-growing body of research in the learning sciences, authoritative recommendations such as those from the National Council of Teachers of Mathematics and the National Mathematics Advisory Panel, and the professional judgment of the authors. The CCSS are built on the same foundation. So, as a result, good alignment between CCSS and *Everyday Mathematics* is not surprising.

International Benchmarking

International benchmarking was a major concern during the development of the CCSS. Standards from high-achieving foreign countries and papers published by the American Institutes for Research, among others, were used to ensure that the CCSS kept children globally competitive. Evidence from these countries helped the CCSS authors identify strengths and weaknesses that could be used to inform their work.



Likewise, all UCSMP curricula have been developed with international benchmarks in mind. UCSMP has sponsored numerous international conferences on mathematics education in the past 25 years. UCSMP has also translated important mathematics education research and textbooks from high-achieving foreign nations.⁵ The authors of *Everyday Mathematics* continuously monitor mathematics education in high-achieving countries in order to assure that our students can compete globally.

Focused and Coherent

A large goal of the CCSS was building focus and coherence in curricula. The CCSS aim for greater focus through the “clarity and specificity” of their minimum requirements. (CCSSM, p. 3) And they strive for greater coherence by “stressing conceptual understanding of key ideas, but also continually returning to organizing principles” and by pacing the progression of topics across grades in a way that aligns with “what is known today about how students’ mathematical knowledge, skill, and understanding develop over time.” (CCSSM, p. 4)

The *Everyday Mathematics* program embodies a well-articulated, coherent curriculum.

The *Everyday Mathematics* program embodies a well-articulated, coherent curriculum. In fact, no other mathematics program available has a set of goals as explicit and well articulated as *Everyday Mathematics*. The program’s Grade-Level Goals clearly describe the focus of the curriculum at every point and indicate when closure is expected on each skill and concept. At the same time, no other program shows as clearly as *Everyday Mathematics* how mathematical content builds coherently across the grades.

Adaptive and Responsive

As stated in the June 2, 2010, introduction to the CCSS, “As new research is conducted and we evaluate the implementation of the common core standards, we plan to revise the standards on a set review cycle.”⁶

The *Everyday Mathematics* authors support this willingness to revise and encourage the authors of the Common Core State Standards to consider the results of field testing and new research. The *Everyday Mathematics* authors also agree with organizations such as the NCTM when they state that they “strongly encourage and support both research about the standards themselves (e.g., research on specific learning trajectories and grade placement of specific content) and their implementation, as well as periodic review and revision based on such research.”⁷

Everyday Mathematics remains true to the principles and approach that have led to decades of success. And a large part of that success comes because *Everyday Mathematics* embraces advances in research, adapts to shifting demands and conditions, and embraces change that will lead to better student outcomes.

Core Standards—And More

The CCSS offer a set of minimum standards that aim for long-term improvement in student knowledge and performance. States that adopt the CCSS may add up to 15% additional content at each grade level to customize the CCSS to meet their instructional needs. *Everyday Mathematics* can help states and districts identify the content that will produce a deeper, more coherent mathematics education.

For example, topics in probability are not required by the CCSS until Grade 6. But these topics offer excellent applications of the Standards for Mathematical Practice and help prepare students for careers in which mathematical modeling skills are important. In support of this, NCTM treats probability extensively in the Prekindergarten–2 and 3–5 grade bands in its *Principles and Standards for School Mathematics*—which is a definitive reference on the development of mathematical content for the CCSS. Additionally, foundational work in probability at the elementary grade levels is useful as a context for teaching fractions, decimals, and percents; as a context for reasoning and problem solving; and as a context for mathematical modeling. As such, *Everyday Mathematics* includes lessons on probability throughout Grades K–6.

Negative numbers are another topic not addressed by the CCSS until Grade 6. *Everyday Mathematics* introduces negative numbers to children as early as Kindergarten in the context of temperature and revisits them in subsequent grades in contexts such as bank accounts (withdrawals and deposits), business (losses and profits), and elevation (below and above sea level). This work in negative numbers helps students develop a richer number sense and a deeper understanding of the basic operations with whole numbers.

In the latest edition of *Everyday Mathematics* (©2012), adjustments have been made so the curriculum aligns completely to the CCSS.

Improving and Adjusting with the CCSS

The *Everyday Mathematics* author team has approached the CCSS as an opportunity to help the program grow and improve. In the latest edition of *Everyday Mathematics* (©2012), adjustments have been made so the curriculum aligns completely to the CCSS. In using *Everyday Mathematics*, you get both a curriculum that utilizes decades of education research as well as a program that aligns to the recently published Common Core State Standards.

For educators using an earlier edition of *Everyday Mathematics* who are concerned with meeting the CCSS, the *Everyday Mathematics* authors have developed targeted online content support, along with pacing suggestions, to help ensure you have the materials you need to meet and exceed the CCSS. Go to www.everydaymathonline.com for CCSS content support.

The CCSS present a major step in demanding both challenging content and research-based practices in school mathematics curricula. *Everyday Mathematics* offers both—and a long history of results.

Common Core State Standards



The grade-level correlation charts for Kindergarten through Grade 6 on the following pages show how the lessons in *Everyday Mathematics* align to the Common Core State Standards for Mathematics.

Domains are larger groups of related standards.

Common Core State Standards and *Everyday Mathematics*, Grade 2

Each Common Core State Standard is covered in the lessons.

Common Core State Standards for Grade 2	<i>Everyday Mathematics</i> Grade 2 Lessons
OPERATIONS AND ALGEBRAIC THINKING 2.OA	
Represent and solve problems involving addition and subtraction.	
2.OA.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	2•1, 2•2, 2•6, 2•11, 3•6, 3•7, 3•8, 4•1, 4•2, 4•4, 4•6, 5•2, 6•2, 6•4, 8•5, 10•3, 10•4, 10•6, 10•11
Add and subtract within 20.	
2.OA.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	1•4, 1•6, 1•8, 2•2, 2•3, 2•4, 2•5, 2•6, 2•7, 2•8, 2•11, 2•12, 2•13, 4•3, 4•7, 5•2, 5•7, 8•1, 8•2, 8•7, 9•2, 9•3, 10•7
Work with equal groups of objects to gain foundations for multiplication.	
2.OA.3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	1•7, 1•10, 1•12, 2•3, 2•4, 2•5, 2•7, 2•8
2.OA.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.	5•4, 6•6, 6•7, 6•8, 6•9, 8•2, 11•4, 11•7
NUMBER AND OPERATIONS IN BASE TEN 2.NBT	
Understand place value.	
2.NBT.1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:	1•1, 1•5, 3•1, 3•7, 4•9, 10•8, 10•9, 10•10, 11•3
2.NBT.1a. 100 can be thought of as 10 tens.	1•3, 3•1, 4•9, 10•8, 10•9, 10•10, 11•3
2.NBT.1b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900, and 1000 are composed of hundreds, tens, and ones.	10•8, 10•9, 10•10
2.NBT.2. Count within 1000; skip-count by 500 and 100.	1•1, 1•2, 1•3, 1•5, 1•7, 1•8, 1•9, 1•10, 2•11, 2•12, 3•1, 3•2, 3•7, 5•3, 7•1, 10•9, 10•10
2.NBT.2a. Understand that 100 is composed of ten tens, so the base ten numerals 100, 200, 300, 400, 500, 600, 700, 800, 900, and 1000 can be used to represent the number names, hundred, two hundred, three hundred, four hundred, five hundred, six hundred, seven hundred, eight hundred, nine hundred, and one thousand.	1•1, 1•2, 1•7, 1•12, 3•1, 10•8, 10•9, 10•10
2.NBT.2b. Understand that the hundreds, tens, and ones are related to the base ten numerals 100, 200, 300, 400, 500, 600, 700, 800, 900, and 1000.	1•1, 1•11, 3•1, 7•7a, 10•8

Lesson numbers in bold indicate lessons that will be adjusted to meet the CCSS.

Standards define what students should understand and should be able to do.

Lesson numbers with an "a" indicate lessons that will be added to meet the CCSS.

Clusters are groups of related standards. Standards from different clusters may be closely related.

Common Core State Standards and *Everyday Mathematics*, Grade K

Common Core State Standards for Kindergarten	<i>Everyday Mathematics</i> Kindergarten Activities
COUNTING AND CARDINALITY K.CC	
Know number names and the count sequence.	
K.CC.1. Count to 100 by ones and by tens.	<i>Number of the Day and Monthly Calendar Routines</i> , 1•3, 1•12, 2•6, 3•15, 4•6, 4•12, 7•2, 7•7, 7•8, 8•1
K.CC.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	<i>Number of the Day Routine</i> , 1•12, 2•6, 2•10, 3•8, 4•6, 4•12, 5•5
K.CC.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	1•5, 1•16, 2•7, 2•8, 3•1, 3•3, 4•12, 5•3, 7•10, 8•6
Count to tell the number of objects.	
K.CC.4. Understand the relationship between numbers and quantities; connect counting to cardinality.	<i>Number of the Day and Attendance Routines</i> , 1•3, 1•5, 1•14, 2•9, 3•8, 3•13, 4•12, 7•2
K.CC.4a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.	<i>Number of the Day and Attendance Routines</i> , 1•3, 1•5, 1•14, 1•16, 2•6, 2•8, 2•9, 2•11, 2•12, 3•13, 4•12
K.CC.4b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.	<i>Number of the Day and Attendance Routines</i> , 1•3, 1•5, 1•14, 1•16, 2•6, 2•8, 2•9, 2•11, 3•9, 3•13, 4•12
K.CC.4c. Understand that each successive number name refers to a quantity that is one larger.	<i>Number of the Day Routine</i> , 1•3, 1•5, 1•14, 1•16, 2•6, 2•8, 2•9, 2•12, 3•13, 8•5
K.CC.5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.	<i>Attendance and Weather Observation Routines</i> , 1•5, 1•6, 1•8, 1•11, 1•14, 1•16, 2•6, 2•7, 2•8, 2•9, 2•10, 2•15, 3•14, 6•6, 7•2
Compare numbers.	
K.CC.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	<i>Weather Observation Routine</i> , 1•6, 1•8, 1•11, 1•14, 1•15, 2•8, 2•10, 2•15, 3•14, 3•16, 4•2, 5•4, 6•6
K.CC.7. Compare two numbers between 1 and 10 presented as written numerals.	3•6, 4•2, 7•13, 7•14, 8•4

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OPERATIONS AND ALGEBRAIC THINKING K.OA

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

<p>K.OA.1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</p>	<p>2•14, 3•8, 3•13, 4•1, 4•4, 4•8, 4•11, 4•15, 6•9, 7•3, 7•6, 8•4, 8•13 Project 3</p>
<p>K.OA.2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</p>	<p>2•14, 3•8, 4•4, 4•8, 4•11, 4•15, 6•9, 7•3, 7•6, 8•13 Project 3</p>
<p>K.OA.3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).</p>	<p>1•5, 2•14, 4•4, 4•11, 4•15, 7•3, 7•9, 7•16, 8•9 Project 3</p>
<p>K.OA.4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</p>	<p>1•16, 2•8, 2•14, 3•13, 7•12, 7•15, 8•9 Project 3</p>
<p>K.OA.5. Fluently add and subtract within 5.</p>	<p>3•8, 3•13, 4•8, 5•4, 5•8, 7•5, 7•6, 7•11, 7•12, 8•4, 8•5, 8•6, 8•10, 8•11 Project 3</p>

NUMBER AND OPERATIONS IN BASE TEN K.NBT

Work with numbers 11–19 to gain foundations for place value.

<p>K.NBT.1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p>	<p>2•12, 3•16, 4•7, 6•11, 7•8</p>
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MEASUREMENT AND DATA K.MD

Describe and compare measurable attributes.

<p>K.MD.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</p>	<p>1•6, 3•9, 5•2, 5•14, 6•3, 8•5, 9•1, 9•2, 9•3, 10•4, 10•6 Project 5</p>
<p>K.MD.2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p>	<p>1•1, 1•13, 5•7, 8•15</p>

Classify objects and count the number of objects in each category.

<p>K.MD.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</p>	<p><i>Weather Observation Routine</i>, 1•6, 1•8, 1•11, 2•1, 2•10, 2•15, 2•16, 3•14, 6•6, 7•14, 8•2</p>
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GEOMETRY K.G

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

K.G.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.

1•15, 2•1, 2•2, 2•3, 2•8, 2•15, 4•1, 4•9,
5•14, 5•16, 6•6, 8•3
Projects 6 and 8

K.G.2. Correctly name shapes regardless of their orientations or overall size.

1•15, 2•1, 2•2, 2•8, 2•15, 4•9, 4•10, 6•3,
6•6, 8•3

K.G.3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

2•1, 6•3, 6•6, 7•3, 7•4, 8•13

Analyze, compare, create, and compose shapes.

K.G.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).

1•2, 2•2, 4•9, 5•14, 6•6, 7•4

K.G.5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

1•15, 2•8, 2•15, 4•3, 4•9, 7•4

K.G.6. Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*

1•2, 1•15, 2•2, 2•5, 2•8, 2•15, 4•3, 7•4,
8•3

Common Core State Standards and *Everyday Mathematics*, Grade 1

Common Core State Standards for Grade 1	<i>Everyday Mathematics</i> Grade 1 Lessons
OPERATIONS AND ALGEBRAIC THINKING 1.OA	
Represent and solve problems involving addition and subtraction.	
<p>1.OA.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p>	<p>1•5, 1•13, 2•11, 2•12, 2•13, 3•6, 3•9, 3•11, 3•12, 3•13, 3•14, 4•2, 4•6, 4•9, 5•7, 5•10, 6•10, 8•4</p>
<p>1.OA.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p>	<p>2•13, 3•10, 4•12, 6•1, 6•7</p>
Understand and apply properties of operations and the relationship between addition and subtraction.	
<p>1.OA.3. Apply properties of operations as strategies to add and subtract. <i>Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.)</i></p>	<p>2•13, 3•10, 4•2, 4•11, 4•12, 5•5, 5•10, 5•11, 6•1, 6•3, 6•4, 6•7</p>
<p>1.OA.4. Understand subtraction as an unknown-addend problem. <i>For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.</i></p>	<p>5•7, 5•8, 6•3, 6•4, 6•7, 8•5, 10•4</p>
Add and subtract within 20.	
<p>1.OA.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p>	<p>2•1, 2•10, 2•11, 2•13, 3•6, 3•10, 3•12, 6•9, 8•5</p>
<p>1.OA.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p>	<p>1•2, 1•5, 1•10, 1•13, 2•1, 2•2, 2•3, 2•8, 2•11, 2•12, 3•6, 3•9, 3•13, 3•14, 4•2, 4•7, 4•10, 4•11, 4•12, 5•1, 5•2, 5•3, 5•6, 5•9, 5•10, 5•11, 5•12, 5•13, 6•1, 6•2, 6•3, 6•4, 6•5, 6•6, 6•7, 6•8, 7•1, 7•2, 7•3, 8•1, 8•2, 8•3, 8•4, 8•7, 8•9, 9•4</p>
Work with addition and subtraction equations.	
<p>1.OA.7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. <i>For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</i></p>	<p>2•11, 3•6, 4•12, 5•3, 5•10, 6•2, 8•2</p>
<p>1.OA.8. Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = _ - 3$, $6 + 6 = _$.</i></p>	<p>3•8, 3•9, 5•8, 5•9, 5•10, 5•11, 5•12, 6•3, 6•4, 6•6, 6•8</p>

NUMBER AND OPERATIONS IN BASE TEN 1.NBT

Extend the counting sequence.

1.NBT.1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Number of the Day Routine, 1•2, 1•4, 1•5, 1•7, 1•8, 1•9, 2•1, 2•2, 2•4, 2•13, 4•10, 6•4, 8•10, 9•1, 9•3, 10•7

Understand place value.

1.NBT.2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

Number of the Day Routine, 5•1, 5•6, 6•6, 8•3, 8•5, 10•7

1.NBT.2a. 10 can be thought of as a bundle of ten ones — called a “ten.”

Number of the Day Routine, 5•1, 6•6, 8•3

1.NBT.2b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

Number of the Day Routine, 5•1, 5•2

1.NBT.2c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Number of the Day Routine, 5•1, 5•2, 6•6, 8•3

1.NBT.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

1•2, 1•6, 2•8, 5•1, 5•3, 5•5, 5•6, 5•7, 8•1, 8•2, 10•3

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

1.NBT.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, 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 method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

2•13, 3•9, 5•1, 5•5, 5•8, 8•3, 8•4, 8•5, 9•2, 9•4, 10•3, 10•4, 10•6
Project 9

1.NBT.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

3•9, 5•2, 8•5, 9•1, 9•2, 9•3, 10•4, 10•6

1.NBT.6. Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), 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 method and explain the reasoning used.

5•1, 5•5, 5•8, 8•3, 8•4, 9•2, 9•3, 9•4, 10•3, 10•4, 10•6
Project 9

MEASUREMENT AND DATA 1.MD

Measure lengths indirectly and by iterating length units.

1.MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.

4•2, 4•3, 4•4, 4•5, 6•6

1.MD.2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

4•2, 4•3, 4•4, 4•5, 6•6

**Common Core State Standards
for Grade 1**

**Everyday Mathematics
Grade 1 Lessons**

Tell and write time.

1.MD.3. Tell and write time in hours and half-hours using analog and digital clocks.

2•5, 2•6, 3•7, 4•8, 6•10, 10•2

Represent and interpret data.

1.MD.4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

1•7, 1•8, 1•12, 2•2, 2•11, 3•13, 4•7, 5•9,
6•6, 6•12, 7•3, 7•4, 9•2, 9•6, 10•1

GEOMETRY 1.G

Reason with shapes and their attributes.

1.G.1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

7•1, 7•2, 7•3, 7•4, 7•5, 7•6, 10•5

1.G.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

3•4, 7•1, 7•2, 7•3, 7•4, 7•5, 7•6, 10•5
Project 10

1.G.3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

8•6, 8•7, 8•9, 9•6, 9•7, 9•8

Common Core State Standards and *Everyday Mathematics*, Grade 2

Common Core State Standards for Grade 2	<i>Everyday Mathematics</i> Grade 2 Lessons
OPERATIONS AND ALGEBRAIC THINKING 2.OA	
Represent and solve problems involving addition and subtraction.	
<p>2.OA.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p>	<p>2•1, 2•2, 2•6, 2•11, 3•6, 3•7, 3•8, 4•1, 4•2, 4•4, 4•6, 5•2, 6•2, 6•4, 8•5, 10•3, 10•4, 10•6, 10•11</p>
Add and subtract within 20.	
<p>2.OA.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p>	<p>1•4, 1•6, 1•8, 2•2, 2•3, 2•4, 2•5, 2•6, 2•7, 2•8, 2•11, 2•12, 2•13, 4•3, 4•7, 5•2, 5•7, 8•1, 8•2, 8•7, 9•2, 9•3, 10•7</p>
Work with equal groups of objects to gain foundations for multiplication.	
<p>2.OA.3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.</p>	<p>1•7, 1•10, 1•12, 2•3, 2•4, 2•5, 2•7, 2•8</p>
<p>2.OA.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.</p>	<p>5•4, 6•6, 6•7, 6•8, 6•9, 8•2, 11•4, 11•6, 11•7</p>
NUMBER AND OPERATIONS IN BASE TEN 2.NBT	
Understand place value.	
<p>2.NBT.1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p>	<p>1•1, 1•5, 3•1, 3•7, 4•9, 10•8, 10•9, 10•10, 11•3</p>
<p>2.NBT.1a. 100 can be thought of as a bundle of ten tens—called a “hundred.”</p>	<p>1•3, 3•1, 4•9, 10•8, 10•9, 10•10, 11•3</p>
<p>2.NBT.1b. 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).</p>	<p>10•8, 10•9, 10•10</p>
<p>2.NBT.2. Count within 1000; skip-count by 5s, 10s, and 100s.</p>	<p>1•1, 1•2, 1•3, 1•5, 1•7, 1•8, 1•9, 1•10, 1•12, 2•11, 2•12, 3•1, 3•2, 3•7, 5•3, 7•1, 10•8, 10•9, 10•10</p>
<p>2.NBT.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p>	<p>1•1, 1•2, 1•7, 1•12, 3•1, 10•8, 10•9, 10•10</p>
<p>2.NBT.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.</p>	<p>1•1, 1•11, 3•1, 7•7, 10•8</p>

**Common Core State Standards
for Grade 2**

**Everyday Mathematics
Grade 2 Lessons**

Use place value understanding and properties to add and subtract.

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.

4•6, 4•8, 4•9, 5•1, 6•1, 6•5, 9•5, 11•1, 11•2, 11•3, 12•2

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

4•6, 4•8, 4•9, 6•1, 6•2, 6•4, 6•10, 7•3, 10•11

2.NBT.7. 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 method. Understand that in adding or subtracting 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.

4•8, 4•9, 5•1, 6•5, 7•2, 9•5, 11•1, 11•3, 12•2
Algorithm Projects 1 and 2

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.

2•1, 4•8, 6•1, 10•8, 10•9, 10•10

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

2•2, 2•3, 2•5, 2•6, 2•7, 2•12, 2•13, 4•6, 4•8, 4•9, 6•1, 6•5, 11•1, 11•2, 11•3

MEASUREMENT AND DATA 2.MD

Measure and estimate lengths in standard units.

2.MD.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

4•7, 7•6, 7•8, 9•1, 9•2, 9•3, 9•4, 9•5

2.MD.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.

4•7, 7•6, 7•8, 9•2, 9•3, 9•5

2.MD.3. Estimate lengths using units of inches, feet, centimeters, and meters.

9•1, 9•2, 9•3

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.

6•3, 7•7, 7•8, 9•1, 9•2

Relate addition and subtraction to length.

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

6•2, 6•3, 6•7, 7•8, 8•1

2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

1•1, 1•8, 2•1, 2•4, 2•6, 2•10, 3•6, 4•2, 4•4, 4•6, 5•3, 6•1, 6•5, 11•2, 12•3

**Common Core State Standards
for Grade 2**

**Everyday Mathematics
Grade 2 Lessons**

Work with time and money.

2.MD.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

1•3, 3•3, 5•1, 11•2, 12•1, 12•2

2.MD.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

1•5, 1•6, 1•9, 3•2, 3•5, 3•7, 3•8, 4•1, 4•2,
4•3, 4•5, 4•6, 6•6, 7•5, 10•1, 10•3, 10•4,
10•5, 10•6, 11•1, 11•2

Represent and interpret data.

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. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.

7•6, 7•8, 9•1, 9•4, 9•8, 10•5, 11•2, 11•3,
12•7

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 put-together, take-apart, and compare problems using information presented in a bar graph.

3•5, 6•3, 6•6, 7•6, 12•6, 12•7

GEOMETRY 2.G

Reason with shapes and their attributes.

2.G.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

3•4, 4•3, 5•1, 5•4, 5•5, 5•6, 5•7

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

4•7, 9•6, 9•7, 10•3

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., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

8•1, 8•2, 8•3, 8•4, 8•5, 8•6, 8•7,
10•7, 12•2

Common Core State Standards and *Everyday Mathematics*, Grade 3

Common Core State Standards for Grade 3	<i>Everyday Mathematics</i> Grade 3 Lessons
OPERATIONS AND ALGEBRAIC THINKING 3.OA	
Represent and solve problems involving multiplication and division.	
<p>3.OA.1. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. <i>For example, describe a context in which a total number of objects can be expressed as 5×7.</i></p>	4•1, 4•2, 4•3, 4•8, 9•2
<p>3.OA.2. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. <i>For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.</i></p>	4•3, 4•4, 4•5, 4•6, 7•3, 9•6, 9•7, 9•8
<p>3.OA.3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p>	3•2, 3•4, 3•6, 3•8, 4•1, 4•2, 4•3, 4•4, 5•8, 6•8, 7•3, 7•4, 7•7, 7•8, 7•10, 8•2, 8•5, 9•1, 9•2, 9•3, 9•5, 9•6, 9•7, 9•8, 9•11, 9•12
<p>3.OA.4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = _ \div 3$, $6 \times 6 = ?$.</i></p>	4•1, 4•2, 4•3, 4•4, 4•6, 7•2, 7•3
Understand properties of multiplication and the relationship between multiplication and division.	
<p>3.OA.5. Apply properties of operations as strategies to multiply and divide. <i>Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)</i></p>	3•6, 3•10, 3•12, 4•1, 4•2, 4•5, 4•8, 6•9, 7•3, 7•4, 8•5, 9•2, 9•4, 9•6, 9•12
<p>3.OA.6. Understand division as an unknown-factor problem. <i>For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.</i></p>	4•3, 4•4, 4•6, 7•3, 7•6, 9•8
Multiply and divide within 100.	
<p>3.OA.7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.</p>	4•1, 4•2, 4•3, 4•4, 4•5, 4•6, 4•8, 4•10, 5•12, 6•7, 6•12, 7•1, 7•2, 7•3, 7•4, 7•5, 9•5, 9•9, 9•12, 10•4, 11•1

**Common Core State Standards
for Grade 3**

**Everyday Mathematics
Grade 3 Lessons**

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

3.OA.8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

2•7, 2•8, 2•9, 7•4, 7•5, 7•7, 9•1, 9•2, 9•5,
9•8, 10•7, 10•9
Length of Day Project, Projects 6 and 7,
Algorithm Projects 1 and 2

3.OA.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

1•4, 1•9, 2•1, 2•2, 2•9, 3•5, 4•5, 4•6, 7•1,
7•2

NUMBER AND OPERATIONS IN BASE TEN 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.

3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.

1•11, 2•7, 2•8, 7•7, 9•5

3.NBT.2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

1•4, 1•8, 1•9, 1•11, 1•13, 2•1, 2•2, 2•3, 2•4,
2•7, 2•8, 2•9, 3•1, 3•2, 3•3, 3•5, 3•7, 4•1,
7•4

3.NBT.3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.

7•6, 7•7, 7•8, 9•1, 9•2, 9•3

NUMBER AND OPERATIONS—FRACTIONS 3.NF

Develop understanding of fractions as numbers.

3.NF.1. Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.

5•10, 8•1, 8•4, 8•5, 8•7

3.NF.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

3•2, 8•4, 8•5, 8•6, 8•7, 8•8, 10•10

3.NF.2a. Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line.

3•2, 8•4, 8•5, 8•8

3.NF.2b. Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.

3•2, 8•4, 8•5, 8•7, 8•8

3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

8•4, 8•5, 11•3

Common Core State Standards for Grade 3	Everyday Mathematics Grade 3 Lessons
<p>3.NF.3a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.</p>	3•2, 8•4, 8•5, 8•6, 8•7, 10•6, 10•10
<p>3.NF.3b. Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p>	8•4, 8•5, 8•6, 8•7, 10•6
<p>3.NF.3c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples: Express 3 in the form $3 = \frac{3}{1}$; recognize that $\frac{6}{1} = 6$; locate $\frac{4}{4}$ and 1 at the same point of a number line diagram.</i></p>	8•1, 8•4, 8•5, 8•6, 8•7, 8•8
<p>3.NF.3d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.</p>	8•4, 8•5, 8•6, 8•7, 8•8, 9•5, 10•2
<p>MEASUREMENT AND DATA 3.MD</p>	
<p>Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</p>	
<p>3.MD.1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.</p>	1•4, 1•13, 3•6, 5•5, 5•12, 11•1, 11•2 Length of Day Project
<p>3.MD.2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.</p>	9•1, 9•2, 9•5, 9•7, 9•10, 10•1, 10•2, 10•3, 10•4, 10•5, 10•6, 10•8
<p>Represent and interpret data.</p>	
<p>3.MD.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p>	1•4, 1•5, 1•10, 1•13, 4•10, 5•2, 7•8, 10•6, 10•7, 10•9, 11•1 Length of Day Project
<p>3.MD.4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.</p>	1•5, 3•2, 3•3, 3•5, 3•9, 5•7, 8•8, 9•13, 10•7 Project 2
<p>Geometric measurement: understand concepts of area and relate area to multiplication and addition.</p>	
<p>3.MD.5. Recognize area as an attribute of plane figures and understand concepts of area measurement.</p>	3•6, 3•7, 3•8
<p>3.MD.5a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.</p>	3•6, 3•7, 3•8, 9•3
<p>3.MD.5b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.</p>	3•6, 3•7, 3•8, 9•3

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3.MD.6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

3•6, 3•7, 3•8, 3•9, 4•8, 9•13

3.MD.7. Relate area to the operations of multiplication and addition.

3.MD.7a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

3•5, 3•6, 3•7, 3•8, 4•2, 9•3, 9•4, 9•11, 9•12

3.MD.7b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

3•7, 3•8, 4•2, 9•3, 9•4, 9•11, 9•12, 9•13

3.MD.7c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

9•3, 9•4, 9•10, 9•11, 9•12

3.MD.7d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

3•8, 4•9, 5•9, 5•11, 6•8, 10•8

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

3.MD.8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

3•4, 3•6, 3•8, 4•2, 4•9, 4•10, 5•2, 5•6, 6•4, 6•5, 6•6, 9•3

GEOMETRY 3.G

Reason with shapes and their attributes.

3.G.1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

3•4, 6•4, 6•5, 6•6, 6•7, 6•9, 6•11

3.G.2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.*

8•1, 8•3, 8•4, 8•5, 8•7

Common Core State Standards and *Everyday Mathematics*, Grade 4

Common Core State Standards for Grade 4	<i>Everyday Mathematics</i> Grade 4 Lessons
OPERATIONS AND ALGEBRAIC THINKING 4.OA	
Use the four operations with whole numbers to solve problems.	
<p>4.OA.1. Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</p>	<p>2•9, 3•2, 3•3, 3•4, 3•5, 3•11, 5•1, 5•2, 5•3, 5•4, 8•2</p>
<p>4.OA.2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.</p>	<p>3•5, 3•8, 4•5, 4•10, 5•1, 5•8, 6•1, 8•8</p>
<p>4.OA.3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</p>	<p>2•7, 2•9, 3•8, 5•3, 5•5, 5•6, 5•8, 5•11, 6•1, 6•2, 6•3, 6•4, 6•8, 6•10, 8•8, 9•9, 12•2, 12•3</p>
Gain familiarity with factors and multiples.	
<p>4.OA.4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.</p>	<p>3•2, 3•3, 3•11, 6•2, 6•4, 7•1, 7•7, 12•3</p>
Generate and analyze patterns.	
<p>4.OA.5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. <i>For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.</i></p>	<p>2•1, 3•1, 3•2, 3•3, 3•5, 10•5 Project 4</p>
NUMBER AND OPERATIONS IN BASE TEN 4.NBT	
Generalize place value understanding for multi-digit whole numbers.	
<p>4.NBT.1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.</i></p>	<p>2•3, 2•4, 3•7, 4•1, 4•7, 4•8, 5•1, 5•8, 5•9</p>
<p>4.NBT.2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p>	<p>1•1, 2•2, 2•3, 2•4, 2•7, 3•6, 3•8, 3•9, 5•6, 5•8, 5•9, 5•11, 6•2, 7•12</p>
<p>4.NBT.3. Use place value understanding to round multi-digit whole numbers to any place.</p>	<p>5•3, 5•4, 5•6, 5•10, 12•3</p>

**Common Core State Standards
for Grade 4**

**Everyday Mathematics
Grade 4 Lessons**

Use place value understanding and properties of operation to perform multi-digit arithmetic.

4.NBT.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Algorithm Projects 1 and 3

4.NBT.5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5•1, 5•2, 5•4, 5•5, 5•6, 5•7, 9•8
Algorithm Project 5

4.NBT.6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

3•5, 6•1, 6•2, 6•3, 6•4, 6•6, 6•10, 9•9
Algorithm Projects 7 and 8

NUMBER AND OPERATIONS—FRACTIONS 4.NF

Extend understanding of fraction equivalence and ordering.

4.NF.1. Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{(n \times a)}{(n \times b)}$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

7•6, 7•7, 7•9, 7•10, 8•1, 8•8, 9•1, 9•2

4.NF.2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

7•9, 7•10, 9•7, 12•5

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

4.NF.3. Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$.

4.NF.3a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

7•4, 7•5, 7•7

4.NF.3b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples:* $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$.

7•1, 7•3, 7•4, 7•5, 7•7, 7•11

4.NF.3c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

7•5, 7•6, 7•7

4.NF.3d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

7•5, 7•7

4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

4.NF.4a. Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. For example, use a visual fraction model to represent $\frac{5}{4}$ as the product $5 \times (\frac{1}{4})$, recording the conclusion by the equation $\frac{5}{4} = 5 \times (\frac{1}{4})$.

8•2, 9•8, 11•3, 11•7
Project 8

4.NF.4b. Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (\frac{2}{5})$ as $6 \times (\frac{1}{5})$, recognizing this product as $\frac{6}{5}$. (In general, $n \times (\frac{a}{b}) = \frac{(n \times a)}{b}$.)

8•2, 9•8, 11•3, 11•7
Project 8

4.NF.4c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $\frac{3}{8}$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?

7•2, 7•3, 7•5, 8•2, 8•6, 8•7, 9•8, 11•3, 11•7

Understand decimal notation for fractions.

4.NF.5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.

7•8, 7•9, 9•2, 9•6, 10•1, 10•2, 12•5

4.NF.6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.

4•2, 4•7, 7•12, 8•1, 9•1, 9•2, 9•3, 9•5, 10•6

4.NF.7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.

4•3, 4•4, 4•7, 4•9

MEASUREMENT AND DATA 4.MD

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...

2•6, 4•8, 4•9, 4•10, 5•1, 8•4, 8•8, 10•3,
10•6, 11•1, 11•4, 11•7, 12•2, 12•3, 12•4

4.MD.2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

2•1, 2•6, 2•7, 2•9, 3•1, 3•3, 3•5, 3•6, 3•7,
3•8, 3•11, 4•4, 4•5, 4•6, 4•8, 5•1, 5•2, 5•3,
5•4, 5•6, 5•7, 6•1, 6•3, 6•4, 6•5, 6•8, 7•2,
7•4, 8•1, 8•3, 8•4, 8•5, 8•8, 9•4, 9•8, 9•9,
11•1, 11•7, 12•2, 12•3, 12•4, 12•5

4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

8•3, 8•5, 8•6, 8•7, 9•2, 11•5

Represent and interpret data.

4.MD.4. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

2•8, 7•10, 8•4, 11•2

Geometric measurement: understand concepts of angle and measure angles.

4.MD.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

1•3, 6•5, 6•6, 6•7

4.MD.5a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.

6•5, 6•6, 6•7

4.MD.5b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

6•5, 6•6, 6•7

4.MD.6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

6•6, 6•7, 6•8, 7•5, 10•2

4.MD.7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

6•6, 6•7, 6•8, 7•9, 8•6, 9•1, 9•5

GEOMETRY 4.G

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

1•2, 1•3, 1•4, 1•6, 1•8, 5•1, 8•6, 8•7, 9•9, 10•5

4.G.2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

1•3, 1•4, 1•5, 1•6, 1•7, 2•1, 2•3, 3•7, 4•1, 5•9, 8•7, 9•1, 9•9, 10•5

4.G.3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

10•2, 10•4, 10•5
Project 4

Common Core State Standards and *Everyday Mathematics*, Grade 5

Common Core State Standards for Grade 5	<i>Everyday Mathematics</i> Grade 5 Lessons
OPERATIONS AND ALGEBRAIC THINKING 5.OA	
Write and interpret numerical expressions.	
5.OA.1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	2•4, 4•3, 7•4, 7•5
5.OA.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$ without having to calculate the indicated sum or product.</i>	1•3, 1•4, 1•7, 1•8, 2•4, 3•2, 4•1, 4•6, 4•7, 7•4, 7•5, 10•3
Analyze patterns and relationships.	
5.OA.3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i>	10•3, 10•4, 10•6
NUMBER AND OPERATIONS IN BASE TEN 5.NBT	
Understand the place value system.	
5.NBT.1. Recognize that in a multi-digit number, a digit in the ones place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.	2•2, 2•10, 7•2
5.NBT.2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	1•1, 1•2, 1•5, 1•9, 2•1, 2•7, 2•8, 2•9, 3•2, 3•5, 3•8, 3•9, 4•1, 4•7, 7•2, 7•3, 7•7, 9•1, 9•5, 10•1, 10•3, 11•6
5.NBT.3. Read, write, and compare decimals to thousandths.	
5.NBT.3a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (\frac{1}{10}) + 9 \times (\frac{1}{100}) + 2 \times (\frac{1}{1000})$.	2•2, 2•3, 2•4, 2•5, 2•8, 3•9, 5•5, 5•6, 5•7, 5•8, 5•9, 6•2, 6•3, 6•7, 9•4
5.NBT.3b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.	2•5, 3•1, 3•5, 7•9
5.NBT.4. Use place value understanding to round decimals to any place.	2•3, 2•5, 2•7, 2•8, 3•6, 5•5, 5•6, 5•8, 6•1, 6•4, 9•8, 10•7, 10•8, 11•3, 12•7

**Common Core State Standards
for Grade 5**

**Everyday Mathematics
Grade 5 Lessons**

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5.NBT.5. Fluently multiply multi-digit whole numbers using the standard algorithm.

Algorithm Projects 5 and 6

5.NBT.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4•1, 4•2, 4•4, 4•6
Algorithm Project 7

5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, 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 method and explain the reasoning used.

2•2, 2•3, 2•4, 2•5, 2•7, 2•8, 2•9, 4•5, 4•6,
5•11, 6•5, 6•7, 10•6
Algorithm Projects 2, 4, 6, 8, and 9

NUMBERS AND OPERATIONS—FRACTIONS 5.NF

Use equivalent fractions as a strategy to add and subtract fractions.

5.NF.1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example,* $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad+bc}{bd}$.)

5•3, 6•8, 6•9, 6•10, 7•6, 8•1, 8•2, 8•3, 8•4

5.NF.2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$.*

5•3, 6•8, 6•9, 6•10, 8•1, 8•2, 8•3, 8•4,
9•6, 10•6

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

5.NF.3. Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b} = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $\frac{3}{4}$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

5•1, 5•6, 6•8

5.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

5.NF.4a. Interpret the product $(\frac{a}{b}) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show $(\frac{2}{3}) \times 4 = \frac{8}{3}$, and create a story context for this equation. Do the same with $(\frac{2}{5}) \times (\frac{4}{5}) = \frac{8}{25}$. (In general, $(\frac{a}{b}) \times (\frac{c}{d}) = \frac{ac}{bd}$.)*

8•5, 8•6, 8•7, 8•8

5.NF.4b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

8•8, 9•4, 9•10, 11•7

**Common Core State Standards
for Grade 5**

**Everyday Mathematics
Grade 5 Lessons**

5.NF.5. Interpret multiplication as scaling (resizing), by:

5.NF.5a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

1•4, 4•1, 8•5, 8•8, 10•2

5.NF.5b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{(n \times a)}{(n \times b)}$ to the effect of multiplying $\frac{a}{b}$ by 1.

6•9, 8•1, 8•6, 8•7, 8•8

5.NF.6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

8•5, 8•6, 8•7, 8•8

5.NF.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

5.NF.7a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for $(\frac{1}{3}) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(\frac{1}{3}) \div 4 = \frac{1}{12}$ because $(\frac{1}{12}) \times 4 = \frac{1}{3}$.*

8•12, 9•4

Represent and solve problems involving addition and subtraction.

5.NF.7b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for $4 \div (\frac{1}{5})$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (\frac{1}{5}) = 20$ because $20 \times (\frac{1}{5}) = 4$.*

8•12, 9•4, 12•1, 12•3, 12•5

5.NF.7c. Solve real world problems involving the division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb. of chocolate equally? How many $\frac{1}{3}$ -cup servings are in 2 cups of raisins?*

8•12, 9•4, 12•1, 12•3, 12•5

MEASUREMENT AND DATA 5.MD

Convert like measurement units within a given measurement system.

5.MD.1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

2•1, 2•10, 6•2, 9•10, 10•5, 10•9, 11•3,
11•5, 11•6
Project 6

Represent and interpret data.

5.MD.2. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). Use operations of fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were distributed equally.*

6•1, 7•10, 10•2, 12•7
Project 9

**Common Core State Standards
for Grade 5**

**Everyday Mathematics
Grade 5 Lessons**

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

5.MD.3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

5.MD.3a. A cube with side length 1 unit, called a “unit cube” is said to have “one cubic unit” of volume, and can be used to measure volume.

9•8, 9•9, 9•10, 10•1, 11•1
Project 10

5.MD.3b. A solid figure which can be packed without gaps and overlaps using n unit cubes is said to have a volume of n cubic units.

9•8, 9•10, 10•1, 11•1
Project 10

5.MD.4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

9•3, 9•8, 9•10, 10•1, 11•1

5.MD.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

5.MD.5a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge of lengths, equivalently by multiplying the height by the area of the base. Represent three-fold whole-number products as volumes, e.g., to represent the associative property of multiplication.

9•8, 9•10, 10•3, 11•1, 11•3, 11•7

5.MD.5b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

9•4, 9•8, 9•9, 9•10, 10•3, 11•1, 11•3, 11•7

5.MD.5c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

9•8, 9•9, 9•10
Project 10

GEOMETRY G5

Graph points on the coordinate plane to solve real-world and mathematical problems.

5.G.1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x -axis and x -coordinate, y -axis and y -coordinate).

9•1, 9•2, 9•3, 10•4, 10•6, 10•7, 12•8

5.G.2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

9•1, 9•2, 9•3, 10•4, 10•6

Classify two-dimensional figures into categories based on their properties.

5.G.3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*

3•4, 3•7, 3•8, 4•1

5.G.4. Classify two-dimensional figures in a hierarchy based on properties.

3•7, 3•8, 4•1

Common Core State Standards and *Everyday Mathematics*, Grade 6

Common Core State Standards for Grade 6	<i>Everyday Mathematics</i> Grade 6 Lessons
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RATIOS AND PROPORTIONAL RELATIONSHIPS 6.RP

Understand ratio concepts and use ratio reasoning to solve problems.

<p>6.RP.1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly 3 votes.”</i></p>	7•1, 8•6, 8•7, 8•8, 8•9, 8•10
<p>6.RP.2. Understand the concept of a unit rate $\frac{a}{b}$ associated with a ratio $a:b$ with $b \neq 0$ and use rate language in the context of a ratio relationship. <i>For example, “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $\frac{3}{4}$ cup of flour for each cup of sugar.” “We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger.”</i></p>	3•5, 3•6, 8•1, 8•2, 8•4, 8•9, 8•11
<p>6.RP.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p>	3•5, 3•6, 3•10, 8•1, 8•2, 8•3, 8•4, 8•5, 8•6, 8•7, 8•8, 8•9, 8•11, 8•12, 9•7
<p>6.RP.3a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p>	3•5, 3•10, 9•7
<p>6.RP.3b. Solve unit rate problems including those involving unit pricing and constant speed. <i>For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</i></p>	3•5, 3•6, 8•1, 8•2, 8•3, 8•4
<p>6.RP.3c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.</p>	4•8, 4•9, 4•11, 8•5, 8•7
<p>6.RP.3d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>	1•11, 3•4, 8•2, 8•3, 8•4, 8•9

THE NUMBER SYSTEM 6.NS

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

6.NS.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for $(\frac{2}{3}) \div (\frac{3}{4})$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(\frac{2}{3}) \div (\frac{3}{4}) = \frac{8}{9}$ because $\frac{3}{4}$ of $\frac{8}{9}$ is $\frac{2}{3}$. (In general, $(\frac{a}{b}) \div (\frac{c}{d}) = \frac{ad}{bc}$.) How much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{3}{4}$ -cup servings are in $\frac{2}{3}$ of a cup of yogurt? How wide is a rectangular strip of land with length $\frac{3}{4}$ mi and area $\frac{1}{2}$ square mi?*

6•2, 6•5, 6•7

**Common Core State Standards
for Grade 6**

**Everyday Mathematics
Grade 6 Lessons**

Compute fluently with multi-digit numbers and find common factors and multiples.

6.NS.2. Fluently divide multi-digit numbers using the standard algorithm.

2•8, 8•1
Algorithm Project 4

6.NS.3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

2•3, 2•5, 2•6, 2•10, 3•3, 6•12, 8•2
Algorithm Projects 1, 2, 3, and 4

6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express $36 + 8$ as $4(9 + 2)$.*

3•7, 4•1, 4•2, 4•3, 9•2, 9•5, 9•8

Apply and extend previous understandings of numbers to the system of rational numbers.

6.NS.5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

1•7, 3•7, 3•10, 6•3, 6•4, 6•4a, 6•6

6.NS.6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

3•10, 5•4, 5•5, 6•3, 6•5

6.NS.6a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.

3•1, 6•3, 6•5

6.NS.6b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

5•4, 5•5, 5•7, 5•9, 10•2

6.NS.6c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

1•10, 3•5, 3•10, 4•8, 5•4, 5•5, 6•3, 6•5,
7•1

6.NS.7. Understand ordering and absolute value of rational numbers.

4•2, 6•3, 6•4a, 6•5, 6•8, 8•6, 8•8

6.NS.7a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.*

1•6, 2•2, 6•3, 6•4a

6.NS.7b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C .*

1•11, 3•9, 6•3, 6•8

6.NS.7c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.*

6•3, 6•4a, 6•5, 6•8

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6.NS.7d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*

6•4a, 6•5, 6•8

6.NS.8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

1•7, 1•10, 3•5, 3•6, 3•10, 5•4, 5•5, 6•4a, 6•8, 8•11, 9•10, 10•2

EXPRESSIONS AND EQUATIONS 6.EE

Apply and extend previous understandings of arithmetic to algebraic expressions.

6.EE.1. Write and evaluate numerical expressions involving whole-number exponents.

2•4, 2•9, 2•10, 2•11, 3•6, 6•6, 9•8, 9•9, 9•11, 9•12

6.EE.2. Write, read, and evaluate expressions in which letters stand for numbers.

3•1, 3•2, 3•3, 3•4, 3•5, 3•6, 3•8, 3•10, 4•5, 4•7, 6•5, 7•8, 9•2, 9•3, 9•4

6.EE.2a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as $5 - y$.*

3•1, 3•2, 3•3, 3•4, 4•5, 6•7, 7•8, 9•11

6.EE.2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.*

2•5, 2•7, 3•1, 3•2, 3•3, 6•8, 6•10, 6•11, 9•2, 9•3, 9•4, 9•11

6.EE.2c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = \frac{1}{2}$.*

1•8, 3•1, 3•2, 3•3, 3•4, 3•5, 3•6, 3•8, 3•10, 4•5, 4•7, 6•6, 6•7, 9•8, 9•9, 9•10, 9•11, 9•12

6.EE.3. Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.*

9•1, 9•2, 9•3, 9•4

6.EE.4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.*

9•3, 9•4, 9•5

Reason about and solve one-variable equations and inequalities.

6.EE.5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

3•8, 4•1, 6•8, 6•9, 6•10, 6•11, 6•12, 8•3, 9•5, 9•6

6.EE.6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

3•1, 3•2, 3•3, 3•5, 6•12, 7•8

Common Core State Standards for Grade 6	Everyday Mathematics Grade 6 Lessons
<p>6.EE.7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers.</p>	<p>3•1, 3•4, 3•5, 3•6, 3•10, 4•7, 6•8, 8•3, 9•6, 9•9</p>
<p>6.EE.8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p>	<p>6•12, 7•1, 7•5, 7•7</p>
<p>Represent and analyze quantitative relationships between dependent and independent variables.</p>	
<p>6.EE.9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. <i>For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.</i></p>	<p>1•10, 3•5, 3•6, 9•7</p>
<p>GEOMETRY 6.G</p>	
<p>Solve real-world and mathematical problems involving area, surface area, and volume.</p>	
<p>6.G.1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p>	<p>1•10, 6•7, 9•8 Project 9</p>
<p>6.G.2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find the volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p>	<p>4•7, 9•9, 9•10, 9•11 Project 9</p>
<p>6.G.3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p>	<p>1•6, 3•5, 5•4, 5•6</p>
<p>6.G.4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.</p>	<p>9•8, 9•11 Project 9</p>

**Common Core State Standards
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STATISTICS AND PROBABILITY 6.SP

Develop understanding of statistical variability.

6.SP.1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answer. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*

1•2, 1•3, 1•7

6.SP.2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

1•2, 1•3, 1•4, 1•6, 1•7, 1•8

6.SP.3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

1•2, 1•3, 1•4, 1•5a, 1•6, 1•12

Summarize and describe distributions.

6.SP.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

1•2, 1•5a, 1•7, 1•13, 2•1, 2•3, 2•7, 3•4

6.SP.5. Summarize numerical data sets in relation to their context, such as by:

6.SP.5a. Reporting the number of observations.

1•2, 1•3, 1•7

6.SP.5b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

1•2, 1•11, 1•12

6.SP.5c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

1•2, 1•4, 1•5a, 2•1, 3•4, 4•10
Project 10

6.SP.5d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

1•4, 1•5, 1•5a, 1•6, 1•10, 1•12, 2•1

Notes

1. Council of Chief State School Officers (CCSSO) and National Governors Association Center for Best Practices (NGA Center), *Common Core State Standards for Mathematics* (Common Core State Standards Initiative, June 2, 2010), pp. 6–8. (Hereafter cited in text as *CCSSM*.) A PDF of this document may be downloaded at <http://www.corestandards.org/the-standards>.
2. CCSSO and NGA Center, “Frequently Asked Questions,” Common Core State Standards Initiative, <http://www.corestandards.org/frequently-asked-questions>. (Hereafter cited in text as *FAQ*.)
3. Ibid.
4. U.S. Department of Education Press Office, “U.S. Secretary of Education Duncan Announces Winners of Competition to Improve Student Assessments,” U.S. Department of Education, <http://www.ed.gov/news/press-releases/us-secretary-education-duncan-announces-winners-competition-improve-student-asse>.
5. University of Chicago School Mathematics Project, “About UCSMP,” University of Chicago School Mathematics Project, <http://ucsmp.uchicago.edu/>.
6. CCSSO and NGA Center, *Introduction to the Common Core State Standards* (Common Core State Standards Initiative, June 2, 2010) <http://www.corestandards.org/assets/ccssi-introduction>.
7. National Council of Teachers of Mathematics, “Common Core State Standards Joint Statement,” National Council of Teachers of Mathematics, June 2, 2010, <http://www.nctm.org/standards/content.aspx?id=26088>.

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