SECTION SIX: Draft 3rd Grade Standards

6A: Introduction

Critical Areas for Grade 3 Mathematics

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

1. Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

2. Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

3. Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

4. Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Grade 3 Overview

Operations and Algebraic Thinking

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

Number and Operations in Base Ten

- Use place value understanding and properties of operations to perform multi-digit arithmetic.
- Number and Operations—Fractions
- Develop understanding of fractions as numbers.

Measurement and Data

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

Geometry

- Reason with shapes and their attributes.

Mathematical Practices

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.

Highlights of Major Work in Grades K-8

K-2:	Addition and subtraction – concepts, skills, and problem solving; place value
3-5:	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6:	Ratios and proportional relationships; early expressions and equations
7:	Ratios and proportional relationships; arithmetic of rational numbers
8:	Linear algebra and linear functions

Grade 3 Fluency Standard(s)

3.OA.C.7	Single-digit products and quotients (Products from memory by end of Grade 3)
3.NBT.A.2	Add/subtract within 1000

6B: Draft Standards Statements – Grade 3

The standards listed in the tables below list both core standards statements and cluster prioritization for K-8 mathematics. Not all content in a given grade is emphasized equally in the Standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. (Link to Focus by Grade Level documents)

Students should spend the large majority of their time on the major work of the grade (■). Supporting work (□) and, where appropriate, additional work (○) can engage students in the major work of the grade.

3.OA - Operations & Algebraic Thinking

3.OA.A - Represent and solve problems involving multiplication and division. ■

Standard	Standards Statement (Jan 2021 Draft)
3.OA.A.1	Represent and interpret multiplication of two factors as equal groups added together.
3.OA.A.2	Represent and interpret whole-number quotients as dividing an amount into equal sized groups.
3.OA.A.3	Use multiplication and division within 100 to solve word problems in authentic contexts involving equal groups, arrays, and measurement quantities.
3.OA.A.4	Apply understanding of the inverse relationship of multiplication and division to determine the unknown number in a multiplication or division equation.

3.OA.B - Understand properties of multiplication and the relationship between multiplication and division. ■

Standard	Standards Statement (Jan 2021 Draft)
3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
3.OA.B.6	Understand division as an unknown-factor problem.

3.OA.C -Multiply and divide within 100. ■

Standard	Standards Statement (Jan 2021 Draft)
3.OA.C.7	Demonstrate fluency with multiplication and division within 100 using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.

3.OA.D -Solve problems involving the four operations, and identify and explain patterns in arithmetic. ■

Standard	Standards Statement (Jan 2021 Draft)
3.OA.D.8	Solve two-step word problems in authentic contexts that use addition, subtraction, multiplication, and division.
3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

3.NBT - Number & Operations in Base Ten

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

Standard	Standards Statement (Jan 2021 Draft)
3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
3.NBT.A.2	Demonstrate fluency with addition and subtraction within 1000 using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.
3.NBT.A.3	Find the product of one-digit whole numbers by multiples of 10 in the range 10-90, such as 9 x 80. Students use a range of strategies and algorithms based on place value and properties of operations.

3.NF - Number & Operations - Fractions

3.NF.A - Develop understanding of fractions as numbers.

Standard	Standards Statement (Jan 2021 Draft)
3.NF.A.1	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; Understand a fraction a/b as the quantity formed by a parts of size 1/b.
3.NF.A.2	Explain equivalence of fractions with denominators 2, 3, 4, 6, and 8. Compare fractions by reasoning about their size.
3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

3.MD - Measurement & Data

3.MD.A - Solve problems involving measurement and estimation.

Standard	Standards Statement (Jan 2021 Draft)
3.MD.A.1	Tell, write, and measure time to the nearest minute. Solve word problems in authentic contexts that involve addition and subtraction of time intervals in minutes.
3.MD.A.2	Measure, estimate and solve problems in authentic contexts that involve liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).

3.MD.B - Represent and interpret data.

Standard	Standards Statement (Jan 2021 Draft)
3.MD.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve problems using information presented in these graphs.
3.MD.B.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.

3.MD.C - Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

Standard	Standards Statement (Jan 2021 Draft)
3.MD.C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement, such as area is measured with unit squares tiling a plane without gaps or overlaps.
3.MD.C.6	Measure areas by counting standard and non-standard unit squares.
3.MD.C.7	Relate area to multiplication and addition. Use relevant representations to solve problems in authentic contexts.

3.MD.D - Geometric measurement: recognize perimeter.

Standard	Standards Statement (Jan 2021 Draft)
3.MD.D.8	Solve problems involving authentic contexts for perimeters of polygons.

3.G - Geometry

3.G.A - Reason with shapes and their attributes.

Standard	Standards Statement (Jan 2021 Draft)
3.G.A.1	Understand that shapes in different categories may share attributes and that shared attributes can define a larger category.
3.G.A.2	Partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole.

6C: Grade 3 Crosswalk with Clarifying Guidance

CLUSTER: 3.OA.A - Represent and solve problems involving multiplication and division.

STANDARD: 3.OA.A

DRAFT Standards Statement (JAN 2021):

Represent and interpret multiplication of two factors as equal groups added together.

DRAFT Clarifying Guidance (JAN 2021):

Note: Interpret the factors as representing the number of equal groups and the number of objects in each group. Describe a context in which a total number of objects can be expressed as __ x __.

This standard does not include calculating products. It is about understanding the meaning of each of the factors in 5 x 7, not the product of 5 x 7.

Original CCSS Text (2010):

Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5 × 7.

STANDARD: 3.OA.A.2

DRAFT Standards Statement (JAN 2021):

Represent and interpret whole-number quotients as dividing an amount into equal sized groups.

DRAFT Clarifying Guidance (JAN 2021):

Notes:

This standard focuses on two models of division: partition models and measurement (repeated subtraction) models.

- Partition models focus on "How many in each equal-sized group?"
- Measurement (repeated subtraction) models focus on "How many groups can you make?".

This standard does not include calculating. It is about understanding the meaning of what does 56 ÷ 8 mean, not the quotient of what does 56 ÷ 8 equal.

Example:

interpret 56 ÷ 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

Connections to MPs:

Students will have an opportunity to use modeling and repeated reasoning to show conceptual understanding of partition and measurement models. (MP 4, 8)

Original CCSS Text (2010):

Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 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. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.

STANDARD: 3.OA.A.3

DRAFT Standards Statement (JAN 2021):

Use multiplication and division within 100 to solve word problems in authentic contexts involving equal groups, arrays, and measurement quantities.

DRAFT Clarifying Guidance (JAN 2021):

Students should use a variety of representations for creating and solving one-step word problems, including using drawings and equations with a symbol for the unknown number.

Boundaries:

Solve multiplication word problems with factors up to and including 10.Solve division word problems with a divisor and quotient up to and including 10.

Original CCSS Text (2010):

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.

STANDARD: 3.OA.A.4

DRAFT Standards Statement (JAN 2021):

Apply understanding of the inverse relationship of multiplication and division to determine the unknown number in a multiplication or division equation.

DRAFT Clarifying Guidance (JAN 2021):

Example: Determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = __÷ 3, 6 × 6 = ?.

Note: The focus of 3.OA.4 goes beyond the traditional notion of fact families by having students explore the inverse relationship of multiplication and division.

Original CCSS Text (2010):

Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = __÷ 3, 6 × 6 = ?.

CLUSTER: 3.OA.B - Understand properties of multiplication and the relationship between multiplication and division.

STANDARD: 3.OA.B.5

DRAFT Standards Statement (JAN 2021):

Apply properties of operations as strategies to multiply and divide.

DRAFT Clarifying Guidance (JAN 2021):

Examples:

•If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.)

• 3 × 5 × 2 can be found by 3 × 5 = 15 then 15 × 2 = 30, or by 5 × 2 = 10 then 3 × 10 = 30. (Associative property of multiplication.)

•Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)

Note: Students need not use formal terms for these properties.

Original CCSS Text (2010):

Apply properties of operations as strategies to multiply and divide. Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15 then 15 × 2 = 30, or by 5 × 2 = 10 then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.) (Students need not use formal terms for these properties.)

STANDARD: 3.OA.B.6

DRAFT Standards Statement (JAN 2021):

Understand division as an unknown-factor problem.

DRAFT Clarifying Guidance (JAN 2021):

Solve an unknown factor problem, by using division strategies or changing the division problem to an equivalent multiplication problem.

Since multiplication and division are inverse operations, students are expected to solve problems and explain their processes of solving division problems that can also be represented as unknown factor multiplication problems.

Example: Divide 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.

Original CCSS Text (2010):

Understand division as an unknown-factor problem. For example, divide 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.

CLUSTER: 3.OA.C - Multiply and divide within 100.

STANDARD: 3.OA.C.7

DRAFT Standards Statement (JAN 2021):

Demonstrate fluency with multiplication and division within 100 using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.

DRAFT Clarifying Guidance (JAN 2021):

Note: This standard uses the word fluently, which means accuracy, efficiency (using a reasonable amount of steps and time), and flexibility (using strategies such as the distributive property).

By the end of Grade 3, know from memory all products of one-digit numbers. "Know from memory" should not focus only on timed tests and repetitive practice, but ample experiences working with manipulatives, pictures, arrays, word problems, and numbers to internalize the basic facts (up to 9 x 9).

This standard does not require timed assessments. Ample opportunity to develop efficient, accurate, and flexible strategies is essential.

Original CCSS Text (2010):

Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of one-digit numbers.

CLUSTER: 3.OA.D - Solve problems involving the four operations, and identify and explain patterns in arithmetic.

STANDARD: 3.OA.D.8

DRAFT Standards Statement (JAN 2021):

Solve two-step word problems in authentic contexts that use addition, subtraction, multiplication, and division.

DRAFT Clarifying Guidance (JAN 2021):

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.

Note: This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

Original CCSS Text (2010):

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. (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).)

STANDARD: 3.OA.D.9

DRAFT Standards Statement (JAN 2021):

Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

DRAFT Clarifying Guidance (JAN 2021):

Opportunities for students to examine numerical patterns. The ability to recognize and explain patterns in mathematics leads students to developing the ability to make generalizations, a foundational concept in algebraic thinking.

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.

Example: Students investigate multiplication tables in search of patterns and explain why these patterns make sense mathematically.

- The multiples of 4, 6, 8, and 10 are all even because they can all be decomposed into two equal groups.
- The doubles (multiples of 2) in a multiplication table fall on horizontal and vertical lines.
- On a multiplication chart, the products in each row and column increase by the same amount (skip counting).
- The multiples of any number fall on a horizontal and a vertical line due to the commutative property.
- All the multiples of 5 end in a 0 or 5 while all the multiples of 10 end with 0. Every other multiple of 5 is a multiple of 10.

Original CCSS Text (2010):

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.

CLUSTER: 3.NBT.A - Use place value understanding and properties of operations to perform multi-digit arithmetic.

STANDARD: 3.NBT.A.1

DRAFT Standards Statement (JAN 2021):

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

DRAFT Clarifying Guidance (JAN 2021):

[no additional guidance proposed at this time]

Original CCSS Text (2010):

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

STANDARD: 3.NBT.A.2

DRAFT Standards Statement (JAN 2021):

Demonstrate fluency with addition and subtraction within 1000 using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.

DRAFT Clarifying Guidance (JAN 2021):

Students will have opportunities to use strategies based on place value and properties of operations. Students will use estimation strategies to assess reasonableness of answers.

Example:

- Use the relationship between addition and subtraction can be applied to solve addition and subtraction problems.
- Use expanded form to decompose numbers and then find sums and differences

This standard uses the word fluently, which means accuracy, efficiency (using a reasonable amount of steps and time), and flexibility (using strategies).

This standard does not require timed assessments. Ample opportunity to develop efficient, accurate, and flexible strategies is essential.

Original CCSS Text (2010):

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. (A range of algorithms may be used.)

STANDARD: 3.NBT.A.3

DRAFT Standards Statement (JAN 2021):

Find the product of one-digit whole numbers by multiples of 10 in the range 10-90, such as 9 x 80. Students use a range of strategies and algorithms based on place value and properties of operations.

DRAFT Clarifying Guidance (JAN 2021):

Students extend their work in multiplication by applying understanding of place value. The special role of 10 in the base-ten system is important in understanding multiplication of one-digit numbers with multiples of 10. Using the properties of operations (commutative, associative, and distributive) and place value, students are able to explain their reasoning.

Use concrete and pictorial models, based on place value and the properties of operations, to find the product of a one-digit whole number by a multiple of 10 in the range 10–90.

Original CCSS Text (2010):

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. (A range of algorithms may be used.)

CLUSTER: 3.NF.A - Develop understanding of fractions as numbers.

STANDARD: 3.NF.A.1

DRAFT Standards Statement (JAN 2021):

Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; Understand a fraction a/b as the quantity formed by a parts of size 1/b.

DRAFT Clarifying Guidance (JAN 2021):

Note: Represent and identify unit fractions using visual models.

Example: If there are six equal parts, one of those parts is ⅙. The unit fraction is 1/6.

Boundaries: Grade 3 expectations are limited to denominators of 2, 3, 4, 6, and 8 as quantities formed when a whole is partitioned into equal parts.

Original CCSS Text (2010):

Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)

STANDARD: 3.NF.A.2

DRAFT Standards Statement (JAN 2021):

Explain equivalence of fractions with denominators 2, 3, 4, 6, and 8. Compare fractions by reasoning about their size.

DRAFT Clarifying Guidance (JAN 2021):

Represent a fraction 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 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.

Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0.

Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

Boundaries: Grade 3 expectations are limited to fractions with denominators 2, 3, 4, 6, and 8.

Original CCSS Text (2010):

Understand a fraction as a number on the number line; represent fractions on a number line diagram. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)

3.NF.A.2a *Represent a fraction 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 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)*

3.NF.A.2b *Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)*

STANDARD: 3.NF.A.3

DRAFT Standards Statement (JAN 2021):

Explain equivalence of fractions with denominators 2, 3, 4, 6, and 8. Compare fractions by reasoning about their size.

DRAFT Clarifying Guidance (JAN 2021):

Student should have opportunity to :

- Represent equivalent fractions with visual models.
- Compose and decompose fractions into equivalent fractions using related fractions: halves, fourths and eighths; thirds and sixths.
- Explain that a fraction with the same numerator and denominator equals one whole.
- Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
- Recognize that valid comparisons rely on the two fractions referring to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.

Original CCSS Text (2010):

Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)

3.NF.A.3a *Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)*

3.NF.A.3b *Recognize and generate simple equivalent fractions (e.g., 1/2 = 2/4, 4/6 = 2/3), Explain why the fractions are equivalent, e.g., by using a visual fraction model. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)*

3.NF.A.3c *Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)*

3.NF.A.3d *Compare two fractions with the same numerator or the same denominator, by reasoning about their size, Recognize that valid comparisons rely on the two fractions referring 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. (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.)*

CLUSTER: 3.MD.A - Solve problems involving measurement and estimation.

STANDARD: 3.MD.A.1

DRAFT Standards Statement (JAN 2021):

Tell, write, and measure time to the nearest minute. Solve word problems in authentic contexts that involve addition and subtraction of time intervals in minutes.

DRAFT Clarifying Guidance (JAN 2021):

Students will have opportunities to representing the problems in different ways, including using a number line diagram.

Original CCSS Text (2010):

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.

STANDARD: 3.MD.A.2

DRAFT Standards Statement (JAN 2021):

Measure, estimate and solve problems in authentic contexts that involve liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).

DRAFT Clarifying Guidance (JAN 2021):

Note:

Add, subtract, multiply or divide to solve one-step word problems involving masses or volumes that are given in the same units.

Boundaries:

Excludes compound units such as cm^3 and finding the geometric volume of a container.

Excludes multiplicative comparison problems (problems involving notions of “times as much”).

Original CCSS Text (2010):

Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (Excludes compound units such as cm^3 and finding the geometric volume of a container.) 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. (Excludes multiplicative comparison problems (problems involving notions of “times as much.”)

CLUSTER: 3.MD.B - Represent and interpret data.

STANDARD: 3.MD.B.3

DRAFT Standards Statement (JAN 2021):

Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve problems using information presented in these graphs.

DRAFT Clarifying Guidance (JAN 2021):

Collect data by asking a question that yields data in up to four categories.

- Represent and interpret data in a scaled picture graph, and/or scaled bar graph with axes provided
- Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.

Example: Draw a bar graph in which each square in the bar graph might represent 5 pets.

Original CCSS Text (2010):

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. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

STANDARD: 3.MD.B.4

DRAFT Standards Statement (JAN 2021):

Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.

DRAFT Clarifying Guidance (JAN 2021):

Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Original CCSS Text (2010):

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.

CLUSTER: 3.MD.C - Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

STANDARD: 3.MD.C.5

DRAFT Standards Statement (JAN 2021):

Recognize area as an attribute of plane figures and understand concepts of area measurement, such as area is measured with unit squares tiling a plane without gaps or overlaps.

DRAFT Clarifying Guidance (JAN 2021):

Note:

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.

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.

Original CCSS Text (2010):

Recognize area as an attribute of plane figures and understand concepts of area measurement.

3.MD.C.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.*

3.MD.C.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.*

STANDARD: 3.MD.C.6

DRAFT Standards Statement (JAN 2021):

Measure areas by counting standard and non-standard unit squares.

DRAFT Clarifying Guidance (JAN 2021):

Note: Area can be counted in square cm, square m, square in, square ft, and improvised units.

Original CCSS Text (2010):

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

STANDARD: 3.MD.C.7

DRAFT Standards Statement (JAN 2021):

Relate area to multiplication and addition. Use relevant representations to solve problems in authentic contexts.

DRAFT Clarifying Guidance (JAN 2021):

Student will have the opportunity to:

- 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.
- multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving problems, and represent whole-number products as rectangular areas in mathematical reasoning.
- use tiles and/or arrays to illustrate and explain that the area of a rectangle can be found by partitioning it into two smaller rectangles and that the area of the larger rectangle is the sum of the two smaller rectangles.
- recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding.

Original CCSS Text (2010):

Relate area to the operations of multiplication and addition.

3.MD.C.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.MD.C.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.MD.C.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 × b and a × c. Use area models to represent the distributive property in mathematical reasoning.*

3.MD.C.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.*

CLUSTER: 3.MD.D – Geometric measurement: recognize perimeter.

STANDARD: 3.MD.D.8

DRAFT Standards Statement (JAN 2021):

Solve problems involving authentic contexts for perimeters of polygons.

DRAFT Clarifying Guidance (JAN 2021):

Note: Students should have the opportunity to solve problems involving:

- finding the perimeter given the side lengths;
- finding an unknown side length;
- showing rectangles with the same perimeter and different area;
- showing rectangles with the same area and different perimeters.

Original CCSS Text (2010):

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 area or with the same area and different perimeter.

CLUSTER: 3.G.A - Reason with shapes and their attributes.

STANDARD: 3.G.A.1

DRAFT Standards Statement (JAN 2021):

Understand that shapes in different categories may share attributes and that shared attributes can define a larger category.

DRAFT Clarifying Guidance (JAN 2021):

Note: 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.

Original CCSS Text (2010):

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.

STANDARD: 3.G.A.2

DRAFT Standards Statement (JAN 2021):

Partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole.

DRAFT Clarifying Guidance (JAN 2021):

Example: This could include partitioning a shape into 4 parts with equal area and describe each part as 1/4 of the area of the total shape.

Original CCSS Text (2010):

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 is 1/4 of the area of the shape.