Washington Access to Instruction and Measurement

Mathematic Access Point Frameworks 2019–2020

OVERVIEW OF MATHEMATICS ACCESS POINTS

Washington's alternate assessment aligned to the Washington K–12 Learning Standards. The WA-Access to Instruction & Measurement, is built off of Access Point Frameworks. The Access Point Frameworks expand upon the learning standards to provide students with significant cognitive challenges greater access to the standards via a continuum of complexity, thus providing students with multiple entry points to accessing grade level content. Each Access Point is aligned to the learning standard to ensure maximum access to the general education standards. The Essential Element associated with the learning standard is presented alongside the Access Point Frameworks as a part of an instructional continuum.

For mathematics, English language arts, and science[1] at grades three through eight and eleven, the Access Point Frameworks have three consistent levels of complexity: more complex (M), intermediate complexity (I), and less complex (L). The less complex Access Points are represented on the right side of the frameworks with the Access Points increasing the complexity of knowledge and skills the student is being asked to demonstrate moving towards the right, closer towards the CCSS.

The Access Point Frameworks are the underpinning for the WA-Access to Instruction & Measurement and serve as the foundation for the performance task component of the assessment. The Access Point Frameworks were developed with content experts in collaboration with educators from across the state of Washington and OSPI.

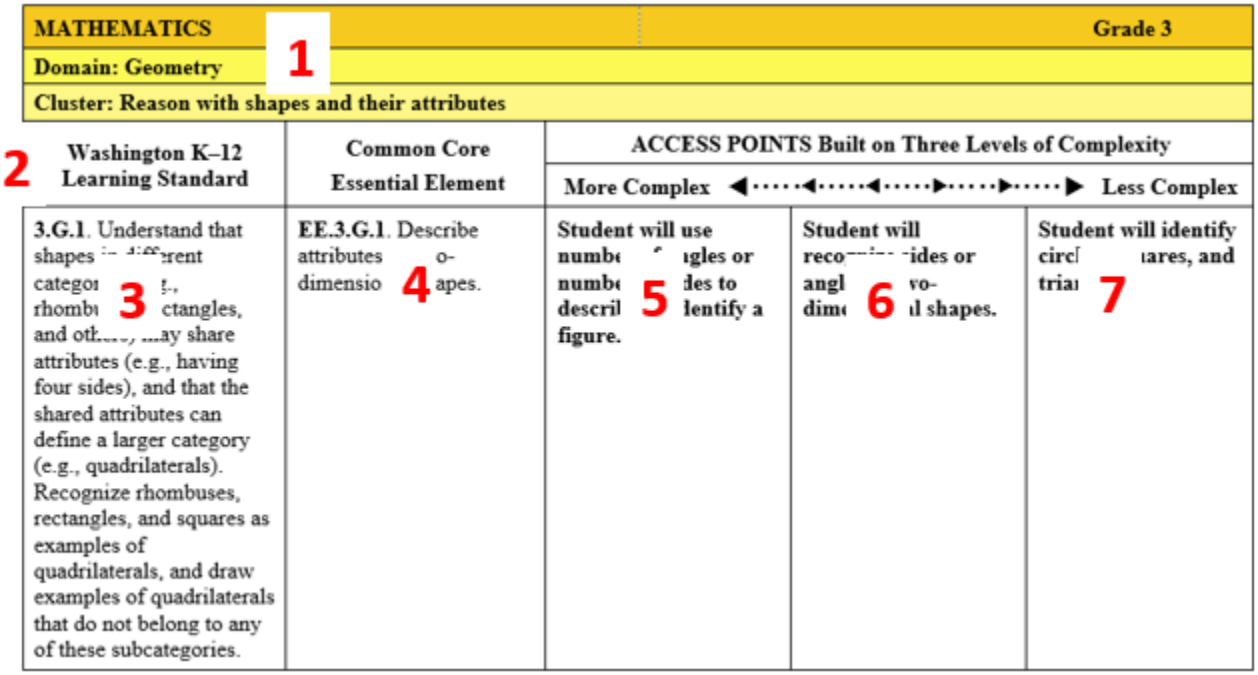
The layout of this document shows the association between the CCSS, the EE, and the Access Point Frameworks and provides educators the opportunity to see the spectrum of knowledge and skills articulated in each content standard. This document also allows educators to look across years to see how the standards build across years.

MATHEMATICS ACCESS POINTS

At each grade, one mathematics Access Point Framework has been developed for each of the five domains of the Common Core State Standards of mathematical practice. At the beginning of each grade is a map of the Common Core State Standards that have been developed into Access Point Frameworks. This page is then followed by the frameworks for each grade level. Terminology specific to mathematics is defined in the glossary located at the back of the document.

[1] Science is only assessed in grades 5, 8, and 11.

HOW TO READ THE ACCESS POINT FRAMEWORKS



MATHEMATICS 1		Grade 3
Domain: Geometry		
Cluster: Reason with shapes and their attributes		
2 Washington K–12 Learning Standard	Common Core Essential Element	ACCESS POINTS Built on Three Levels of Complexity More Complex ◀·····◀·····◀·····▶·····▶ Less Complex
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	**EE.3.G.1**. Describe attributes of two-dimensional shapes. 4	**Student will use** number[s] of angles or number[s] of sides to describ[e] a figure. 5 **Student will** recognize sides or angles of two-dimensional shapes. 6 **Student will identify** circles, squares, and triangles. 7

1) The top three rows of the Access Point Framework will identify the content, standard and grade or grade band
2) The fourth row moving from left to right contains the headers for the K-12 Learning Standard, the standard's Essential Concept, followed by the three Access Point levels in the following order: More, Intermediate and Less.
3) This is the regular K-12 Learning Standard that the specific Access Point Framework is developed for.
4) This is the Essential Concept of the K-12 Learning Standard.
5) This is the More Complex Access Point. The content defines the knowledge and skills that will be assessed by the corresponding Performance Task at the More Complex level.
6) This is the Intermediate Complex Access Point. The content defines the knowledge and skills that will be assessed by the corresponding Performance Task at the Intermediate Complex level.
7) This is the Less Complex Access Point. he content defines the knowledge and skills that will be assessed by the corresponding Performance Task at the Less Complex level.

GRADE 3 LEARNING STANDARDS DEVELOPED INTO ACCESS POINT FRAMEWORKS

Domain	Washington K–12 Learning Standard
Geometry (G)	**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.
Measurement & Data (MD)	**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.
Number and Operations in Base Ten (NBT)	**3. NBT.1.** Use place value understanding to round whole numbers to the nearest 10 or 100.
Number and Operations-Fractions (NF)	**3. NF.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.
Operations and Algebraic Thinking (OA)	**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.

Mathematics				**Grade 3**
Domain: Geometry				
Cluster: Reason with shapes and their attributes				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
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.	**EE.3.G.1**. Describe attributes of two-dimensional shapes.	Student will use number of angles or number of sides to describe or identify a figure.	Student will recognize sides or angles in two-dimensional shapes.	Student will identify circles, squares, and triangles.

Mathematics				**Grade 3**
Domain: Measurement and Data				
Cluster: Represent and interpret data				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.3.MD.4.** Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks.	Student will measure the length of an object to the nearest whole unit.	Student will identify tools that can be used to measure length.	Student will identify the longest (shortest) object when given two objects.

Mathematics				**Grade 3**
Domain: Number and Operations in Base Ten				
Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
3. NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.	**EE.3.NBT.1**. Use decade numbers (10, 20, and 30) as benchmarks to demonstrate understanding of place value for numbers 0–30.	Student will round two-digit numbers (10–30) to the nearest 10.	Student will use base-ten to identify numbers between 10 and 30.	Student will identify numbers between 0 and 10.

Mathematics				**Grade 3**
Domain: Number and Operations-Fractions				
Cluster: Develop understanding of fractions as numbers				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
3. NF.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.	**EE.3.NF.1–3.** Differentiate a fractional part from a whole.	Student will identify a unit fraction of a modeled fraction or use a model to represent a unit fraction.	Student will recognize a whole and parts in relation to the whole of two-dimensional figures.	Student will recognize a whole and parts in relation to the whole of real-world objects.

Mathematics				**Grade 3**
Domain: Operations and Algebraic Thinking				
Cluster: Solve problems involving the four operations, and identify and explain patterns in arithmetic				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.3.OA.8.** Solve one-step real-world problems using addition or subtraction within 20.	Student will solve one-step real-world problems using addition or subtraction with sums/differences within 20.	Student will solve one-step real-world problems using objects or models to compose or decompose numbers up to 10.	Student will use counting (up to 5) to solve real-world problems.

GRADE 4 LEARNING STANDARDS DEVELOPED INTO ACCESS POINT FRAMEWORKS

Domain	Washington K–12 Learning Standard
Geometry (G)	**4. G.1.** Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
Measurement & Data (MD)	**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.
Number and Operations in Base Ten (NBT)	**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.
Number and Operations-Fractions (NF)	**4. NF.1.** Explain why a fraction a/b is equivalent to a fraction (n x a)/(n x 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.
Operations and Algebraic Thinking (OA)	**4. OA.1.** Interpret a multiplication equation as a comparison, e.g., interpret 35= 5 □ 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.

Mathematics				**Grade 4**
Domain: Geometry				
Cluster: Draw and identify lines and angles, and classify shapes by properties of their lines and angles				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
4. G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	**EE.4.G.1.** Recognize parallel lines and intersecting lines.	Student will create parallel lines and intersecting lines.	Student will identify parallel lines and intersecting lines.	Student will differentiate between straight lines and curved lines.

Mathematics				**Grade 4**
Domain: Measurement and Data				
Cluster: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.4.MD.3.** Determine the area of a square or rectangle by counting units of measure (unit squares).	Student will calculate the perimeter of a rectangle with unit markings (each dimension ≤5).	Student will differentiate between area and perimeter.	Student will trace the perimeter of a shape.

Mathematics				**Grade 4**
Domain: Number and Operations in Base Ten				
Cluster: Generalize place value understanding for multi-digit whole numbers				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.4.NBT.2.** Compare whole numbers to 10 using symbols (<, >, =).	Student will compare whole numbers to 10 using symbols (<, >, =).	Student will identify models that represent less than, greater than, and equal.	Student will identify the model that shows more.

Mathematics				**Grade 4**
Domain: Number and Operations-Fractions				
Cluster: Extend understanding of fraction equivalence and ordering				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
4. NF.1. Explain why a fraction a/b is equivalent to a fraction (n x a)/(n x 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.	**EE.4.NF.1–2.** Identify models of one half (1/2) and one fourth (1/4).	Student will identify or create models that are equivalent to one-half (2/4, 3/6, 4/8, 5/10).	Student will identify models of one-half and one-fourth.	Student will identify real-world objects that represent one-half or one whole.

Mathematics				**Grade 4**
Domain: Operations and Algebraic Thinking				
Cluster: Use the four operations with whole numbers to solve problems				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
4. OA.1. Interpret a multiplication equation as a comparison, e.g., interpret 35= 5 □ 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.	**EE.4.OA.1-2.** Demonstrate the connection between repeated addition and multiplication.	Student will skip count by 2s, 5s, or 10s.	Student will identify models that represent the sum of two of the same number.	Student will identify equal groups.

GRADE 5 LEARNING STANDARDS DEVELOPED INTO ACCESS POINT FRAMEWORKS

Domain	Washington K–12 Learning Standard
Geometry (G)	**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.
Measurement & Data (MD)	**5. MD.2.** Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on 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 redistributed equally.
Number and Operations in Base Ten (NBT)	**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.
Number and Operations-Fractions (NF)	**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 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2. EE.5.NF.2. Identify models of thirds (1/3. 2/3, 3/3) and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10).
Operations and Algebraic Thinking (OA)	**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. 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.

Mathematics				**Grade 5**
Domain: Geometry				
Cluster: Classify two-dimensional figures into categories based on their properties				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.5.G.1-4**. Sort two-dimensional figures and identify the attributes (angles, number of sides, corners, color) they have in common.	Student will sort two-dimensional figures using attributes (angles, numbers of sides) they have in common.	Student will identify two-dimensional figures with a common attribute.	Student will identify the largest (smallest) two-dimensional figure.

Mathematics				**Grade 5**
Domain: Measurement and Data				
Cluster: Represent and Interpret Data				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
5. MD.2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on 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 redistributed equally.	**EE.5.MD.2.** Represent and interpret data on a picture, line plot, or bar graph.	Student will complete a bar graph, line plot, or picture graph when given collected data and graph template.	Student will read a picture graph, line plot, and bar graph to answer a simple question.	Student will identify the category in a bar graph or a picture graph with the most or least.

Mathematics				**Grade 5**
Domain: Number and Operations in Base Ten				
Cluster: Perform operations with multi-digit whole numbers with decimals to hundredths				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.5.NBT.6–7.** Illustrate the concept of division using fair and equal shares.	Student will identify a model to solve problems involving divisors and quotients (up to 10).	Student will use models and counting to determine the answer to a real-world division problem.	Student will divide objects (up to 10) into equal groups.

Mathematics				**Grade 5**
Domain: Number and Operations-Fractions				
Cluster: Use equivalent fractions as a strategy to add and subtract fractions				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.	**EE.5.NF.2**. Identify models of thirds (1/3, 2/3, 3/3) and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10).	Student will use models to solve addition problems involving fractions (halves, thirds, fourths, and tenths) with like denominators with a sum less than or equal to 1.	Student will identify models of thirds (1/3, 2/3, 3/3), fourths (1/4, 2/4, 3/4, 4/4), and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10).	Student will identify the model that represents one-half, one-fourth, and one whole.

Mathematics				**Grade 5**
Domain: Operations and Algebraic Thinking				
Cluster: Analyze patterns and relationships				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
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. 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.	**EE.5.OA.3.** Identify and extend numerical patterns.	Student will identify and extend numerical addition or subtraction patterns.	Student will extend a modeled numerical pattern that involves an addition rule.	Student will extend AB shape patterns.

GRADE 6 LEARNING STANDARDS DEVELOPED INTO ACCESS POINT FRAMEWORKS

Domain	Washington K–12 Learning Standard
Geometry (G)	**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.
Expressions and Equations (EE)	**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.
The Number System (NS)	**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.
Ratios and Proportional Relationships (RP)	**6. RP.1.** Understand the concept of a ratio, and use ratio language to describe a ratio relationship between two quantities. 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 three votes.”
Statistics and Probability (SP)	**6. SP.5.** Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. 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. d. Relating the choice of measures of center and variability to the shape of the data.

Mathematics				**Grade 6**
Domain: Geometry				
Cluster: Solve real-world and mathematical problems involving areas, surface area, and volume				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.6.G.1.** Solve real-world and mathematical problems about area using unit squares.	Student will count unit squares to determine the area of a composite figure made up of two rectangles.	Student will count unit squares to determine the area of a rectangle.	Student will count unit squares to determine the area of a rectangle with one dimension equal to 1.

Mathematics				**Grade 6**
Domain: Expressions and Equations				
Cluster: Reason about and solve one-variable equations and inequalities				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
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.	**EE.6.EE.5–7.** Match an equation to a real-world problem in which variables are used to represent numbers.	Student will identify an algebraic equation that represents a one-step real-world problem (where the variable does not represent the sum or difference).	Student will identify an algebraic equation that represents a real-world problem involving addition where the variable represents the sum.	Student will identify a numerical equation involving addition that represents a modeled real-world problem.

Mathematics		**Grade 6**		
Domain: The Number System				
Cluster: Apply and extend previous understandings of numbers to the system of rational numbers				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
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.	**EE.6.NS.5–8.** Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero).	Student will determine the distance from zero to a given point on a number line.	Student will identify a number line (or other real-world scale such as a thermometer) that shows an amount less than zero.	Student will identify a model of zero.

Mathematics				**Grade 6**
Domain: Ratios and Proportional Relationships				
Cluster: Understand ratio concepts and use ratio reasoning to solve problems				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
6. RP.1. Understand the concept of a ratio, and use ratio language to describe a ratio relationship between two quantities. 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 three votes."	**EE.6.RP.1.** Demonstrate a simple ratio relationship.	Student will generate a ratio based on a model or a real-world situation.	Student will identify a model of a given simple ratio.	Student will identify a model that represents a 1:1 ratio.

Mathematics				**Grade 6**
Domain: Statistics and Probability				
Cluster: Summarize and describe distributions				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
6. SP.5. Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. c. 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. d. Relating the choice of measures of center and variability to the shape of the data.	**EE.6.SP.5.** Summarize data distributions shown in graphs or tables.	Student will identify the median of a set of ordered data (with an odd number of data points).	Student will identify the greatest value and least value of a set of ordered data.	Student will identify the object that appears most frequently (mode) in a set of ordered data.

GRADE 7 LEARNING STANDARDS DEVELOPED INTO ACCESS POINT FRAMEWORKS

Domain	Washington K–12 Learning Standard
Geometry (G)	**7. G.6.** Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
Expressions and Equations (EE)	**7. EE.4.** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
The Number System (NS)	**7. NS.2.** Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
Ratios and Proportional Relationships (RP)	**7. RP.2.** Recognize and represent proportional relationships between quantities.
Statistics and Probability (SP)	**7. SP.5.** Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

Mathematics				**Grade 7**
Domain: Geometry				
Cluster: Solve real-life problems and mathematical problems involving angles, measure, surface area, and volume				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
7. G.6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	**EE.7.G.6.** Determine the area of a rectangle using the formula for length × width, and confirm the result using tiling or partitioning into unit squares.	Student will use counting to find the volume of a rectangular prism made up of unit cubes with one dimension equal to 1.	Student will determine the area of a rectangle or a composite figure made up of rectangles drawn on a grid.	Student will use unit squares to determine the area of a rectangle.

Mathematics				**Grade 7**
Domain: Expressions and Equations				
Cluster: Solve real-life problems and mathematical problems using numerical and algebraic expressions and equations				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
7. EE.4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	**EE.7.EE.4**. Use the concept of equality with models to solve one-step addition and subtraction equations.	Student will solve one-step algebraic equations involving addition or subtraction (where the variable does not represent the sum or difference).	Student will solve one-step algebraic equations involving addition or subtraction using models (where the variable does not represent the sum or difference).	Student will solve numeric equations involving addition and subtraction using models.

Mathematics				**Grade 7**
Domain: The Number System				
Cluster: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
7. NS.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	**EE.7.NS.2.a**. Solve multiplication problems with products to 100. **EE.7.NS.2.b**. Solve division problems with divisors up to five and also with a divisor of 10 without remainders.	Student will solve multiplication or division problems (with a product to 100 or a divisor up to 10 without remainders).	Student will solve multiplicative comparison word problems involving 2, 5, and 10.	Student will identify a model that represents a real-world multiplication problem.

Mathematics				**Grade 7**
Domain: Ratios and Proportional Relationships				
Cluster: Analyze proportional relationships and use them to solve real-world and mathematical problems				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
7. RP.2. Recognize and represent proportional relationships between quantities.	**EE.7.RP.1–3**. Use a ratio to model or describe a relationship.	Student will identify an equivalent ratio in a model or a real-world situation.	Student will identify a simple ratio of a given, modeled ratio.	Student will identify a 1:2 ratio of a given, modeled ratio.

Mathematics				**Grade 7**
Domain: Statistics and Probability				
Cluster: Investigate chance processes and develop, use, and evaluate probability models				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
7. SP.5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	**EE.7.SP.5–7.** Describe the probability of events of occurring as possible or impossible.	Student will determine whether an event is impossible, unlikely, likely, and certain.	Student will identify situations that represent equally likely events.	Student will identify events that are impossible or certain.

GRADE 8 LEARNING STANDARDS DEVELOPED INTO ACCESS POINT FRAMEWORKS

Domain	Washington K–12 Learning Standard
Geometry (G)	**8. G.4.** Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
Expressions and Equations (EE)	**8. EE.5.** Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.
Functions (F)	**8. F.5.** Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
The Number System (NS)	**8. NS.2.** Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
Statistics and Probability (SP)	**8. SP.4.** Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?

Mathematics				**Grade 8**
Domain: Geometry				
Cluster: Understand congruence and similarity using physical models, transparencies, or geometry software				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
8. G.4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	**EE.8.G.4.** Identify similar shapes with and without rotation.	Student will demonstrate understanding of similar figures drawn on a grid (with rotation).	Student will identify similar figures on a grid without rotation.	Student will identify a similar and congruent circles and squares.

Mathematics				**Grade 8**
Domain: Expressions and Equations				
Cluster: Understand the connections between proportional relationships, lines, and linear equations				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
8. EE.5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	**EE.8.EE.5–6.** Graph a simple ratio by connecting the origin to a point representing the ratio in the form of *y/x*. *For example, when given a ratio in standard form (2:1), convert to 2/1, and plot the point (1,2).*	Student will identify a graph given a ratio relationship displayed in a table.	Student will locate or identify a point in the first quadrant of a coordinate grid.	Student will locate or identify a point on a number line.

Mathematics				**Grade 8**
Domain: Functions				
Cluster: Use functions to model relationships between quantities				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
8. F.5. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	**EE.8.F.5.** Describe how a graph represents a relationship between two quantities.	Student will describe a relationship between two quantities shown in a scatter plot or line graph.	Student will identify a correct statement about a scatter plot or a line graph that shows a relationship between two quantities.	Student will identify the topic of information represented in a scatter plot or line graph.

Mathematics				**Grade 8**
Domain: The Number System				
Cluster: Know that there are numbers that are not rational, and approximate them by rational numbers				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
8. NS.2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	**EE.8.NS.2.b.** Compare quantities represented as decimals in real-world examples to hundredths.	Student will use models to compare decimals to the hundredths place.	Student will use models to compare decimals to the tenths place.	Student will identify the greater decimal using models.

Mathematics				**Grade 8**
Domain: Statistics and Probability				
Cluster: Investigate patterns of association in bivariate data				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ···· ▶ Less Complex		
8. SP.4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?	**EE.8.SP.4.** Construct a graph or table from given categorical data, and compare data categorized in the graph or table.	Student will represent given unorganized data by completing a bar graph or picture graph using a template.	Student will identify a bar graph or picture graph that represents given unorganized data.	Student will sort given unorganized data into two groups.

HIGH SCHOOL LEARNING STANDARDS DEVELOPED INTO ACCESS POINT FRAMEWORKS

Domain	Washington K–12 Learning Standard
Algebra-Creating Equations (A-CED)	**HS.A-CED.1.** Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
Algebra-Reasoning with Equations and Inequalities (A-REI)	**HS.A.REI.10.** Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
Geometry-Congruence (G-CO)	**G-CO.7.** Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
Number and Quantity-The Real Number System (N-RN)	**HS.N-RN.1.** Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5.
Statistics and Probability-Interpreting Categorical and Quantitative Data (S-ID)	**HS.S-ID.4.** Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

Mathematics				**High School**
Domain: Algebra-Creating Equations				
Cluster: Create equations that describe numbers or relationships				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
HS.A-CED.1. Create equations and inequalities involving one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	**EE.A-CED.1.** Create an equation involving one operation with one variable, and use it to solve a real-world problem.	Student will write and solve a one-step algebraic equation representing a real-world situation.	Student will solve a one-step algebraic equation involving addition and subtraction representing a real-world situation.	Student will identify an algebraic equation involving addition and subtraction (up to 20) that represents a modeled real-world situation.

Mathematics				**High School**
Domain: Algebra-Reasoning with Equations and Inequalities				
Cluster: Represent and solve equations and inequalities graphically				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
HS.A.REI.10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	**EE.A-REI.10–12.** Interpret the meaning of a point on the graph of a line. For example, on a graph of pizza purchases, trace the graph to a point and tell the number of pizzas purchased and the total cost of the pizzas.	Student will interpret the meaning of a point on a line graphed in the first quadrant.	Student will identify the ordered pair of a point plotted in the first quadrant using whole numbers (up to 10).	Student will identify the horizontal quantity and the vertical quantity represented in a graph.

Mathematics				**High School**
Domain: Geometry-Congruence				
Cluster: Understand congruence in terms of rigid motions				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
HS.G-CO.7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	**EE.G-CO.6–8.** Identify corresponding congruent and similar parts of shapes.	Student will identify corresponding congruent angles in two similar triangles.	Student will identify corresponding sides in similar rectangles.	Student will identify regular figures that are similar.

Mathematics				**High School**
Domain: Number and Quantity-The Real Number System				
Cluster: Extend the properties of exponents to rational exponents				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
HS.N-RN.1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5.	**EE.N-RN.1.** Determine the value of a quantity that is squared or cubed.	Student will determine the value of a quantity that is squared (with a base >5) or cubed (with a base ≤3).	Student will determine the value of a quantity that is squared (with a base ≤5) using a model.	Student will identify the model with the greater or lesser value when given two models of squared numbers.

Mathematics		**High School**		
Domain: Statistics and Probability-Interpreting Categorical and Quantitative Data				
Cluster: Summarize, represent, and interpret data on a single count or measurement variable				
Washington K–12 Learning Standard	**Essential Element**	**ACCESS POINTS Built on Three Levels of Complexity**		
		More Complex◀ · ··◀·· Intermediate ··▶ ····· ▶ Less Complex		
HS.S-ID.4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	**EE.S-ID.4.** Calculate the mean of a given data set (limit the number of data points to fewer than five).	Student will determine the median or the mean from data shown in a frequency table or line plot.	Student will identify the size of a population from data shown in a bar graph, line plot, or picture graph.	Student will determine the mode from data shown in a bar graph, line plot, or picture graph.

GLOSSARY OF TERMS

General

Access Point Framework – An Access Point Framework is the continuum of three Access Points aligned to a single standard.

Cluster – A cluster is a small group of related standards within a domain.

Domain – A domain is a large group of related standards. Mathematics standards are organized into domains.

Essential Element – a specific statement of knowledge and skills linked to the grade-level expectation that builds a bridge from content standards to academic expectations for students with the most significant cognitive disabilities.

Standard – (learning standard) A standard defines what a student should know and be able to do (knowledge & skills).

Mathematics

Area The space inside a figure measured with square units or the number of unit squares that can cover a figure without any gaps or overlaps.

Array A set of objects or numbers arranged in order, commonly in rows and columns.

Attribute A characteristic of an object. Attributes may include size, number of sides, or number of angles.

Bar Graph A graph that uses horizontal or vertical bars to represent numbers in a set of data.

Composite Figure A figure that is made up of two or more geometric shapes.

Congruent Angles Angles that have the same measure.

Congruent Figures Figures that are the same size and the same shape.

Congruent Sides The sides of a figure (or two figures) that are equal in length.

Coordinate Grid A two-dimensional system in which the cooridnates of a point are its distances from the origin (the location where the two axes intersect).

Corresponding Sides Sides that are in the same position in different plane figures

Denominator The bottom number of a fraction which represents the number of parts the whole is divided into. In the fraction ¼, the 4 is the denominator.

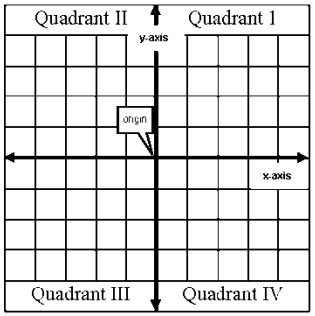
Equation A number sentence which shows that two quantities are equal

Algebraic Equation: An equation that includes at least one variable.

Numeric Equation: An equation that includes only numbers and symbols.

Equivalent Having the same value or naming the same amount

First Quadrant The quadrant located in the upper right portion of the coordinate plane. In the first quadrant, both the *x*- and *y*-coordinates are positive numbers.



Line Plot (Dot Plot) A method of visually displaying a distribution of data values whereeach data value is shown as a dot or mark above a number line.

Mean A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.

Median A measure of center in a set of numerical data. The median of a list of values is the value appearing at the center of a sorted version of the list—or the mean of the two central values, if the list contains an even number of values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 90}, the median is 11.

Mode In a set of data the value or object that appears the most often.

Numerator The top portion of a fraction representing the number of parts of the whole. For example, in the fraction 3/4, the 3 is the numerator.

Ordered Pair Coordinates that identify an exact location of a point or object on a grid, coordinate plane, or map (written as x, y).

Parallel Lines Lines that are in the same plane and never intersect.

Pattern A pattern of geometric shapes or numbers that are arranged according to a rule.

Perimeter The distance around a shape/figure.

Perpendicular Lines Lines that intersect at a 90 degree angle.

Picture Graph A record of data collected that consists of categories of data and uses pictures or symbols to represent the frequency that each category occurred.

Population The entire group of objects or individuals considered for a survey

Probability A number between 0 (impossible) and 1(certain) used to quantify likelihood for processes that have uncertain outcomes (such as tossing a coin, selecting a person at random from a group of people, tossing a ball at a target etc).

Ratio A comparison of two amounts. Ratios can be written many ways, including 3: 4, 3 to 4, or ¾ .

Regular Figure A polygon in which all sides are congruent and all angles are congruent

Rotation A transformation in which a figure is rotated (turned) around a fixed point.

Rule A sentence or equation that describes how to extend a pattern or how to find a certain term of a pattern.

Scatter Plot A graph in the coordinate plane representing a set of bivariate data. For example, the heights and weights of a group of people could be displayed on a scatter plot.

Similar Figures Figures that have the same shape, equal angles, and proportionate corresponding sides.

Skip Count Count by 2's, 3's, 5's, etc., skipping the numbers in between.

Unit Rate A rate with a denominator equal to 1.

Variable A missing number in an equation represented by a letter.

Volume The amount of cubic units it takes to fill a three-dimensional object. Example: If the dimensions of a rectangular solid are measured in inches, the volume of the box is given in cubic inches.

X-axis: the horizontal line on the coordinate plane that intersects at the origin with the *y*-axis.

Y-axis: the vertical line on the coordinate plane that intersects at the origin with the *x*-axis