Draft Mathematics Standards Crosswalk

Mathematics Crosswalk

Purpose of this crosswalk

This crosswalk is a draft showing alignment between the mathematics standards in the Common Core State Standards (CCSS) and the proposed Washington (WA) State K–12 Learning Standards for Mathematics. This crosswalk can be used to understand how the Math CCSS were updated, revised, and reorganized.

The WA State K–12 Learning Standards for Mathematics have not yet been formally adopted. This crosswalk is a draft only.

Crosswalk Key

Math CCSS (2011)	WA Math (2024)
Text of standard in the Mathematics Common Core (2011)	Text of standard that was changed in the draft WA State Learning Standards for Mathematics (2024)
Addition of Data Science Standards	Text of new Data Science Standard

Note: Common Core standards which have ***not*** been updated or revised do not appear in this crosswalk as they are unchanged in the WA State Learning Standards for Mathematics (2024).

Washington Office of Superintendent of
PUBLIC INSTRUCTION

Kindergarten

Math CCSS (2011)	WA Math (2024)
K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.	**K.OA.A.2** Flexibly, efficiently, and accurately solve addition and subtraction word problems, and add and subtract within 10.
K.OA.A.5 Fluently add and subtract within 5.	**K.OA.A.5** Flexibly, efficiently, and accurately add and subtract within 5.
K.G.B.6 Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?"	**K.G.B.6** Use simple shapes to compose a variety of larger shapes.
Addition of Data Science Standards	**K.DS.1** Generate questions to investigate situations within the classroom.
Addition of Data Science Standards	**K.DS.2** Collect or consider data through organizing objects or drawing pictures to represent and communicate observations.
Addition of Data Science Standards	**K.DS.3** Analyze data sets by noticing and describing patterns in data-rich situations.
Addition of Data Science Standards	**K.DS.4** Interpret and communicate results through structured answers with teacher guidance.

Grade 1

Math CCSS (2011)	WA Math (2024)
1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	**1.OA.A.1** Use addition and subtraction within 20 to flexibly, efficiently, and accurately solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem.
1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	**1.OA.A.2** Flexibly, efficiently, and accurately solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem.
1.OA.B.3 Apply properties of operations as strategies to add and subtract.3 Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)	**1.OA.B.3** Apply and extend properties of operations by selecting and demonstrating strategies to add and subtract.
1.OA.B.4 Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.	**1.OA.B.4** Demonstrate understanding of subtraction as an unknown-addend problem.
1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	**1.OA.C.5** Extend and apply counting strategies to addition and subtraction (e.g., by counting on 2 to add 2).

Math CCSS (2011)	WA Math (2024)
1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	**1.OA.C.6** Flexibly, efficiently, and accurately add and subtract within 20, for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14, decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).
1.OA.D.7 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = – 3, 6 + 6 =.	**1.OA.D.7** Demonstrate understanding of the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false
1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: **a)** 10 can be thought of as a bundle of ten ones — called a “ten,” **b)** The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. **c)** The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	**1.NBT.B.2** Understand that the two digits of a two-digit number represent amounts of tens and ones.

Math CCSS (2011)	WA Math (2024)
1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	**1.NBT.C.4** Flexibly, efficiently, and accurately add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
1.G.A.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	**1.G.A.2** Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape and create new shapes from the composite shape.
Addition of Data Science Standards	**1.DS.1** Generate questions to investigate situations within the classroom.
Addition of Data Science Standards	**1.DS.2** Collect and use data to consider and decide what data will answer the investigative question. Organize data with drawings, tally marks, or other visual representations.
Addition of Data Science Standards	**1.DS.3** Analyze data sets with up to three categories by making comparisons and/or looking for patterns.
Addition of Data Science Standards	**1.DS.4** Interpret and communicate results through structured answers with teacher guidance.

Grade 2

Math CCSS (2011)	WA Math (2024)
2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem	**2.OA.A.1** Use addition and subtraction within 100 to flexibly, efficiently, and accurately solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
2.OA.B.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	**2.OA.B.2** Flexibly, efficiently, and accurately add and subtract within 20 using mental strategies.
NBT.A.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: **a)** 100 can be thought of as a bundle of ten tens — called a "hundred," **b)** The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	**NBT.A.1** Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	**2.NBT.B.5** Flexibly, efficiently, and accurately add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Math CCSS (2011)	WA Math (2024)
2.NBT.B.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	**2.NBT.B.7** Flexibly, efficiently, and accurately add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Demonstrate understanding that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
2.MD.B.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	**2.MD.B.5** Flexibly, efficiently, and accurately use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?	**2.MD.C.8** Flexibly, efficiently, and accurately solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
2.G.A.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	**2.G.A.1** Identify and draw shapes based on specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2.G.A.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	**2.G.A.3** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Demonstrate that equal shares of identical wholes need not have the same shape.

Math CCSS (2011)	WA Math (2024)
Addition of Data Science Standards	**2.DS.1** Generate questions to investigate situations of interest to students within the classroom, school, or community.
Addition of Data Science Standards	**2.DS.2** Collect and use data to consider and decide what data will answer the investigative question. Organize data with pictographs, line plots and bar graphs with single-unit scales. Recognize that data can vary for a variety of reasons.
Addition of Data Science Standards	**2.DS.3** Analyze data sets with up to four categories by making comparisons, looking for patterns and/or making predictions.
Addition of Data Science Standards	**2.DS.4** Interpret and communicate results through structured answers with teacher guidance. Make a statement(s) about the data collected to support the answer to the investigative question.

Grade 3

Math CCSS (2011)	WA Math (2024)
3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	**3.OA.A.3** Use multiplication and division within 100 to flexibly, efficiently, and accurately 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.
3.OA.B Understand properties of multiplication and the relationship between multiplication and division.	**3.OA.B** Explore and use the properties of multiplication to understand the relationship between multiplication and division.
3.OA.B.5 Apply properties of operations as strategies to multiply and divide.2 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.)	**3.OA.B.5** Use strategies to multiply and divide by applying and extending understanding of the properties of operations.
3.OA.B.6 Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.	**3.OA.B.6** Demonstrate understanding of division as an unknown-factor problem.
3.OA.C.7 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 two one-digit numbers.	**3.OA.C.7** Flexibly, efficiently, and accurately 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.

Math CCSS (2011)	WA Math (2024)
3.OA.D.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.	**3.OA.D.8** Flexibly, efficiently, and accurately solve two-step word problems using the four operations. Represent these problems using visual models and equations with a letter standing for the unknown quantity. Assess the reasonableness of answers (e.g., Is my estimate too low or too high? What degree of precision do I need for this situation?) using mental and estimation strategies.
3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.	**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.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	**3.NBT.A.1** Use place value understanding of multi-digit whole numbers to generate estimates to the nearest 10 or 100 using a variety of estimation strategies.
3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**3.NBT.A.2** Flexibly, accurately, and efficiently add and subtract within 1000 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
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.1** Understand a unit fraction as the quantity formed when a whole is partitioned into equal parts and explain that a unit fraction is one of those parts (e.g., $\frac{1}{4}$); understand fractions are composed of unit fractions.

Math CCSS (2011)	WA Math (2024)
3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram. **a)** 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, **b)** 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.	**3.NF.A.2** Understand a fraction as a number and can be represented on the number line; represent fractions on a number line diagram.
3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. **a)** Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line, **b)** 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, **c)** 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, **d)** Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or < and justify the conclusions, e.g., by using a visual fraction model.	**3.NF.A.3** Explain equivalence of fractions and compare fractions by reasoning about their size.

Math CCSS (2011)	WA Math (2024)
3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	**3.MD.A.1** Tell and write time to the nearest minute and measure time intervals in minutes. Flexibly, efficiently, and accurately solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	**3.MD.A.2** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to flexibly, efficiently, and accurately 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.
3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement; **a)** 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; **b)** 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.	**3.MD.C.5** Recognize area as an attribute of plane figures and understand concepts of area measurement.

Math CCSS (2011)	WA Math (2024)
3.MD.C.7 Relate area to the operations of multiplication and addition; **a)** 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, **b)** 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, **c)** 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, **d)** Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the nonoverlapping parts, applying this technique to solve real world problems.	**3.MD.C.7** Relate area to the operations of multiplication and addition.
3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**3.MD.D.8** Flexibly, efficiently, and accurately solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
3.G.A.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.G.A.1** Demonstrate understanding 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.

Math CCSS (2011)	WA Math (2024)
Addition of Data Science Standards	**3.DS.1** Generate questions to investigate situations of interest to students that can be answered with a variety of data or data sets.
Addition of Data Science Standards	**3.DS.2** Collect and consider data in a variety of ways including surveys, groupings, measurement, etc., and ask in what ways can the data be collected to capture as much information as necessary to inform the investigative question.
Addition of Data Science Standards	**3.DS.3** Represent data in a variety of ways including technology. Critically analyze data visualizations, including bar graphs, line plots, and scaled picture graphs with various scales. Analyze data sets with several categories by making comparisons, looking for patterns and/or making predictions and recognize the source and amount of data collected may impact the accuracy.
Addition of Data Science Standards	**3.DS.4** Interpret and communicate results, describing difference between groups, with teacher guidance. Make a statement(s) about the data collected to support the answer to the investigative question.

Grade 4

Math CCSS (2011)	WA Math (2024)
4.OA.A.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.	**4.OA.A.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 comparison statements as multiplication equations.
4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	**4.OA.A.2** Multiply or divide to flexibly, efficiently, and accurately solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**4.OA.A.3** Flexibly, efficiently, and accurately solve multistep word problems posed with whole numbers and having whole number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using visual models and equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental and estimation strategies.
4.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.	**4.NBT.A.1** Understand that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
4.NBT.A.3 Use place value understanding to round multi-digit whole numbers to any place.	**4.NBT.A.3** Use place value understanding of multi-digit whole numbers to generate estimates to any place less than or equal to 1,000,000 using a variety of estimation strategies.

Math CCSS (2011)	WA Math (2024)
4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.	**4.NBT.B.4** Flexibly, efficiently, and accurately add and subtract multi-digit whole numbers using strategies or algorithms.
4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**4.NBT.B.5** Flexibly, efficiently, and accurately multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**4.NBT.B.6** Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using multiple strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × 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.	**4.NF.A.1** Explain why a fraction is equivalent to another fraction by using visual fraction models (e.g., tape diagrams and number lines), with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Understand and use general principles to recognize and generate equivalent fractions.
4.NF.A.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 12. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**4.NF.A.2** Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as. Understand that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols or and justify the conclusions, e.g., by using a visual fraction model.

Math CCSS (2011)	WA Math (2024)
4.NF.B.3 Understand a fraction a/b with a > 1 as a sum of fractions 1/b; **a)** Understand addition and subtraction of fractions as joining and separating parts referring to the same whole: **b)** Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8; **c)** Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction; **d)** Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	**4.NF.B.3** Flexibly, efficiently, and accurately compose and decompose fractions with a numerator greater than 1 into unit fractions, including fractions greater than one or mixed numbers, to solve situations in context with addition and subtraction of fractions with like denominators.

Math CCSS (2011)	WA Math (2024)
4.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number; a) Understand a fraction a/b as a multiple of 1/b. For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4); **b)** Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.); **c)** Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?	**4.NF.B.4** Flexibly apply and extend previous understandings of multiplication to multiply a fraction by a whole number using visual models in the context of word problems.
4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.4 For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.	**4.NF.C.5** Explore and explain using models, words, and numbers that a fraction with a denominator of 10 as an equivalent fraction with denominator of 100, and use this technique to add two fractions with respective denominators of 10 and 100.
4.NF.C.6 Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.	**4.NF.C.6** Explore and explain decimal notation for fractions with denominators of 10 and 100 using models, words, and numbers.

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4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	**4.NF.C.7** Compare two decimals to hundredths by reasoning about their size. Understand that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions by using multiple strategies or visual models.
4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	**4.MD.A.2** Use the four operations to flexibly, efficiently, and accurately solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using multiple visual models.
4.MD.B.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.	**4.MD.B.4** Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). Flexibly, efficiently, and accurately solve problems involving addition and subtraction of fractions by using information presented in line plots.
4.MD.C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement; **a)** An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles; **b)** An angle that turns through n one-degree angles is said to have an angle measure of n degrees.	**4.MD.C.5** Demonstrate understanding of angles as geometric shapes that are formed wherever two rays share a common endpoint and understand concepts of angle measure.

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4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	**4.MD.C.7** Demonstrate understanding that when an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Flexibly, efficiently, and accurately solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.
Addition of Data Science Standards	**4.DS.1** Generate data-based questions of interest to the students, generate ideas based on the questions, and refine the question as necessary.
Addition of Data Science Standards	**4.DS.2** Determine strategies for collecting and considering data in a variety of ways including with the use of technology, evaluate whether additional data that should be collected to completely address the investigative question.
Addition of Data Science Standards	**4.DS.3** Critically analyze data visualizations, including tables, bar graphs, line plots, or spreadsheets to support a claim related to the investigative question. Ask whether the data collected sufficiently addresses the investigative question.
Addition of Data Science Standards	**4.DS.4** Interpret and communicate results, describing difference between groups, with teacher guidance. Make a statement(s) about the data collected to support the answer to the investigative question

Grade 5

Math CCSS (2011)	WA Math (2024)
5.NBT.A.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	**5.NBT.A.1** Understand that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and of what it represents in the place to its left.
5.NBT.A.3 Read, write, and compare decimals to thousandths. **a)** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). **b)** Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**5.NBT.A.3** Read, write, and compare decimals to thousandths.
5.NBT.A.4 Use place value understanding to round decimals to any place.	**5.NBT.A.4** Use place value understanding of decimals to generate estimates to any place using a variety of estimation strategies.
5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm.	**5.NBT.B.5** Flexibly, efficiently, and accurately multiply multi-digit whole numbers using strategies or algorithms.
5.NBT.B.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.	**5.NBT.B.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value and connected to the relationship between multiplication and division including rectangular arrays, partial quotients, and/or area models.

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5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	**5.NBT.B.7** Flexibly, efficiently, and accurately add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
5.NF.A.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)	**5.NF.A.1** Add and subtract fractions with unlike denominators (including mixed numbers) using flexible and efficient strategies, including replacing given fractions with equivalent fractions with like denominators. Justify using visual models (e.g., tape diagrams or number lines) and equations.
5.NF.A.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.	**5.NF.A.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.

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5.NF.B.3 Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?	**5.NF.B.3** Interpret a fraction as division, where a quantity (the numerator) is divided into equal parts (the denominator). Flexibly and efficiently solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. Assess the reasonableness of answers using mental and estimation strategies.
5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.) b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	**5.NF.B.4** Apply and extend previous understandings of multiplication to flexibly, efficiently, and accurately multiply a fraction or whole number by a fraction.

Math CCSS (2011)	WA Math (2024)
5.NF.B.5 Interpret multiplication as scaling (resizing), by: **a.** Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. **b.** Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.	**5.NF.B.5** Interpret multiplication as scaling (resizing) by estimating whether a product will be larger or smaller than a given factor based on the size of the other factor, without performing the indicated multiplication.
5.NF.B.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	**5.NF.B.6** Flexibly and efficiently solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. Assess the reasonableness of answers using mental and estimation strategies.

Math CCSS (2011)	WA Math (2024)
5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. **a)** Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3. **b)** Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4. **c)** Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?	**5.NF.B.7** Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions using visual fraction models and equations to represent the problem.
5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	**5.MD.A.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert to), and use these conversions in solving multi-step, real world problems. Assess the reasonableness of answers using mental and estimation strategies.

Math CCSS (2011)	WA Math (2024)
5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. **a)** A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. **b)** A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.	**5.MD.C.3** Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
5.MD.C.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. **a)** Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole number products as volumes, e.g., to represent the associative property of multiplication. **b)** Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. **c)** Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	**5.MD.C.5** Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
5.G.B.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.	**5.G.B.3** Demonstrate understanding that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.

Math CCSS (2011)	WA Math (2024)
Addition of Data Science Standards	**5.DS.1** Generate data-based questions of interest to the students, generate ideas based on the questions, and refine the question as necessary. Pose statistical questions that can compare two variables within a group, setting, or situation.
Addition of Data Science Standards	**5.DS.2** Determine strategies for collecting and considering data in a variety of ways including with the use of technology. Understand that data may contain errors (missing values, etc.) and decisions have to be made on how to account for or resolve these issues.
Addition of Data Science Standards	**5.DS.3** Critically analyze data visualizations, including tables, bar graphs, line plots, or spreadsheets to support a claim related to the investigative question. Compare and contrast different data visualizations to determine which transparently communicate results and interpretations.
Addition of Data Science Standards	**5.DS.4** Interpret and communicate results, describing difference between groups, with teacher guidance. Make a statement(s) about the data collected to support the answer to the investigative question. Describe the difference between two groups with different conditions.

Grade 6

Math CCSS (2011)	WA Math (2024)
6.RP.A.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.”	**6.RP.A.1** Explain the concept of a ratio and flexibly, efficiently, and accurately use ratio language to describe a ratio relationship between two quantities.
6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. For example, “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.” “We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.”	**6.RP.A.2** Understand the concept of a unit rate ab associated with a ratio $a:b$ with $b \neq 0$ and use rate language in the context of a ratio relationship.

Math CCSS (2011)	WA Math (2024)
6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. **a**) Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. **b)** Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed? **c)** Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. **d)** Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	**6.RP.A.3** Flexibly, efficiently, and accurately demonstrate ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations to find different ways to express the same ratio. This includes working with unit rates (like price per item) and percents (a special ratio out of 100) and using ratios to convert between different measurement units, like inches to feet.
6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?	**6.NS.A.1** Interpret and flexibly, efficiently, and accurately determine quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

Math CCSS (2011)	WA Math (2024)
6.NS.C.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.	**6.NS.C.5** Explain how 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.
6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. **a)** Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite. **b)** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. **c)** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.	**6.NS.C.6** Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to place any number (integer or rational, positive or negative) on the line (horizontal or vertical) and understand the opposite of the opposite of a number is the distance between that number and zero [-(-3)= 3]. Understand the grid uses two numbers to find any spot, just like a map!

Math CCSS (2011)	WA Math (2024)
6.NS.C.7 Understand ordering and absolute value of rational numbers. **a)** Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right. **b)** Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write –3 oC > –7 oC to express the fact that –3 oC is warmer than –7 oC. **c)** Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars. **d)** Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.	**6.NS.C.7** Understand ordering and absolute value of positive and negative rational numbers and integers using inequalities to write, interpret, and explain which number is bigger or smaller on a number line. Use absolute value to demonstrate how far a number is from zero. Apply comparisons in real world contexts like absolute distance on a map, comparing temperatures, or understanding the size of a debt.
6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	**6.EE.A.1** Flexibly, efficiently, and accurately write and evaluate numerical expressions involving whole-number exponents.

Math CCSS (2011)	WA Math (2024)
6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. **a**) Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 – y. **b)** Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms. **c)** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2.	**6.EE.A.2** Read, and evaluate expressions flexibly, efficiently, and accurately in which letters stand for numbers to write general instructions like "subtract y from 5" as a mathematical expression (5 - y). They'll also be able to break down more complex expressions into their parts (terms, factors) and understand the order of operations. Finally, they'll practice plugging specific values for the variables (evaluating the expression) to solve problems. This can involve using real-world formulas, like finding the volume of a box using a variable for the side length.
6.EE.A.3 Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.	**6.EE.A.3** Apply the properties of operations flexibly, efficiently, and accurately to generate equivalent expressions including the distributive property.

Math CCSS (2011)	WA Math (2024)
6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.	**6.EE.A.4** Identify when two expressions are equivalent as both expressions will always yield the same outcome for any value of the variable.
6.G.A.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.	**6.G.A.1** Find the area of right triangles, other triangles, special quadrilaterals, and polygons by flexibly, efficiently, and accurately composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
6.SP.B.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 distribution and the context in which the data were gathered.	**6.SP.B.5** Summarize numerical data sets in relation to their context including reporting data points, describe what's being measured, and find the "center" (mean and/or median) and "spread" (interquartile range and/or mean absolute deviation) of the data. Understand the shape of the data and identify any striking deviations (outliers) and connect these features to the context where the data came from.
Addition of Data Science Standards	**6.DS.1** Formulate and recognize statistical investigative questions that are of interest to students to collect data from online sources and websites, smartphones, sensors, publicly available government agencies (National Oceanic and Atmospheric Association, state agencies, etc.), and other modern devices.

Math CCSS (2011)	WA Math (2024)
Addition of Data Science Standards	**6.DS.2** Collect and record data with technology to identify and describe the characteristics of data sets. Understand that data can be collected (primary data) or existing data can be obtained from other sources (secondary data).
Addition of Data Science Standards	**6.DS.3** Analyze data visualizations and describe measures of center and variability of quantitative data using appropriate displays (dot plots, boxplots). Describe key features of distributions for the variables including center, variability, and shape.
Addition of Data Science Standards	**6.DS.4** Use statistical evidence from analyses to answer the statistical investigative question and communicate results with comprehensive answers with some teacher guidance.

Grade 7

Math CCSS (2011)	WA Math (2024)
7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.	**7.RP.A.1** Flexibly, efficiently, and accurately compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
7.RP.A.2 Recognize and represent proportional relationships between quantities. **a)** Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. **b)** Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. **c)** Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn. **d)** Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.	**7.RP.A.2** Recognize and represent proportional relationships between quantities, including using equivalent ratios in a table, graphing on the coordinate plane to see of the graph is a straight line through origin, identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions, write equations for proportional relationships, and analyze graphs to understand what the data points tell them about the real-world situation, focusing on points like (0, 0) which represents no change and (1, r) where r is the unit rate.

Math CCSS (2011)	WA Math (2024)
7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. **a)** Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. **b)** Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. **c)** Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. **d)** Apply properties of operations as strategies to add and subtract rational numbers.	**7.NS.A.1** Flexibly, efficiently, and accurately apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram showing the distance between two numbers is the absolute value of their difference, understand the concept of opposite quantities combining to zero (additive inverse), representing operations on number lines, and interpreting real-world scenarios in context.

Math CCSS (2011)	WA Math (2024)
7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. **a)** Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. **b)** Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts. **c)** Apply properties of operations as strategies to multiply and divide rational numbers. **d)** Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	**7.NS.A.2** Flexibly, efficiently, and accurately apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers including the distributive property and properties of operations. Understand integers can be divided as long as the divisor isn't zero, resulting in rational numbers and convert rational numbers into decimals using long division, recognizing that the decimal form either ends in 0s or repeats eventually, and interpreting real-world contexts.
7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	**7.EE.A.1** Flexibly, efficiently, and accurately use properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."	**7.EE.A.2** Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.

Math CCSS (2011)	WA Math (2024)
7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	**7.EE.B.3** Flexibly, efficiently, and accurately solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

Math CCSS (2011)	WA Math (2024)
7.EE.B.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. **a)** Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and rare specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? **b)** Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and rare specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.	**7.EE.B.4** Use variables to represent quantities in a real-world or mathematical problem and write simple equations and inequalities to flexibly, efficiently, and accurately solve problems by reasoning about the quantities. Compare solving the same problem algebraically vs. with arithmetic, explaining the steps involved in each approach. Graph the solutions of these inequalities and interpret them in context of the problem.
7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	**7.G.A.1** Flexibly, efficiently, and accurately solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

Math CCSS (2011)	WA Math (2024)
7.SP.C.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. **a)** Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. **b)** Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?	**7.SP.C.7** Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

Math CCSS (2011)	WA Math (2024)
7.SP.C.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. **a)** Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. **b)** Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event. **c)** Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?	**7.SP.C.8** Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation, understanding the probability of a compound event is a fraction of the outcomes of the sample space. Design and use a simulation to generate frequencies for compound events.
Addition of Data Science Standards	**7.DS.1** Pose statistical investigative questions about a broader population using samples taken from the population.
Addition of Data Science Standards	**7.DS.2** Understand information from a sample is valid only if the sample is representative of that population. Understand data can be used to make comparisons between different groups at one point in time and the same group over time.
Addition of Data Science Standards	**7.DS.3** Identify, determine, and interpret measures of center (mean and median) and measures of variability (range, interquartile range) to answer a statistically investigative question, summarizing the distribution of data using the measures of center and variability. Use reasoning about distributions to compare two groups based on the variables.

Math CCSS (2011)	WA Math (2024)
Addition of Data Science Standards	**7.DS.4** Acknowledge that looking beyond the data is feasible and recognize the uncertainty caused by sample-to-sample variability when making comparisons and/or conclusions from data to answer the investigative question.

Grade 8

Math CCSS (2011)	WA Math (2024)
8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers flexibly, efficiently, and accurately show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.	**8.EE.A.2** Use square roots and cube roots where *p* is a positive rational number. Use square root symbols to represent solutions to equations of the form $x^2 = p$. Evaluate square roots of small perfect squares. Use cube root symbols to represent solutions to equations of the form $x^3 = p$ and evaluate cube roots of small perfect cubes. Know that √2 is irrational.
8.EE.C.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	**8.EE.C.7** Flexibly, efficiently, and accurately solve linear equations in one variable with one solution, infinitely many solutions, or no solutions and solve linear equations with rational number coefficients where solution paths may require using the distributive property and combining like terms.

Math CCSS (2011)	WA Math (2024)
8.EE.C.8 Analyze and solve pairs of simultaneous linear equations. **a)** Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. **b)** Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6. **c)** Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.	**8.EE.C.8** Analyze and flexibly, efficiently, and accurately solve pairs of simultaneous linear equations, understanding the solution to a system of linear equations is the point of intersection, solve systems of linear equations using a variety of strategies (algebraically, graphically, numerically in tables, verbally, etc.) in mathematical problems and real-world contexts.
8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations: **a)** Lines are taken to lines, and line segments to line segments of the same length. **b)** Angles are taken to angles of the same measure. **c)** Parallel lines are taken to parallel lines.	**8.G.A.1** Verify experimentally the properties of rotations, reflections, and translations.
Addition of Data Science Standards	**8.DS.1** Formulate statistical investigative questions to articulate research topics and uncover patterns of association seen in bivariate categorical data, that multiple investigative questions may exist for a research topic and must take into account context.
Addition of Data Science Standards	**8.DS.2** Understand how to interrogate the data to determine how the data were collected, from whom they were collected, what types of variables are in the data, how the variables were measured, and possible outcomes for the variables.

Math CCSS (2011)	WA Math (2024)
Addition of Data Science Standards	**8.DS.3** Create data visualizations about a data set. Organize and present the data in appropriate ways, including in tables and scatter plots, and incorporate other relevant information that helps to tell a story and support a claim about the data.
Addition of Data Science Standards	**8.DS.4** Generalize beyond the sample providing statistical evidence for the conclusion, being sure to address limitations of the sample, evidenced in the data. Consider the reasonableness of the results.

High School (HS)

Standards noted with “Credits 1 & 2 of HS math” have been revised to reflect specific content students should learn in the first two credits of high school math.

Standards noted with “Credit 3 of HS math” are standards students may learn in their third credit math class aligned with their High School and Beyond Plan.

For ease of comparison, the standards in this crosswalk are grouped by their CCSS conceptual categories.

Number and Quantity

Math CCSS (2011)	WA Math (2024)
N.RN.A.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.	**N.RN.A.1** Flexibly, efficiently, and accurately explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values using a variety of strategies, allowing for a notation for radicals in terms of rational exponents.
N.RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.	**N.RN.A.2** Rewrite expressions involving radicals and rational exponents using the properties of exponents. Use properties of rational and irrational numbers.
N.RN.B.3 Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	**N.RN.B.3** Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.
N.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	**N.Q.A.1** Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.	**N.Q.A.2** Define appropriate quantities for the purpose of descriptive modeling.

Math CCSS (2011)	WA Math (2024)
N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	**N.Q.A.3** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities
N.CN.A.1 Know there is a complex number i such that i2 = -1, and every complex number has the form a + bi with a and b real.	**N.CN.A.1** Know there is a complex number i such that i2 = -1, and every complex number has the form a + bi with a and b real.
N.CN.A.2 Use the relation i2 = -1 and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	**N.CN.A.2** Use the relation i2 = -1 and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
N.CN.C.7 Solve quadratic equations with real coefficients that have complex solutions.	**N.CN.A.7** Solve quadratic equations with real coefficients that have complex solutions.

Algebra

Math CCSS (2011)	WA Math (2024)
A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context. **a)** Interpret parts of an expression, such as terms, factors, and coefficients. **b)** Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret P(1+r)n as the product of P and a factor not depending on P.	Credits 1 & 2 of HS math **A.SSE.A.1 a)** Interpret expressions that represent a quantity in terms of its context within linear, exponential, and quadratic functions. Credit 3 of HS math **A.SSE.A.1 a), b)** Interpret expressions that represent a quantity in terms of its context.
A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it. For example, see x4 - y4 as (x2)2 - (y2)2, thus recognizing it as a difference of squares that can be factored as (x2 - y2)(x2 + y2).	Credits 1 & 2 of HS math **A.SSE.A.2** Use the structure of an expression to identify ways to rewrite it within exponential and quadratic functions. Credit 3 of HS math **A.SSE.A.2** Use the structure of an expression to identify ways to rewrite it.
A.SSE.B.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.* **a)** Factor a quadratic expression to reveal the zeros of the function it defines. **b)** Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. **c)** Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15t can be rewritten as (1.151/12)12t ≈ 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.	Credits 1 & 2 of HS math **A.SSE.B.3 a), c)** Flexibly, efficiently, and accurately create an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression including factoring quadratic expressions and using properties of exponents to create equivalent forms of exponential expressions to reveal properties of interest in the function. Credit 3 of HS math

Math CCSS (2011)	WA Math (2024)
	A.SSE.B.3 Flexibly, efficiently, and accurately create an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression including factoring quadratic expressions, completing the square in a quadratic expression to reveal maximums or minimums, and using properties of exponents to create equivalent forms of exponential expressions to reveal properties of interest in the function.
A.SSE.B.4 Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments.*	**A.SSE.B.4** Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems.
A.APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	**A.APR.A.1** Flexibly, efficiently, and accurately demonstrate that polynomials form a system similar to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
A.APR.B.2 Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x - a is p(a), so p(a) = 0 if and only if (x - a) is a factor of p(x).	**A.APR.B.2** Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x - a is p(a), so p(a) = 0 if and only if (x - a) is a factor of p(x).
A.APR.B.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	**A.APR.B.3** Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
A.APR.C.4 Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity (x2 + y2)2 = (x2 - y2)2 + (2xy)2 can be used to generate Pythagorean triples.	**A.APR.C.4** Prove polynomial identities and use them to describe numerical relationships.

Math CCSS (2011)	WA Math (2024)
A.APR.D.6 Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.	**A.APR.D.6** Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.
A.CED.A.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.	**A.CED.A.1** Flexibly, efficiently, and accurately create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear, quadratic, and exponential functions.
A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	**A.CED.A.2** Flexibly, efficiently, and accurately create linear, quadratic, exponential equations to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	**A.CED.A.3** Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context within linear, quadratic, and exponential equations.
A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR to highlight resistance R.	**A.CED.A.4** Flexibly, efficiently, and accurately rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations within linear, quadratic, and exponential equations.
A.REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	**A.REI.A.1** Explain each step in solving an equation as following from the equality of numbers asserted at the previous step flexibly, efficiently, and accurately selecting and demonstrating use of strategies to solve equations, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

Math CCSS (2011)	WA Math (2024)
A.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	**A.REI.A.2** Solve rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	**A.REI.B.3** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
A.REI.B.4 Solve quadratic equations in one variable. **a)** Use the method of completing the square to transform any quadratic equation in x into an equation of the form (x - p)2 = q that has the same solutions. Derive the quadratic formula from this form. **b)** Solve quadratic equations by inspection (e.g., for x2 = 49), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a ± bi for real numbers a and b.	Credits 1 & 2 of HS math **A.REI.B.4 b)** Solve quadratic equations in one variable by inspection, taking square roots, and factoring as appropriate to the initial form of the equation. Credit 3 of HS math **A.REI.B.4 a), b)** Solve quadratic equations in one variable by inspection, factoring, completing the square and derive the quadratic formula from this form. Recognize when the quadratic formula give complex solutions and write them as a ± bi for real numbers a and b.
A.REI.C.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	**A.REI.C.5** Demonstrate using a variety of strategies that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
A.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	**A.REI.C.6** Flexibly, efficiently, and accurately solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
A.REI.C.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line y = -3x and the circle x2 + y2 = 3.	**A.REI.C.7** Flexibly, efficiently, and accurately solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.

Math CCSS (2011)	WA Math (2024)
A.REI.D.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).	**A.REI.D.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).
A.REI.D.11 Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.	Credits 1 & 2 of HS math **A.REI.D.11** Using a variety of strategies explain the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, exponential, and quadratic. Credit 3 of HS math **A.REI.D.11** Using a variety of strategies explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
A.REI.D.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	**A.REI.D.12** Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Functions

Math CCSS (2011)	WA Math (2024)
F.IF.A.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).	**F.IF.A.1** Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
F.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	**F.IF.A.2** Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
F.IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.	**F.IF.A.3** Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

Math CCSS (2011)	WA Math (2024)
F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*	Credits 1 & 2 of HS math **F.IF.B.4** For a function that models a relationship between two quantities in context, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries for functions including linear, exponential, and quadratic. Credit 3 of HS math **F.IF.B.4** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries. Functions can include: polynomial, radical, rational, logarithms, absolute value, piecewise, and trigonometric. Linear, exponential, and quadratic relationships in increased complexity.
F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*	Credits 1 & 2 of HS math **F.IF.B.5** Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes in linear, exponential, or quadratic contexts. Credit 3 of HS math

Math CCSS (2011)	WA Math (2024)
	F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes in context. Functions can include: polynomial, radical, rational, logarithms, absolute value, piecewise, and trigonometric. Linear, exponential, and quadratic relationships in increased complexity.
F.IF.B.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	**F.IF.B.6** Calculate and interpret the average rate of change of a function (represented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

Math CCSS (2011)	WA Math (2024)
F.IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. **a)** Graph linear and quadratic functions and show intercepts, maxima, and minima. **b)** Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. **c)** Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. **e)** Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	Credits 1 & 2 of HS math **F.IF.C.7 a), e)** Graph linear, exponential, and quadratic functions expressed symbolically and show key features of the graph, including intercepts, maximum, minimum, and interpreting end behavior for exponential functions by hand in simple cases and using technology for more complicated cases. **F.IF.C.7 a), b), c), e)** Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases including linear, quadratic, exponential, square root, cube root, and piecewise-defined functions, including step functions and absolute value functions, polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior, and exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.

Math CCSS (2011)	WA Math (2024)
F.IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. **a)** Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. **b)** Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)12^t$, $y = (1.2)^t/10$, and classify them as representing exponential growth or decay.	Credits 1 & 2 of HS math **F.IF.C.8** Flexibly, efficiently, and accurately write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function including zeros and symmetry, using factoring for quadratic functions and integer constants for time with exponential growth and decay. Credit 3 of HS math **F.IF.C.8** Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function, including factoring and completing the square to reveal zeros, symmetry, and extreme values of a quadratic functions and non-integer constants for time with exponential functions and non-integer constants for time with exponential growth and decay in context.
F.IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	Credits 1 & 2 of HS math **F.IF.C.9** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Functions could be linear, exponential, or quadratic. Credit 3 of HS math **F.IF.C.9** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Functions can include: polynomial, radical, rational, logarithms, absolute value, piecewise, and trigonometric. Linear, exponential, and quadratic relationships in increased complexity.

Math CCSS (2011)	WA Math (2024)
F.BF.A.1 Write a function that describes a relationship between two quantities. **a)** Determine an explicit expression, a recursive process, or steps for calculation from a context. **b)** Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.	Credits 1 & 2 of HS math **F.BF.A.1 a), b)** Flexibly, efficiently, and accurately write a function that describes a relationship between two quantities, including linear and exponential arithmetic and geometric sequences in context. Credit 3 of HS math **F.BF.A.1 a), b)** Write a function that describes a relationship between two quantities including determining an explicit expression, recursive process, or steps for calculation from a context, and combining standard function types using arithmetic operations.
F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.	Credits 1 & 2 of HS math **F.BF.A.2** Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model linear and exponential situations, and translate between two forms. Credit 3 of HS math **F.BF.A.2** Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.
F.BF.B.3 Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	**F.BF.B.3** Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Using a variety of strategies, experiment with cases and illustrate an explanation of the effects on the graph using technology.

Math CCSS (2011)	WA Math (2024)
F.BF.B.4 Find inverse functions. **a)** Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. For example, f(x) =2 x3 or f(x) = (x+1)/(x-1) for x ≠ 1.	**F.BF.B.4** Find inverse functions through focus on relationships between inputs and outputs.
F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. **a)** Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. **b)** Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. **c)** Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	**F.LE.A.1 a), b), c)** Distinguish between situations that can be modeled with linear functions (equal differences over equal intervals) and with exponential functions (equal factors over equal intervals), recognizing constant rates per unit interval, and growth or decay by a constant percent rate per unit interval.
F.LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	**F.LE.A.2** Flexibly, efficiently, and accurately construct linear and exponential functions given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
F.LE.A.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	Credits 1 & 2 of HS math **F.LE.A.3** Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically. Credit 3 of HS math **F.LE.A.3** Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or as a polynomial function.

Math CCSS (2011)	WA Math (2024)
F.LE.A.4 For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.	**F.LE.A.4** For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.
F.LE.B.5 Interpret the parameters in a linear or exponential function in terms of a context.	**F.LE.A.5** Interpret the parameters in a linear or exponential function in terms of a context.
F.TF.A.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	**F.TF.A.1** Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.
F.TF.A.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	**F.TF.A.2** Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
F.TF.B.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.	**F.TF.B.5** Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.
F.TF.C.8 Prove the Pythagorean identity sin2(θ) + cos2(θ) = 1 and use it to find sin(θ), cos(θ), or tan(θ) given sin(θ), cos(θ), or tan(θ) and the quadrant of the angle.	**F.TF.C.8** Prove the Pythagorean identity sin2(θ) + cos2(θ) = 1 and use it to find sin(θ), cos(θ), or tan(θ) given sin(θ), cos(θ), or tan(θ) and the quadrant of the angle.

Modeling

Math CCSS (2011)	WA Math (2024)
Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards.	Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards.

Geometry

Math CCSS (2011)	WA Math (2024)
G.CO.A.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	**G.CO.A.1** Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
G.CO.A.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	**G.CO.A.2** Flexibly, efficiently, and accurately represent transformations in the plane, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
G.CO.A.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	**G.CO.A.3** Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
G.CO.A.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	**G.CO.A.4** Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
G.CO.A.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	**G.CO.B.5** Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Flexibly, efficiently, and accurately specify a sequence of transformations that will carry a given figure onto another.
G.CO.B.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	**G.CO.B.6** Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.

Math CCSS (2011)	WA Math (2024)
G.CO.B.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.	**G.CO.B.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.
G.CO.B.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	**G.CO.B.8** Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.
G.CO.C.9 Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.	**G.CO.C.9** Flexibly, efficiently, and accurately prove theorems about lines and angles: vertical, transversals, alternate interior and exterior, perpendicular bisectors, etc.
G.CO.C.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.	**G.CO.C.10** Flexibly, efficiently, and accurately prove theorems about triangles: interior angles, base angles, segments joining midpoint of two sides, and medians of a triangle.
G.CO.C.11 Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.	**G.CO.C.11** Flexibly, efficiently, and accurately prove theorems about parallelograms: congruence of opposite sides and opposite angles, properties of diagonals.

Math CCSS (2011)	WA Math (2024)
G.CO.D.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.	**G.CO.D.12** Make formal geometric constructions with a variety of tools and methods.
G.CO.D.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	**G.CO.D.13** Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.
G.SRT.A.1 Verify experimentally the properties of dilations given by a center and a scale factor: **a)** A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. **b)** The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	**G.SRT.A.1 a), b)** Verify experimentally the properties of dilations given by a center and a scale factor by seeing what happens to lines affected by a center of dilation and how scale factor affects line segments.
G.SRT.A.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	**G.SRT.A.2** Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
G.SRT.A.3 Use the properties of similarity transformations to establish the Angle-Angle (AA) criterion for two triangles to be similar.	**G.SRT.A.3** Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
G.SRT.B.4 Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.	**G.SRT.B.4** Flexibly, efficiently, and accurately prove theorems about triangles: proportionality, triangle similarity, and the Pythagorean Theorem.

Math CCSS (2011)	WA Math (2024)
G.SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	**G.SRT.B.5** Flexibly, efficiently, and accurately use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
G.SRT.C.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	**G.SRT.C.6** Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
G.SRT.C.7 Explain and use the relationship between the sine and cosine of complementary angles.	**G.SRT.C.7** Explain and use the relationship between the sine and cosine of complementary angles.
G.SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	**G.SRT.C.8** Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
G.C.A.1 Prove that all circles are similar.	**G.C.A.1** Flexibly, efficiently, and accurately prove that all circles are similar.
G.C.A.2 Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.	**G.C.A.2** Identify and describe relationships among inscribed angles, radii, and chords, including how angles formed inside the circle, the circle's radius, and line segments within the circle are related. Understand special cases including angles formed by diameters and how the circle's edge interacts with its radius.
G.C.A.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	**G.C.A.3** Construct the inscribed and circumscribed circles of a triangle and flexibly, efficiently, and accurately prove properties of angles for a quadrilateral inscribed in a circle.
G.C.B.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.	**G.C.B.5** Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
G.GPE.A.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	**G.GPE.A.1** Derive the equation of a circle of given center and radius using the Pythagorean Theorem.

Math CCSS (2011)	WA Math (2024)
G.GPE.A.2 Derive the equation of a parabola given a focus and directrix.	**G.GPE.A.2** Derive the equation of a parabola given a focus and directrix.
G.GPE.B.4 Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).	**G.GPE.B.4** Use coordinates to prove simple geometric theorems algebraically.
G.GPE.B.5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	**G.GPE.B.5** Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
G.GPE.B.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	**G.GPE.B.6** Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
G.GPE.B.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.	**G.GPE.B.7** Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.
G.GMD.A.1 Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.	**G.GMD.A.1** Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.
G.GMD.A.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.	**G.GMD.A.3** Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.
G.GMD.B.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	**G.GMD.B.4** Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Math CCSS (2011)	WA Math (2024)
G.MG.A.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).	**G.MG.A.1** Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).
G.MG.A.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	**G.MG.A.2** Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).
G.MG.A.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).	**G.MG.A.3** Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).

Statistics and Probability

Math CCSS (2011)	WA Math (2024)
S.ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).	**S.ID.A.1** Represent data with plots on the real number line (dot plots, histograms, and box plots).
S.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	**S.ID.A.2** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
S.ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	**S.ID.A.3** Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
S.ID.A.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.	**S.ID.A.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.
S.ID.B.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	**S.ID.B.5** Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

Math CCSS (2011)	WA Math (2024)
S.ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. **a)** Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. **b)** Informally assess the fit of a function by plotting and analyzing residuals. **c)** Fit a linear function for a scatter plot that suggests a linear association.	**S.ID.B.6 a), b), c)** Represent data on two quantitative variables on a scatter plot and describe how the variables are related to solve problems in context by fitting functions to the data and explaining trends and relationships within the data.
S.ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	**S.ID.C.7** Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
S.ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.	**S.ID.C.8** Compute (using technology) and interpret the correlation coefficient of a linear fit.
S.ID.C.9 Distinguish between correlation and causation.	**S.ID.C.9** Distinguish between correlation and causation.
S.IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	**S.IC.A.1** Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
S.IC.A.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?	**S.IC.A.2** Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation.
S.IC.B.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	**S.IC.B.3** Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

Math CCSS (2011)	WA Math (2024)
S.IC.B.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	**S.IC.B.4** Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
S.IC.B.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	**S.IC.B.5** Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
S.IC.B.6 Evaluate reports based on data.	**S.IC.B.6** Evaluate reports based on data.
S.CP.A.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	**S.CPA.A.1** Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").
S.CP.A.2 Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	**S.CPA.2** Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
S.CP.A.3 Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.	**S.CPA.3** Understand the conditional probability of A given B as P(A and B), P(B) and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.

Math CCSS (2011)	WA Math (2024)
S.CP.A.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.	**S.CP.A.4** Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.
S.CP.A.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.	**S.CP.A.5** Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.
S.CP.B.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.	**S.CP.B.6** Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.
S.CP.B.7 Apply the Addition Rule, P(A or B) = P(A) + P(B) - P(A and B), and interpret the answer in terms of the model.	**S.CP.B.7** Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model.

Data Science

Math CCSS (2011)	WA Math (2024)
Addition of Data Science Standards	**HS.DS.1** Formulate multivariable statistical investigative questions and determine how data can be collected and provide an answer, consider causality and prediction when posing the question.
Addition of Data Science Standards	**HS.DS.2** Understand the issues of bias and confounding variables when collecting data and their impact on interpretation. Understand practices for collecting and handling data, including sensitive information and concerns for privacy and how that may affect data collection.
Addition of Data Science Standards	**HS.DS.3** Create and analyze data sets and data displays, including but not limited to scatter plots, regressions, histograms, and boxplots using technology to sort or filter data, summarize, and describe relationships between quantitative variables.
Addition of Data Science Standards	**HS.DS.4** Acknowledge the presence of missing data values and understand how missing values may add bias to analysis and interpretation. Examine and discuss competing explanations for data trends observed such as confounding variables. Respond to competing arguments or interpretations of the data of different community groups, paying careful attention to what conclusions the data supports, taking into account correlation versus causation.