PROPOSED 2024 WYOMING MATH EXTENDED STANDARDS AND ACHIEVEMENT LEVEL DESCRIPTORS

Grade Kindergarten

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Counting and Cardinality	**Grade K**	

Know number names and the count sequence.
K.CC.1 Count to 100 by ones and by tens.
  A. Count to 100 by ones and by tens.
  B. Count backwards by ones from 20.
	EEK.CC.1 Starting with one, count to 10 by ones.	**Level IV Students will:**
		EEK.CC.1 Starting with one, count to 20 by ones.
		Level III Students will:
		EEK.CC.1 Starting with one, count to 10 by ones.
		Level II Students will:
		EEK.CC.1 Starting with one, count by ones to five.
		Level I Students will:
		EEK.CC.1 Count from one to two.

K.CC.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 (Zero) representing a count of no objects).	**EEK.CC.3** Count a number of objects and match with the numerical symbol 1-10.	**Level IV Students will:** **EEK.CC.3** Count a given number of objects between 1-10 **and** write the numerical symbol. **Level III Students will:** **EEK.CC.3** Count a number of objects **and** match with the numerical symbol 1-10. **Level II Students will:** **EEK.CC.3** Match the numerical symbol to a quantity of objects up to 5. **Level I Students will:** **EEK.CC.3** Match the numerical symbol to a quantity of objects up to 2.

Count to tell the number of objects.
K.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
  A. Use one-to-one correspondence when counting objects.
  B. Understand that the last number name said, tells the number of objects counted regardless of their arrangement.
  C. Understand that each successive number name refers to a quantity that is one more, and each previous number name
	EEK.CC.4 Demonstrate one-to-one correspondence, by counting 10 objects.	**Level IV Students will:**
		EEK.CC.4 Demonstrate one-to-one correspondence counting any number of objects within 10 **and** show one more or one less.
		Level III Students will:
		EEK.CC.4 Demonstrate one-to-one correspondence, by counting 10 objects.
		Level II Students will:
		EEK.CC.4 Demonstrate one-to-one correspondence by counting 5 objects.
		Level I Students will:
		EEK.CC.4 Demonstrate one-to-one correspondence by counting 2 objects.

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refers to a quantity that is one less.		
Operations and Algebraic Thinking	**Grade K**	
K.OA.2 Solve word problems using objects and drawings to find sums up to 10 and differences within 10.	**EEK.OA.2** Using word problems, demonstrate addition as "putting together" or subtraction as "taking from" with quantities to 5.	**Level IV Students will:** EEK.OA.2 Using word problems, demonstrate addition as "putting together" or subtraction as "taking from" with quantities to 7. **Level III Students will:** EEK.OA.2 Using word problems, demonstrate addition as "putting together" or subtraction as "taking from" with quantities to 5. **Level II Students will:** EEK.OA.2 Using word problems, demonstrate addition as "putting together" by adding one and subtraction as "taking from" by taking away 1. **Level I Students will:** EEK.OA.2 Using word problems, demonstrate addition as "putting together" by adding one.
K.OA.3 Decompose numbers less than or equal to 10 in more than one way.	**EEK.OA.3**-Decompose numbers into sub- parts to equal 5.	**Level IV Students will:** EEK.OA.3 Decompose numbers less than or equal to 5 in more than one way. **Level III Students will:** EEK.OA.3 Decompose numbers into sub-parts to equal 5. **Level II Students will:** EEK.OA.3 Decompose numbers into sub-parts to equal 3. **Level I Students will:** EEK.OA.3 Match sub-parts for a sum less than 3.
K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number.	**EEK.OA.4** For any number from 1 to 4, find the number that makes 5 when added to the given number.	**Level IV Students will:** EEK.OA.4 For any number from 1 to 6, find the number that makes 7 when added to the given number. **Level III Students will:** EEK.OA.4 For any number from 1 to 4, find the number that makes 5 when added to the given number. **Level II Students will:** EEK.OA.4 For the numbers 1 or 2, find the number that makes 3 when added to the given number. **Level I Students will:** EEK.OA.4 Match the numbers 1 and 2, to show the sum 3.

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K.OA.5 Fluently add and subtract within 5.	**EEK.OA.5** Fluently add and subtract within 3.	**Level IV Students will:** EEK.OA.5 Fluently add and subtract within 4. **Level III Students will:** EEK.OA.5 Fluently add and subtract within 3. **Level II Students will:** EEK.OA.5 Fluently add and/or subtract within 2. **Level I Students will:** EEK.OA.5 Fluently add and/or subtract within 1.
Measurement and Data	**Grade K**	
Classify objects and count the number of objects in each category. **K.MD.3** Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)	**EEK.MD.3** Sort 5 objects into categories to determine which objects are bigger/smaller **and** longer/shorter.	**Level IV Students will:** EEK.MD.3 Sort 5 objects into categories to determine which number of objects are bigger/smaller, longer/shorter, and heavier/lighter. **Level III Students will:** EEK.MD.3 Sort 5 objects into categories to determine which number of objects are bigger/smaller and longer/shorter. **Level II Students will:** EEK.MD.3 Sort 5 objects into categories to determine which number of objects are bigger/smaller. **Level I Students will:** EEK.MD.3 Sort 3 objects into categories to determine which number of objects are bigger/smalle**r.**
Geometry	**Grade K**	
K.G.2 Correctly name shapes regardless of their orientations or overall size.	**EEK.G.2** Correctly identify 4 shapes (circle, square, rectangle, and triangle).	**Level IV Students will:** EEK.G.2 Correctly identify 4 two-dimensional shapes (circle, square, rectangle, **and** triangle) **and** 1 three-dimensional shape (cube, sphere, cylinder, cone). **Level III Students will:** EEK.G.2 Correctly identify 4 shapes (circle, square, rectangle, **and** triangle). **Level II Students will:** EEK.G.2 Correctly identify 2 out of 4 shapes (circle, square, rectangle, **or** triangle). **Level I Students will:** EEK.G.2 Correctly match 2 out of 4 shapes (circle, square, rectangle, **or** triangle).

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Analyze, compare, create, and compose shapes. **K.G.4** Analyze and compare two- and three-dimensional shapes, using informal language to describe their similarities, differences, and attributes.	**EEK.G.4** Sort two- and three-dimensional shapes.	**Level IV Students will:** **EEK.G.4** Sort two- **and** three-dimensional shapes to describe similarities (square/cube **and** circle/sphere). **Level III Students will:** **EEK.G.4** Sort two- **and** three-dimensional shapes. **Level II Students will:** **EEK.G.4** Sort two-dimensional shapes. **Level I Students will:** **EEK.G.4** Match similar 2 two-dimensional shapes to each other.
K.G.6 Use simple shapes to compose squares, rectangles, and hexagons.	**EEK.G.6** Use 2-4 equally shaped parts to compose squares **and** rectangles with a template.	**Level IV Students will:** **EEK.G.6** Use 2-4 equally shaped parts to compose squares **or** rectangles without a template. **Level III Students will:** **EEK.G.6** Use 2-4 equally shaped parts to compose squares **and** rectangles with a template. **Level II Students will:** **EEK.G.6** Use simple shapes to compose a square **or** a rectangle using a template. **Level I Students will:** **EEK.G.6** Use simple shapes to compose a square using a template.

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Grade 1

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Operations and Algebraic Thinking	**Grade 1**	
Represent and solve problems involving addition and subtraction. **1.OA.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using objects, drawings, or equations with a symbol for the unknown number to represent the problem.	**EE1.OA.1** When solving problems with sums up to 7, students will use math strategies of "putting together" and "taking from/taking apart."	**Level IV Students will:** **EE1.OA.1** When solving problems with sums up to 10, students will use math strategies of "putting together" and "taking from/taking apart." **Level III Students will:** **EE1.OA.1** When solving problems with sums up to 7, students will use math strategies of "putting together" and "taking from/taking apart." **Level II Students will:** **EE1.OA.1** When solving problems with sums up to 5, students will use math strategies of "putting together." **Level I Students will:** **EE1.OA.1** When solving problems with sums up to 3, students will use math strategies of "putting together."
1.OA.6 Add and subtract within 20, demonstrating fluency in addition and subtraction within 10. Use strategies such as counting on; making ten using the relationship between addition and subtraction.	**EE1.OA.6** Fluently add within 10.	**Level IV Students will:** **EE1.OA.6** Fluently add **and** subtract within 10. **Level III Students will:** **EE1.OA.6** Fluently add within 10. **Level II Students will:** **EE1.OA.6** Fluently add within 5. **Level I Students will:** **EE1.OA.6** Fluently add within 3.

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2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Work with addition and subtraction equations. **1.OA.7** Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.	**EE1.OA.7** Understand the meaning of the equal sign involving addition equations sums of 10.	**Level IV Students will:** **EE1.OA.D.7** Understand the meaning of the equal sign involving addition **and** subtraction equations with sums/differences to 20. **Level III Students will:** **EE1.OA.D.7** Understand the meaning of the equal sign involving addition equations with sums to 10. **Level II Students will:** **EE1.OA.D.7** Understand the meaning of the equal sign involving groups of no more than 5 objects. **Level I Students will:** **EE1.OA.D.7** Match equal groups using no more than 5 objects in each group.
Number and Operations Base Ten	**Grade 1**	

Extend the counting sequence.
1.NBT.1 Extend the number sequences to 120. In this range:
  A. Count forward and backward, starting at any number less than 12.
  B. Read numerals.
  C. Write numerals.
  D. Represent a number of objects with a written numeral.
	EE1.NBT.1a Starting at a given number, other than 1, count forward by ones to 20.
	
	EE1.NBT.1b Count backwards from 10.
	
	EE1.NBT.1c Identify numbers 1-20.
	
	EE1.NBT.1d Count a number of objects then match with a numerical symbol 1-20.
		Level IV Students will:
		EE1.NBT.1a Starting at a given number, other than 1, count forward by ones to 30.
		EE1.NBT.1b Count backwards from 20.
		EE1.NBT.1c Identify **and** write numbers 1-30.
		EE1.NBT.1d Count a number of objects then match with a numerical symbol 1-30.
		Level III Students will:
		EE1.NBT.1a Starting at a given number, other than 1, count forward by ones to 20.
		EE1.NBT.1b Count backwards from 10.
		EE1.NBT.1c Identify numbers 1-20.
		EE1.NBT.1d Count a number of objects then match with a numerical symbol 1-20.
		Level II Students will:
		EE1.NBT.1a Starting at a given number, other than 1, count forward by ones to 10.
		EE1.NBT.1b Count backwards from 5.
		EE1.NBT.1c Identify numbers 1-10.
		EE1.NBT.1d Count a number of objects then match with a numerical symbol 1-10.
		Level I Students will:
		EE1.NBT.1a Count forward by ones to 5.
		EE1.NBT.1b Count backwards from 3.
		EE1.NBT.1c Match numbers 1-10.
		EE1.NBT.1d Count a number of objects then match with a numerical symbol 1-5.

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Understand place value.
1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
  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).
	EE1.NBT.2 Given a multiple of 10, create bundles of ten to represent that number.	**Level IV Students will:**
		EE1.NBT.2 Compose numbers from 11-19 by using a set of ten and more ones, **or** create 20, 30, 40, or 50 using sets of ten.
		Level III Students will:
		EE1.NBT.2 Given a multiple of 10, create bundles of ten to represent that number.
		Level II Students will:
		EE1.NBT.2 Create one set of 10.
		Level I Students will:
		EE1.NBT.2 Match a given set of 10 to another set of 10.

Use place value understanding and properties of operations to add and subtract.
1.NBT.4 Add within 100, using concrete models or drawings and strategies based on place value:
  A. Including adding a two-digit number and a one-digit number.
  B. Adding a two-digit number and a multiple of 10.
  C. Understand that in adding two-digit numbers, add tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
  D. Relate the strategy to a written method and explain the reasoning used.
	EE1.NBT.4 Add within 15 using models or manipulatives based on "place value" and using one digit and two digit numbers.	**Level IV Students will:**
		EE1.NBT.4 Add within 20 using models or manipulatives based on "place value" and using one digit and two digit numbers.
		Level III Students will:
		EE1.NBT.4 Add within 15 using models or manipulatives based on "place value" and using one digit and two digit numbers.
		Level II Students will:
		EE1.NBT.4 Identify the number(s) in the tens and ones places in an addition problem whose sum is greater than 10 but less than 15.
		Level I Students will:
		EE1.NBT.4 Given a 2 digit number between 10 and 15, identify the tens and ones places.

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Measurement and Data	**Grade 1**	

Tell and write time.
1.MD.3
  A. Tell and write time in hours and half-hours using analog and digital clocks.
  B. Identify U.S. coins by value (pennies, nickels, dimes, quarters).
	EE1.MD.3a Tell time in hours using a digital clock.
	
	EE1.MD.3b Identify 2 out of 4 U.S. coins and their values (pennies, nickels, dimes, quarters).
		Level IV Students will:
		EE1.MD.3a Tell time in hours using a digital clock **and** an analog clock.
		EE1.MD.3b Identify 3 out of 4 U.S. coins and their values (pennies, nickels, dimes, quarters).
		Level III Students will:
		EE1.MD.3a Tell time in hours using a digital clock.
		EE1.MD.3b Identify 2 out of 4 U.S. coins and their values (pennies, nickels, dimes, quarters).
		Level II Students will:
		EE1.MD.3a Match hour **and** half-hour times on a digital clock.
		EE1.MD.3b Sort U.S. coins according to value.
		Level I Students will:
		EE1.MD.3a Match hour times on a digital clock.
		EE1.MD.3b Match U.S. coin with a given U.S. coin.

Geometry	**Grade 1**	
Reason with shapes and their attributes. **1.G.1** Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); for a wide variety of shapes; build and draw shapes to possess defining attributes.	**EE.1.G.1** Identify the defining attributes of 2-dimensional shapes.	**Level IV Students will:** **EE.1.G.1** Identify the defining **and** non-defining attributes of 2-dimensional shapes. **Level III Students will:** **EE.1.G.1** Identify the defining attributes of 2-dimensional shapes. **Level II Students will:** **EE.1.G.1** Identify the defining attributes of a circle **and** a square. **Level I Students will:** **EE.1.G.1** Identify the defining attributes by matching circles to circles and squares to squares.

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1.G.3 Partition circles and rectangles into two and four equal shares and: A. Describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and a quarter of. B. Describe the whole as two of, or four of the shares. C. Recognize that decomposing into more equal shares creates smaller shares.	**EE1.G.3** Partition circles **or** rectangles into two equal shares.	**Level IV Students will:** **EE1.G.3** Partition circles **and** rectangles into two and four equal shares. **Level III Students will:** **EE1.G.3** Partition circles **or** rectangles into two equal shares. **Level II Students will:** **EE1.G.3** Match 2 pieces to make a circle **and** a rectangle. **Level I Students will:** **EE1.G.3** Match 2 pieces to make a circle **or** a rectangle.

Grade 2

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Operations and Algebraic Thinking	**Grade 2**	
Represent and solve problems involving addition and subtraction. **2.OA.1** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using drawings and equations with a symbol for the unknown number to represent the problem.	**EE2.OA.1** Use addition and subtraction within 30 to solve word problems involving situations of adding to, taking from, putting together, and taking apart.	**Level IV Students will:** **EE2.OA.1** Use addition **and** subtraction within 40 to solve word problems involving situations of adding to, taking from, putting together, and taking apart. **Level III Students will:** **EE2.OA.1** Use addition **and** subtraction within 30 to solve word problems involving situations of adding to, taking from, putting together, and taking apart. **Level II Students will:** **EE2.OA.1** Use addition within 20 to solve word problems involving situations of adding to and putting together. **Level I Students will:** **EE2.OA.1** Use addition within 10 to solve word problems.
Add and subtract within 20. **2.OA.2** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know automatically all sums of two one-digit numbers based on strategies.	**EE2.OA.2** Fluently add to 20 and subtract within 10.	**Level IV Students will:** **EE2.OA.2** Fluently add to 20 **and** subtract within 20. **Level III Students will:** **EE2.OA.2** Fluently add to 20 **and** subtract within 10. **Level II Students will:** **EE2.OA.2** Fluently add to 10 **and** subtract within 5. **Level I Students will:** **EE2.OA.2** Fluently add to 5 **and** subtract within 3.
Number and Operations Base Ten	**Grade 2**	
Understand place value. **2.NBT.1** Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; and demonstrate that: A. 100 can be thought of as a bundle of ten tens — called a "hundred."	**EE2.NBT.1** Identify the digits in the one and tens place to 99. Demonstrate that 100 can be thought of as a bundle of 10 tens — called a "hundred."	**Level IV Students will:** **EE2.NBT.1** Understand that bundles of two-digit objects represent ones and tens (from 50 - 99). Demonstrate that: ● 100 can be thought of as a bundle of 10 tens — called a "hundred." ● The numbers 100, 200, 300, 400, or 500 can be thought of as bundles of 100. **Level III Students will:**

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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). **C.** Three-digit numbers can be decomposed in multiple ways (e.g., 524 can be decomposed as 5 hundreds, 2 tens and 4 ones or 4 hundreds, 12 tens, and 4 ones, etc.)		**EE2.NBT.1** Identify the digits in the one **and** tens place to 99. Demonstrate that 100 can be thought of as a bundle of 10 tens — called a "hundred." **Level II Students will:** **EE2.NBT.1** Match given digits to the correct ones **and** tens place to 50. Complete a model using bundles of 10 to show 50, 60, 70, 80, 90, **and** 100. **Level I Students will:** **EE2.NBT.1** Match bundles of ten to show 50.
2.NBT.4 Compare pairs of three-digit numbers based on meanings of the hundreds, tens, and ones digits, using the words "is greater than," "is equal to," "is less than" and with the symbols >, =, and < to record the results of comparisons.	**EE2.NBT.4** Compare sets of objects or numbers (up to 50) using appropriate vocabulary ("greater/more than", "less than", "equal to").	**Level IV Students will:** **EE2.NBT.4** Compare numbers (up to 100) using appropriate vocabulary ("greater/more than", "less than", "equal to") **and** the symbols ">", "<", "=". **Level III Students will:** **EE2.NBT.4** Compare sets of objects **or** numbers (up to 50) using appropriate vocabulary ("greater/more than", "less than", "equal to"). **Level II Students will:** **EE2.NBT.4** Compare sets of objects **or** numbers (up to 30) using appropriate vocabulary ("greater/more than", "less than", "equal to"). **Level I Students will:** **EE2.NBT.4** Compare sets of objects **or** numbers (up to 15) using appropriate vocabulary ("greater/more than" or "less than").
Use place value understanding and properties of operations to add and subtract. **2.NBT.5** Add and subtract within 100 using strategies based on place value, properties of addition, and/or the relationship between addition and subtraction.	**EE2.NBT.5** Add and subtract within 30 using strategies based on place value, properties of addition, and/or the relationship between addition and subtraction.	**Level IV Students will:** **EE2.NBT.5** Add **and** subtract within 50 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction. **Level III Students will:** **EE2.NBT.5** Add **and** subtract within 30 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction. **Level II Students will:** **EE2.NBT.5** Add **and** subtract within 20 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction. **Level I Students will:**

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		EE2.NBT.5 Add **and** subtract within 10 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction.
2.NBT.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of addition, and/or the relationship between addition and subtraction: A. Relate the strategy to a written method and explain the reasoning used. B. Understand that in adding or subtracting three-digit numbers, add or subtract hundreds and hundreds, tens and tens, ones and ones. C. Understand that sometimes it is necessary to compose or decompose tens or hundreds.	**EE2.NBT.7** Add and subtract within 100, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition.	**Level IV Students will:** **EE2.NBT.7** Add **and** subtract within 300, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition. **Level III Students will:** **EE2.NBT.7** Add **and** subtract within 100, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition. **Level II Students will:** **EE2.NBT.7** Add **and** subtract within 50, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition. **Level I Students will:** **EE2.NBT.7** Add **and** subtract within 30, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition.
Measurement and Data	**Grade 2**	
Measure and estimate lengths in standard units. **2.MD.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	**EE2.MD.1** Measure an object to the nearest whole unit of length using a ruler, yardstick, or other tool.	**Level IV Students will:** **EE2.MD.1** Measure multiple objects to the nearest whole unit of length using a ruler, yardstick, measuring tape, or other tool. **Level III Students will:** **EE2.MD.1** Measure an object to the nearest whole unit of length using a ruler, yardstick, or other tool. **Level II Students will:** **EE2.MD.1** Match 2 unlike objects of the same length. **Level I Students will:** **EE2.MD.1** Match 2 like objects of the same length.

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Work with time and money. **2.MD.7** Tell and write time from analog and digital clocks in five minute increments using a.m. and p.m.	**EE2.MD.7** Tell **or** write time to the hour using an analog clock **or** digital clock.	**Level IV Students will:** **EE2.MD.7** Tell **or** write time to the half-hour using an analog clock **or** digital clock. **Level III Students will:** **EE2.MD.7** Tell **or** write time to the hour using an analog clock **or** digital clock. **Level II Students will:** **EE2.MD.7** Identify which digit(s) **or** hand marks the hour on a clock. **Level I Students will:** **EE2.MD.7** Identify a measurement tool that tells time.
2.MD.8 Solve word problems up to $10 involving dollar bills, quarters, dimes, nickels, and pennies, using $ (dollars) and ¢ (cents) symbols appropriately.	**EE2.MD.8** Solve word problems up to $1, involving pennies and dimes, using the cents (¢) symbol.	**Level IV Students will:** **EE2.MD.8** Solve word problems up to $1 involving pennies, nickels, dimes, **and** quarters using the ¢ (cents) symbol. **Level III Students will:** **EE2.MD.8** Solve word problems up to $1, involving pennies **and** dimes, using the ¢ (cents) symbol. **Level II Students will:** **EE2.MD.8** Identify the values of coins (pennies, nickels, dimes, quarters) **and** identify the ¢ (cents) symbol. **Level I Students will:** **EE2.MD.8** Identify coins (pennies, nickels, dimes, quarters).
Geometry	**Grade 2**	
2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	**EE2.G.2** Given a partitioned rectangle, count the number of same-sized squares.	**Level IV Students will:** **EE2.G.2** Given a partitioned rectangle, count the number of same-sized squares, columns, **and** rows. **Level III Students will:** **EE2.G.2** Given a partitioned rectangle, count the number of same-sized squares. **Level II Students will:** **EE2.G.2** Given a partitioned rectangle, place same-sized squares to complete the interior of the figure. **Level I Students will:** **EE2.G.2** Given a partitioned rectangle, match the same-sized squares to the interior of the figure.

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2.G.3 Partition circles and rectangles into two, three, or four equal shares by: **A.** Describing the shares using the words halves, thirds, half of, a third of, etc. **B.** Describing the whole as two halves, three thirds, four fourths. **C.** Recognizing that equal shares of identical wholes need not have the same shape.	**EE2.G.3** Partition circles and rectangles into two and four equal shares.	**Level IV Students will:** **EE2.G.3** Partition circles **and** rectangles into two, three, **and** four equal shares. Describe the shares using the words halves, thirds, **and** fourths. **Level III Students will:** **EE2.G.3** Partition circles **and** rectangles into two **and** four equal shares. **Level II Students will:** **EE2.G.3** Partition circles **and** rectangles into two **or** four equal shares. **Level I Students will:** **EE2.G.3** Match 2 or 4 pieces to make a circle **or** a rectangle.

Grade 3

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Operations and Algebraic Thinking	**Grade 3**	
Multiply and divide within 100. **3.OA.7** Fluently multiply and divide with factors 1 - 10 using mental strategies. By end of Grade 3, know automatically all products of one-digit factors based on strategies.	**EE3.OA.7** Multiply **and** divide with factors 1-10 using strategies.	**Level IV Students will:** **EE3.OA.7** Fluently multiply **or** divide with factors 1-10 using strategies. **Level III Students will:** **EE3.OA.7** Multiply **and** divide with factors 1-10 using strategies. **Level II Students will:** **EE3.OA.7** Multiply **or** divide with factors 1-10 using strategies. **Level I Students will:** **EE3.OA.7** Multiply **or** divide with factors 1-5 using strategies.
Solve problems involving the four operations, and identify and explain patterns in arithmetic. **3.OA.8** Solve two-step word problems (limited to the whole number system) using the four basic operations. Students should apply the Order of Operations when there are no parentheses to specify a particular order. A. Represent these problems using equations with a symbol standing for the unknown quantity. B. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**EE3.OA.8** Solve one-step addition/subtraction **and** multiplication/ division word problems by representation **or** using models. *Committee chose not to address A or B; it is taught in 5th grade.	**Level IV Students will:** **EE3.OA.8** Solve two step addition/subtraction **or** multiplication/division word problems by representation **or** using models. **Level III Students will:** **EE3.OA.8** Solve one step addition/subtraction **and** multiplication/division word problems by representation **or** using models. **Level II Students will:** **EE3.OA.8** Solve one step addition/subtraction **or** multiplication/division word problems by representation **or** using models. **Level I Students will:** **EE3.OA.8** Identify one step word problems as addition/subtraction.
Numbers and Operations Base Ten	**Grade 3**	
3.NBT.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**EE3.NBT.2** Add **or** subtract from 51-100 using strategies or algorithms.	**Level IV Students will:** **EE3.NBT.2.** Add **and** subtract from 51-100 using strategies or algorithms. **Level III Students will:** **EE3.NBT.2.** Add **o**r subtract from 51-100 using strategies or algorithms. **Level II Students will:** **EE3.NBT.2.** Add **and** subtract within 50 using strategies or algorithms. **Level I Students will:** **EE3.NBT.2.** Add **or** subtract within 50 using strategies or algorithms.

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Numbers and Operations – Fractions	**Grade 3**	
Develop understanding of fractions as numbers. (Limited to denominators 2, 3, 4, 6, and 8) (use horizontal fractions) **3.NF.1** Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a/b* as the quantity formed by *a* parts of size 1/*b*.	**EE3.NF.1** Create a whole using halves, thirds and fourths.	**Level IV Students will:** **EE3.NF.1** Identify a given fractional part of a whole (i.e.., ½, ⅓, ¼). **Level III Students will:** **EE3.NF.1** Create a whole using halves, thirds, and fourths. **Level II Students will:** **EE3.NF.3.** Given a whole using halves, thirds, and fourths, identify how many equal parts. **Level I Students will:** **EE3.NF.1** Identify the whole.
3.NF.2 Understand and 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.	**EE3.NF.2** Identify fractions with a denominator of 2, 3, & 4 on a number line.	**Level IV Students will:** **EE3.NF.2** On an open number line place the fraction one-half **and** one-fourth. **Level III Students will:** **EE3.NF.2** Identify fractions with a denominator of 2, 3, 4 on a number line. **Level II Students will:** **EE3.NF.2** Identity 0, 1, and ½ on the number line. **Level I Students will:** **EE3.NF.2** Match fractions with their models on the number line.
3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. A. Understand two fractions as equivalent if they are the same size, or the same point on a number line. B. Recognize and generate simple equivalent fractions. Explain why the fractions are equivalent.	**EE3.NF.3** Use a visual fraction model to compare fractions with denominators of 2, 3, & 4.	**Level IV Students will:** **EE3.NF.3** Use a visual fraction model to compare fractions with denominators of 2, 3, & 4. **Level III Students will:** **EE3.NF.3** Use a visual fraction model to identify fractions with denominators of 2, 3, & 4. **Level II Students will:** **EE3.NF.3** Use a visual fraction model to compare one whole **and** one half. **Level I Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. C. Compare two fractions with the same numerator or the same denominator, by reasoning about their size. D. Recognize that valid comparisons rely on the two fractions referring to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.		**EE3.NF.3** Use a visual fraction model to identify one whole **and** one half.
Measurement and Data	**Grade 3**	
3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Use the data to create a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	**EE3.MD.4** Use a ruler to measure objects to the nearest inch.	**Level IV Students will:** **EE3.MD.4** Use a ruler to measure objects to the nearest half-inch. **Level III Students will:** **EE3.MD.4** Use a ruler to measure objects to the nearest inch. **Level II Students will:** **EE3.MD.4** Given a picture model, interpret the given measurement for the object to the nearest inch. **Level I Students will:** **EE3.MD.4** Select an appropriate tool for measuring length.
3.MD.7 Relate area to the operations of multiplication and addition. A. Find the area of a rectangle with whole-number side lengths (dimensions) by multiplying them. Show that this area is the same as when counting unit squares. 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	**EE3.MD.7** Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 30.	**Level IV Students will:** **EE3.MD.7** Find the length **and** width of a rectangle using unit squares of an area up to 30. **Level III Students will:** **EE3.MD.7** Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 30. **Level II Students will:** **EE3.MD.7** Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 20. **Level I Students will:** **EE3.MD.7** Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 10.

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as rectangular areas in mathematical reasoning. **C.** Use area models to represent the distributive property in mathematical reasoning. 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*.		
Geometry	**Grade 3**	
Reason with shapes and their attributes. **3.G.1** Use attributes of quadrilaterals to classify rhombuses, rectangles, and squares. Understand 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.	**EE3.G.1** Identify rhombuses, rectangles, **and** squares.	**Level IV Students will:** **EE3.G.1** Compare rhombuses, rectangles, **and** squares. **Level III Students will:** **EE3.G.1** Identify rhombuses, rectangles, **and** squares. **Level II Students will:** **EE3.G.1** Identify rhombuses, rectangles, **or** squares. **Level I Students will:** **EE3.G.1** When given a set of shapes, match like shapes (e.g., rhombuses, rectangles, **and** squares).

Grade 4

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Operations and Algebraic Thinking	**Grade 4**	
4.OA.3 Solve multi-step word problems posed with whole numbers, including problems in which remainders must be interpreted. **A.** Represent these problems using equations with a letter standing for the unknown quantity. **B.** Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**EE4.OA.3** Solve given multiplication and division problems using appropriate strategies.	** Standard 4.OA.2-3 were combined due to the similar nature of solving word problems. **Level IV Students will:** **EE4.0A.3** Match a given multiplication **or** division equation with an appropriate one-step word problem. **Level III Students will:** **EE4.0A.3** Solve given multiplication **and** division problems using appropriate strategies. **Level II Students will:** **EE4.0A.3** Solve given multiplication **or** division problems using appropriate modeling strategies. **Level I Students will:** **EE4.0A.3** Identify an equation as a multiplication **or** division problem.
Number and Operations Base Ten	**Grade 4**	
4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols.	**EE4.NBT.2** Compare 2 multi-digit numbers within one thousand. [Extended expectations in this domain are limited to whole numbers up to but not including 1,000].	**Level IV Students will:** **EE4.NBT.2** Use symbols to compare 2 multi-digit numbers within one thousand $(<, >, =)$. **Level III Students will:** **EE4.NBT.2** Compare 2 multi-digit numbers within one thousand. **Level II Students will:** **EE4.NBT.2** Compare 2 multi-digit numbers within one hundred. **Level I Students will:** **EE4.NBT.2** Compare 2 two-digit numbers within fifty.
4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.	**EE4.NBT.D.3** Round two-digit numbers from 10-100, to the nearest 10.	**Level IV Students will:** **EE4.NBT.3** Round three-digit numbers to the nearest 100. **Level III Students will:** **EE4.NBT.3** Round two-digit numbers from 10-100, to the nearest 10. **Level II Students will:**

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	[Extended expectations in this domain are limited to whole numbers up to but not including 1,000].	**EE4.NBT.3** Round two-digit numbers from 10–50, to the nearest 10. **Level I Students will:** **EE4.NBT.3** When given numbers 1-9, determine if the given number should be rounded down to 0 or up to 10.
4.NBT.5 Use strategies based on place value and the properties of multiplication to: **A.** Multiply a whole number of up to four digits by a one-digit whole number. **B.** Multiply a pair of two-digit numbers. **C.** Use appropriate models to explain the calculation, such as by using equations, rectangular arrays, and/or area models.	**EE4.NBT.5** Multiply one digit by two digit numbers by using arrays, equations, or models.	**Level IV Students will:** **EE4.NBT.5** Multiply one digit by three digit numbers. **Level III Students will:** **EE4.NBT.5** Multiply one digit by two digit numbers by using arrays, equations, **or** models. **Level II Students will:** **EE4.NBT.5** Build **and** use an array to demonstrate a one digit by one digit multiplication problem. **Level I Students will:** **EE4.NBT.5** Use a multiplication table to multiply one digit numbers with one digit numbers.
4.NBT.6 Use strategies based on place value, the properties of multiplication, and/or the relationship between multiplication and division to find quotients and remainders with up to four-digit dividends and one-digit divisors. Use appropriate models to explain the calculation, such as by using equations, rectangular arrays, and/or area models.	**EE4.NBT.6** Given a number up to 30, determine if a number is divisible by 5 and/or 10, using strategies, arrays **or** area models.	**Level IV Students will:** **EE4.NBT.6** Given a number up to 50, determine if a number is divisible by 2, 5, **and** 10. **Level III Students will:** **EE4.NBT.6** Given a number up to 30, determine if a number is divisible by 5 **and/or** 10, using strategies, arrays **or** area models. **Level II Students will:** **EE4.NBT.6** Use repeated addition to solve a given division problem with dividends to 20. **Level I Students will:** **EE4.NBT.6** When given multiples of 10 break it into equal groups of 5 or 10.
Number and Operations – Fractions	**Grade 4**	
Extend understanding of fraction equivalence and ordering. (limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100) **4.NF.1** Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions	**EE4.NF.1-3** Use a visual fraction model to identify fractions with denominators of 2,3,4,5, and 10. [Extended expectations in this domain are limited to fractions with	**Level IV Students will:** **EE4.NF.1-3** Use a visual fraction model to compare equivalent fractions with denominators of 2, 3, 4, 5 and 10. **Level III Students will:** **EE4.NF.1-3** Use a visual fraction model to identify fractions with denominators of 2,3,4,5, and 10. **Level II Students will:** **EE4.NF.1-3** Use a visual fraction model to compare one whole and one half.

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themselves are the same size. Use this principle to recognize and generate equivalent fractions.
 	
4.NF.2 Compare two fractions with different numerators and different denominators by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2.
 	
  A. Recognize that comparisons are valid only when the two fractions refer to the same whole.
  B. Record the results of comparisons with symbols >, =, or <.
  C. Justify the conclusions by using a visual fraction model.
 	
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. (G)
 	
4.NF.3 Understand a fraction a/b with $a >$ 1 as a sum of unit 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 by using a visual fraction model.
  C. Add and subtract mixed numbers with like denominators by replacing each mixed number with an equivalent fraction, and/or by using properties of addition and the relationship between addition and subtraction.
	denominators 2, 3, 4, 5, 10].	**Level I Students will:**
		EE4.NF.1-3 Use a visual fraction model to identify one whole and one half.

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D. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.		
4.NF.7 Compare and order decimal numbers to hundredths and justify by using concrete and visual models. Record the results of comparisons with the words "is greater than," "is equal to," "is less than," and with the symbols >, =, and <.	**EE4.NF.7** Identify the hundredths place.	**Level IV Students will:** **EE4.NF.7** Identify a fraction with a denominator of ten as a decimal. **Level III Students will:** **EE4.NF.7** Identify the hundredths place. **Level II Students will:** **EE4.NF.7** Identify the tenths place. **Level I Students will:** **EE4.NF.7** Identify a decimal.
Measurement and Data	**Grade 4**	
4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	**EE4.MD.3** Find the perimeter of a rectangle within the range of 4-20.	**Level IV Students will:** **EE4.MD.3** Find the perimeter of a rectangle within the range of 4-50. **Level III Students will:** **EE4.MD.3** Find the perimeter of a rectangle within the range of 4-20. **Level II Students will:** **EE4.MD.3** Identify a strategy to find the perimeter of a rectangle. **Level I Students will** **EE4.MD.3** Identify the perimeter of a rectangle.
4.MD.7 Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.	**EE4.MD.7** Solve addition and subtraction problems to find unknown angles on a diagram of a 90 degree angle given labeled smaller angles.	**Level IV Students will:** **EE4.MD.7** Identify two angles from a variety of smaller angles to make any given angle. **Level III Students will:** **EE4.MD.7** Add and/or subtract two labeled smaller angles of a 90 degree angle to make a 90 degree angle. **Level II Students will:** **EE4.MD.7** Identify two sets of two labeled angles to make a 90 degree angle. **Level I Students will:** **EE4.MD.7.** Identify one set of two labeled angles to make a 90 degree angle. Examples: 45 + 45, 30 + 60, 20 + 70, 10 + 80, 35 + 55, etc..

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Geometry	**Grade 4**	
Draw and identify lines and angles and classify shapes by properties of their lines and angles. **4.G.2** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	EE4.G.2 Identify points, lines, angles.	**Level IV Students will:** EE4.G.2 Draw one of the following: point, line **or** angle. **Level III Students will:** EE4.G.2 Identify points, lines, angles. **Level II Students will:** EE4.G.2 Identify two of the following: point, line or angles. **Level I Students will:** EE4.G.2 Identify one of the following: point, line or angles.

Grade 5

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Operations and Algebraic Thinking	**Grade 5**	
Write and interpret numerical expressions. **5.OA.1** Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. **5.OA.2** Write simple expressions requiring parentheses that record calculations with numbers, and interpret numerical expressions without evaluating them.	**EE5.OA.1-2** Identify the first step in solving a two-step number sentence using parentheses.	**Level IV Students will:** **EE5.OA.1-2** Accurately complete the first step in a two-step number sentence with parentheses. **Level III Students will:** **EE5.OA.1-2** Identify the first step in solving a two-step number sentence using parentheses. **Level II Students will:** **EE5.OA.1-2** Identify parentheses in a number sentence. **Level I Students will:** **EE5.OA.1-2** Solve single digit addition **and** subtraction problems within a sum or difference of 10 to 20.
Numbers and Operations in Base Ten	**Grade 5**	
Understand the place value system. **5.NBT.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.	**EE5.NBT.1** Identify the tenths, hundredths, and thousandths place value.	**Level IV Students will:** **EE5.NBT.1** Identify the value of the digit in the tenths place. **Level III Students will:** **EE5.NBT.1** Identify the tenths, hundredths, **and** thousandths place value. **Level II Students will:** **EE5.NBT.1** Identify the tenths **and** hundredths place value. **Level I Students will:** **EE5.NBT.1** Identify the tenths **or** hundredths place value.
5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	**EE 5.NBT.2** Order multiples of thousands ranging from 1000-9000, from least to greatest.	**Level IV Students will:** **EE5.NBT.2** Using multiples of ten, hundreds, or thousands, and extend a pattern within the range of 10 to 9000. **Level III Students will:** **EE 5.NBT.2** Order multiples of thousands ranging from 1000-9000, from least to greatest. **Level II Students will:** **EE 5.NBT.2** Order multiples of hundreds ranging from 100-900, from least to greatest. **Level I Students will:** **EE 5.NBT.2** Order multiples of ten ranging from 10-90, from least to greatest.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	**EE5.NBT.7** Add decimals in the tenths place.	**Level IV Students will:** EE5.NBT.7 Add **and** subtract decimals in the tenths place. **Level III Students will:** EE5.NBT.7 Add decimals in the tenths place. **Level II Students will:** EE5.NBT.7 Match decimal models of addition **and** subtraction to their sum or difference. **Level I Students will:** EE5.NBT.7 Identify decimals to the tenths place.
Number and Operations - Fractions	**Grade 5**	
Use equivalent fractions as a strategy to add and subtract fractions. **5.NF.2** Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	**5.NF.2** Add fractions with like denominators (halves, thirds, fourths).	**Level IV Students will:** EE5.NF.2 Add **and** subtract fractions with like denominators (halves, thirds, fourths). **Level III Students will:** EE5.NF.2 Add fractions with like denominators (halves, thirds, fourths). **Level II Students will:** EE5.NF.2 Identify halves, thirds, **and** fourths. **Level I Students will:** EE5.NF.2 Match halves, thirds, and fourths. ****Word problems are not applicable to this group of students**
Apply and extend previous understandings of multiplication and division to multiply and divide fractions. **5.NF.3** Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers by using visual fraction models or equations to represent the problem.	**EE5.NF.3** Interpret a fraction as division of the numerator by the denominator. Represent division problems as fractions	**Level IV Students will:** EE5.NF.3 Solve problems involving division of whole numbers leading to answers in the form of whole numbers or simple fractions (kitchen basic fractions). **Level III Students will:** EE5.NF.3 Represent division problems as fractions. **Level II Students will:** EE5.NF.3 Identify the numerator and the denominator of a fraction. **Level I Students will:** EE5.NF.3 Identify the numerator or denominator of a fraction.

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5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem.	**EE5.NF.6** Use commutative property of multiplication (repeated addition) to add fractions with like denominators (halves, thirds, fourths).	**Level IV Students will:** EE5.NF.6 Add and subtract fractions with like denominators (halves, thirds, fourths). **Level III Students will:** EE5.NF.6 Use commutative property of multiplication (repeated addition) to add fractions with like denominators (halves, thirds, fourths). **Level II Students will:** EE5.NF.6 Identify halves, thirds, and fourths. **Level I Students will:** EE5.NF.6 Match halves, third, and fourths.
5.NF.7 Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations. A. Interpret division of a unit fraction by a non-zero whole number and compute the quotient. B. Interpret division of a whole number by a unit fraction and compute the quotient. C. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions by using visual fraction models and equations to represent the problem.	**EE5.NF.7** Students will compute by dividing a whole by halves, thirds, and fourths.	**Level IV Students will:** EE5.NF.7 When given the outline of a whole and various parts of a whole the student can duplicate the whole with a variety of fractions. **Level III Students will:** EE5.NF.7 Students will compute by dividing a whole by halves, thirds, and fourths. **Level II Students will:** EE5.NF.7 When given a whole, can identify halves, thirds, and fourths of the whole. **Level I Students will:** EE5.NF.7 Recognize a whole can be broken into parts.
Measurement and Data	**Grade 5**	
Geometric measurement: understand concepts of volume and relate volume to multiplication and addition. **5.MD.I.5** Relate volume to the operations of multiplication and solve real world and mathematical problems involving volume. A. Find the volume of a right rectangular prism with whole	**EE5.MD.5** Determine the volume of a rectangular prism by counting unit cubes up to a total volume of 30.	**Level IV Students will:** EE5.MD.5 Determine that volume can be measured in different units: including but not limited to *cubic cm*, *cubic in*, *cubic ft*. **Level III Students will:** EE5.MD.5 Determine the volume of a rectangular prism by counting unit cubes up to a total volume of 30. **Level II Students will:** EE5.MD.5 Identify three-dimensional figures have volume. **Level I Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
number dimensions by multiplying them. Show that this volume is the same as when counting unit cubes. B. Find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems given the formulas $V =(l)(w)(h)$ and $V = (B)(h)$ for rectangular prisms.		**EE5.MD.5** Identify three-dimensional figures.
Geometry	**Grade 5**	
5.G.2 Plot and interpret points in the first quadrant of the coordinate plane to represent real-world and mathematical situations.	**EE5.G.2** Interpret plotted points in the first quadrant of the coordinate plane. (e.g., Which point is the farthest away from (0,0)?)	**Level IV Students will:** **EE5.G.2** Interpret (in context) plotted points in the first quadrant of the coordinate plane. **Level III Students will:** **EE5.G.2** Interpret plotted points (more than 3) in the first quadrant of the coordinate plane. (e.g., Which point is farthest away from (0, 0)?) **Level II Students will:** **EE5.G.2** Interpret a plotted point in the first quadrant of the coordinate plane. **Level I Students will:** **EE5.G.2** Identify a plotted point in the first quadrant of the coordinate plane.

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Grade 6

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Ratios and Proportional Relationships	**Grade 6**	
6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems. 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. C. Understand that a percentage is a rate per 100 and use this to solve problems involving wholes, parts, and percentages. D. Use ratio reasoning to convert measurement units; convert units appropriately when multiplying or dividing quantities.	**EE6.RP.3** Understand that a percentage is a rate per 100 involving wholes, parts, and percentages.	**Level IV Students will:** **EE6.RP.3** Understand that a percentage is a rate per 100 and apply to solve real world problems involving wholes, parts, and percentages. **Level III Students will:** **EE6.RP.3** Understand that a percentage is a rate per 100 involving wholes, parts, and percentages. **Level II Students will:** **EE6.RP.3** Recognize a percent from a rate per 100. **Level I Students will:** **EE6.RP.3** Select the percent sign from a variety of math symbols/signs.
The Number System	**Grade 6**	
Apply and extend previous understandings of multiplication and division to divide fractions by fractions. 6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions by using visual fraction models and equations to represent the problem.	**EE6.NS.1** Use a fraction model to compute the quotient of a natural number, up to 20, divided by a fraction. Limit divisors to ¼, ⅓, ½.	**Level IV Students will:** **EE6.NS.1** Solve a word problem using a fraction model to compute the quotient of a natural number, up to 20, divided by a fraction. Limit divisors to ¼, ⅓, ½. **Level III Students will:** **EE6.NS.1** Use a fraction model to compute the quotient of a natural number, up to 20, divided by a fraction. Limit divisors to ¼, ⅓, ½. **Level II Students will:** **EE6.NS.1** Use a fraction model to divide a natural number, up to 10, into halves and quarters with no remainders. **Level I Students will:** **EE6.NS.1** Match a fraction to the corresponding model of the fraction.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
6.NS.3 Add, subtract, multiply, and divide manageable multi-digit decimals using efficient and generalizable procedures including, but not limited to the standard algorithm for each operation.	**EE6.NS.3** Add and subtract two multi-digit numbers with decimals up to the hundredths place.	**Level IV Students will:** **EE6.NS.3** Multiply two multi-digit numbers with decimals up to the tenths place. **Level III Students will:** **EE6.NS.3** Add and subtract two multi-digit numbers with decimals up to the hundredths place. **Level II Students will:** **EE6.NS.3** Add and subtract two multi-digit numbers up to the tenths place without regrouping. **Level I Students will:** **EE6.NS.3** Add two multi-digit numbers up to the tenths place without regrouping.
6.NS.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. B. Write, interpret, and explain statements of order for rational numbers in real-world contexts. 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. D. Distinguish comparisons of absolute value from statements about order.	**EE6.NS.7** Understand ordering of rational numbers using a model.	**Level IV Students will:** **EE6.NS.7** Interpret statements of inequality using rational numbers in real-world contexts. **Level III Students will:** **EE6.NS.7** Understand ordering of rational numbers using a model. **Level II Students will:** **EE6.NS.7** Understand ordering of positive rational numbers using a model. **Level I Students will:** **EE6.NS.7** Understand ordering of whole numbers using a model.
6.NS.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Find distances between points with the same first coordinate or the same second coordinate; relate absolute value and distance.	**EE6.NS.8** Find the vertical and horizontal distance from (0,0) to given points in the coordinate plane.	**Level IV Students will:** **EE6.NS.8** Find the vertical and horizontal distance from (0, 0) to given points in the coordinate plane in a real-world context. **Level III Students will:** **EE6.NS.8** Find the vertical and horizontal distance from (0, 0) to given points in the coordinate plane. **Level II Students will:** **EE6.NS.8** Find the vertical or horizontal distance from (0, 0) to a given point in the coordinate plane.

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		Level I Students will: **EE6.NS.8** Identify (0,0) in a coordinate plane.
Expressions and Equations	**Grade 6**	

6.EE.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.
  B. Identify parts of an expression using mathematical terms (sum, difference, term, product, factor, quotient, coefficient, constant).
  C. Use Order of Operations to evaluate algebraic expressions at using positive rational numbers and whole-number exponents. Include expressions that arise from formulas in real-world problems.
	EE6.EE.2a Evaluate an expression in which a letter stands for a number.
	EE6.EE.2b Use Order of Operations to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.
		Level IV Students will:
		EE6.EE.2a Write and evaluate an expression in which a letter stands for a number.
		EE6.EE.2b Use Order of Operations to list the sequence of operations needed to evaluate algebraic expressions with whole numbers and whole number exponents.
		Level III Students will:
		EE6.EE.2a Evaluate an expression in which a letter stands for a number.
		EE6.EE.2b Use Order of Operations to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.
		Level II Students will:
		EE6.EE.2a Given an expression with an unknown, produce a model which represents the expression.
		EE6.EE.2b Use Order of Operations, not including exponents and parentheses, to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.
		Level I Students will:
		EE6.EE.2a Use a picture to give meaning to a letter that represents a number.
		EE6.EE.2b Use Order of Operations, not including exponents and parentheses, to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.

6.EE.3 Apply the properties of operations to generate equivalent expressions. .	**EE6.E.3** When comparing two equivalent expressions, select which one property of operations is used.	**Level IV Students will:** **EE6.E.3** Formulate an expression that represents one of the properties of operations. **Level III Students will:** **EE6.E.3** When comparing two equivalent expressions, select which one property of operations is used. **Level II Students will:** **EE6.E.3** When comparing two equivalent expressions, determine whether the distributive or commutative property is used. **Level I Students will:** **EE6.E.3** Match equivalent expressions using the commutative property.
6.EE.6 Use variables to represent unknown numbers and write expressions	**EE6.EE.6** When given a real-world problem, use	**Level IV Students will:**

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when solving a real-world or mathematical problem.	a variable to represent an unknown number.	**EE6.EE.6** Use a variable to write an expression that represents a real-world problem. **Level III Students will:** **EE6.EE.6** When given a real-world problem, use a variable to represent an unknown number. **Level II Students will:** **EE6.EE.6** Match models to a set of variables. **Level I Students will:** **EE6.EE.6** Match a model to a specified variable.
6.EE.7 Write and solve real-world and mathematical problems in the form of one-step, linear equations involving non negative rational numbers.	**EE6.EE.7** Recognize a one-step linear equations in a real-world context.	**Level IV Students will:** **EE6.EE.7** Solve a one-step linear equation in a real-world context. **Level III Students will:** **EE6.EE.7** Recognize a one-step linear equation in a real-world context. **Level II Students will:** **EE6.EE.7** Recognize a one-step linear equation involving natural numbers. **Level I Students will:** **EE6.EE.7** Identify a linear pattern.
6.EE.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.	**EE6.EE.8** Choose the one-step inequality that is modeled by a number line.	**Level IV Students will:** **EE6.EE.8** Illustrate the one-step inequality that is modeled by a number line. **Level III Students will:** **EE6.EE.8** Choose the one-step inequality that is modeled by a number line. **Level II Students will:** **EE6.EE.8** Identify one solution to a one-step inequality. **Level I Students will:** **EE6.EE.8** Select inequalities from a given list that includes one-step equations.
Geometry	**Grade 6**	
Solve real-world and mathematical problems involving area, surface area, and volume. **6.G.1** Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.	**EE6.G.1** Given formulas and a labeled diagram with height, find the area of triangles and quadrilaterals.	**Level IV Students will:** **EE6.G.1** Given formulas, find the area of triangles and quadrilaterals in a real-world context. **Level III Students will:** **EE6.G.1** Given formulas and a labeled diagram with height, find the area of triangles and quadrilaterals. **Level II Students will:** **EE6.G.1** Given formulas and a labeled diagram with height, find the area of a square and rectangle. **Level I Students will:** **EE6.G.1** Given a formula and a labeled diagram, find the area of a square.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures in the context of solving real-world and mathematical problems.	**EE6.G.4** Represent three-dimensional figures using nets made up of rectangles. Given formulas, use the nets to find the surface area.	**Level IV Students will:** EE6.G.4 In a real-world context, represent three-dimensional figures using nets made up of rectangles. Given formulas, use the nets to find the surface area. **Level III Students will:** EE6.G.4 Represent three-dimensional figures using nets made up of rectangles. Given formulas, use the nets to find the surface area. **Level II Students will:** EE6.G.4 Represent a cube using a net made up of squares. Given formulas, use the net to find the surface area. **Level I Students will:** EE6.G.4 Sort three-dimensional shapes and two-dimensional shapes.
Statistics and Probability	**Grade 6**	
Summarize and describe distributions. **6.SP.4** Display numerical data in plots on a number line, including dot plots, stem-and-leaf plots, histograms, and box plots.	**EE6.SP.4** Recognize a visual example of a number line, dot plot (line plot), and histogram.	**Level IV Students will:** EE6.SP.4 Display data using one of the following charts: number line, dot plot (line plot), or histogram. **Level III Students will:** EE6.SP.4 Recognize a visual example of a number line, dot plot (line plot), and histogram. **Level II Students will:** EE6.SP.4 Recognize a visual example of two of the following three representations: a number line, dot plot (line plot), or histogram. **Level I Students will:** EE6.SP.4 Recognize a visual example of one of the following three representations: a number line, dot plot (line plot), or histogram.

6.SP.5 Summarize numerical data sets in relation to their real-world context.
  A. Report the sample size.
  B. Describe the context of the data under investigation, including how it was measured and its units of measurement.
  C. Find quantitative measures of center (median, mode and mean) and variability (range and interquartile range). Describe any overall pattern (including outliers, clusters, and distribution), with
	EE6.SP.5 Find data attributes which include outliers, clusters, sample size, mean, median, mode, and range from a visual representation of the data.	**Level IV Students will:**
		EE6.SP.5 Find and discuss data attributes which include outliers, clusters, sample size, mean, median, mode, and range from a visual representation of the data in a real-world context.
		Level III Students will:
		EE6.SP.5 Find data attributes which include outliers, clusters, sample size, mean, median, mode, and range from a visual representation of the data.
		Level II Students will:
		EE6.SP.5 Identify any outliers, clusters, and the sample size from a visual representation.
		Level I Students will:
		EE6.SP.5 Identify any outliers and clusters from a visual representation.

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reference to the context in which the data was gathered. D. Justify the choice of measures of center (median, mode, or mean) based on the shape of the data distribution and the context in which the data was gathered.		

Grade 7

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Ratios and Proportional Relationships	**Grade 7**	
7.RP.2 Recognize and represent proportional relationships between quantities. **A.** Decide whether two quantities in a table or graph are in a proportional relationship. **B.** Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. **C.** Represent proportional relationships with equations. **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.2** Recognize and represent proportional relationships between quantities and can do three of the following: **a.** Decide whether two positive, integer quantities in a table or graph are in a proportional relationship. **b.** Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships. **c.** Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients. **d.** Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional	**Level IV Students will:** **7.RP.2** A student can recognize and represent proportional relationships between quantities and can do all of the following: **a.** Decide whether two positive, integer quantities in a table or graph are in a proportional relationship. **b.** Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships. **c.** Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients. **d.** Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate. **Level III Students will:** **7.RP.2** A student can recognize and represent proportional relationships between quantities and can do three of the following: **a.** Decide whether two positive, integer quantities in a table or graph are in a proportional relationship. **b.** Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships. **c.** Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients. **d.** Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate. **Level II Students will:** **7.RP.2** A student can recognize and represent proportional relationships between quantities and can do two of the following:

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
	relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate.	**a**. Decide whether two positive, integer quantities in a table or graph are in a proportional relationship. **b**. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships. **c**. Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients. **d**. Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate. **Level I Students will:** **7.RP.2** A student can recognize and represent proportional relationships between quantities and can do one of the following: **a**. Decide whether two positive, integer quantities in a table or graph are in a proportional relationship. **b**. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships. **c**. Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients. **d**. Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
7.RP.3 Solve multi step real world and mathematical problems involving ratios and percentages.	**E7.RP.3** Solve a real-world two-step problem involving common ratios and/or common percentages (i.e. 10%, 25%, 50%, 25/100, 50/100, 75/100, etc.).	**Level IV Students will:** **EE7.RP.3** Solve a real-world two-step problem involving common ratios (i.e. 1/10, 25/50, 1/2, 75/100, etc.) and/or percentages . **Level III Students will:** **EE7.RP.A.3** Solve a real-world two-step problem involving common ratios and/or common percentages (i.e. 10%, 25%, 50%, 25/100, 50/100, 75/100, etc.). **Level II Students will:** **EE7.RP.3** Solve a two-step problem involving common percentages (i.e. 10%, 25%, 50%, etc.) **Level I Students will:** **EE7.RP.3.** Solve a one-step problem involving common percentages (i.e. 10%, 25%, 50%, etc.)
The Number System	**Grade 7**	
7.NS.3 Solve real-world and mathematical problems involving the four arithmetic operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)	**EE7.NS.3** Apply the concepts of all four operations with positive rational numbers to solve one-step, real-world and mathematical problems.	**Level IV Students will:** **EE7.NS.3** Apply the concepts of all four operations with positive rational numbers to solve two-step, real-world and mathematical problems. **Level III Students will:** **EE7.NS.3** Apply the concepts of all four operations with positive rational numbers to solve one-step, real-world and mathematical problems. **Level II Students will:** **EE7.NS.3** Apply the concepts of the operations of multiplication and division with positive rational numbers to solve one-step, real-world and mathematical problems. **Level I Students will:** **EE7.NS.3** Apply the concepts of the operations of addition and subtraction with positive rational numbers to solve one-step, real world and mathematical problems.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptors (ALDs)
Expressions and Equations	**Grade 7**	
Use properties of operations to generate equivalent expressions. **7.EE.1** Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	**EE7.EE.1** Apply properties of operations as strategies to add, subtract, factor, or expand linear expressions with integer coefficients.	**Level IV Students will:** EE7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with integer coefficients. **Level III Students will:** EE7.EE.1 Apply properties of operations as strategies to add, subtract, factor, or expand linear expressions with integer coefficients. **Level II Students will:** EE7.EE.1 Identify the operations that exists within 'two-step' expressions (i.e., $3x - 5$, $(2x)/5$) **Level I Students will:** EE7.EE.1 Identify the operation that exists within simple expressions (i.e., $3x$, $x + 4$)
7.EE.4 Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations. A. Write and fluently solve linear equations of the form $ax + b = c$ and $a(x + b) = c$ where a, b, and c are rational numbers. B. Write and solve multi-step linear equations that include the use of the distributive property and combining like terms. Exclude equations that contain variables on both sides. C. Write and solve two-step linear inequalities. Graph the solution set on a number line and interpret its meaning. D. Identify and justify the steps for solving multi-step linear equations and two-step linear inequalities.	**EE7.EE.4** Apply the concepts of linear equations and inequalities in one variable to mathematical situations.	**Level IV Students will:** EE7.EE.4 Solve one-step inequalities and graph the solution on a number line. **Level III Students will:** EE7.EE.4 Graph linear inequalities in one variable. **Level II Students will:** EE7.EE.4 Identify and justify two-step linear equations and two-step inequalities in one variable. **Level I Students will:** EE7.EE.4 Identify and justify the steps for solving one-step linear equations or one-step inequalities in one variable.
Geometry	**Grade 7**	
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	**EE7.G.4** Given the formulas for the area and circumference of a circle	**Level IV Students will:** EE7.G.4 Given the formulas for the area and circumference of a circle, use them to solve problems for real-world problems.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptors (ALDs)
7.G.4 Investigate the concept of circles. **A.** Demonstrate an understanding of the proportional relationships between diameter, radius, and circumference of a circle. **B.** Understand that pi is defined by the constant of proportionality between the circumference and diameter. **C.** Given the formulas for circumference and area of circles, solve real-world and mathematical problems.	use them to solve problems.	**Level III Students will:** **EE7.G.4** Given the formulas for the area and circumference of a circle, use them to solve problems. **Level II Students will:** **EE7.G.4** Identify the parts of a circle within the formulas for area and circumference. **Level I Students will:** **EE7.G.4** Identify the parts of a circle (diameter, radius, and circumference).

7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	**EE7.G.5** Use facts about pairs of vertical, adjacent, supplementary, and/or complementary angles to find missing angles.	**Level IV Students will:**
		EE7.G.5 Find missing angles using all of the following:
		    a. Vertical Angles
		    b. Adjacent Angles
		    c. Supplementary Angles
		    d. Complementary Angles
		Level III Students will:
		EE7.G.5 Find missing angles using three of the following:
		    a. Vertical Angles
		    b. Adjacent Angles
		    c. Supplementary Angles
		    d. Complementary Angles
		Level II Students will:
		EE7.G.5 Find missing angles using two of the following:
		    a. Vertical Angles
		    b. Adjacent Angles
		    c. Supplementary Angles
		    d. Complementary Angles
		Level I Students will:
		EE7.G.5 Find missing angles using one of the following:
		    a. Vertical Angles
		    b. Adjacent Angles
		    c. Supplementary Angles
		    d. Complementary Angles

7.G.6 Solve real-world and mathematical problems involving area, volume and	**EE7.G.6** When given the formulas, solve	**Level IV Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptors (ALDs)

surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	mathematical problems involving area of 2-dimensional objects and problems involving volume and surface area of three-dimensional objects composed of triangles, quadrilaterals, rectangular prisms, and triangular prisms.	EE7.G.6 Solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of all of the following:
		    a. Triangles
		    b. Quadrilaterals
		    c. Rectangular Prisms
		    d. Triangular Prisms
		Level III Students will:
		EE7.G.6 Solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of three of the following:
		    a. Triangles
		    b. Quadrilaterals
		    c. Rectangular Prisms
		    d. Triangular Prisms
		Level II Students will:
		EE7.G.6 solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of two of the following:
		    a. Triangles
		    b. Quadrilaterals
		    c. Rectangular Prisms
		    d. Triangular Prisms
		Level I Students will:
		EE7.G.6 solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of one of the following:
		    a. Triangles
		    b. Quadrilaterals
		    c. Rectangular Prisms
		    d. Triangular Prisms

Statistics and Probability	**Grade 7**	
Use random sampling to draw inferences about a population. (G) **7.SP.1** Solve real-world and mathematical problems involving: A. Understand that a sample is a subset of a population.	**EE7.SP.1** Understand that a sample is a subset of a population. Distinguish between populations and	**Level IV Students will:** EE7.SP.1 Understand that a sample is a subset of a population. Distinguish between populations and samples. Distinguish between random and nonrandom samples. **Level III Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptors (ALDs)
B. Differentiate between random and non-random sampling. **C.** Understand that generalizations from a sample are valid only if the sample is representative of the population. **D.** Understand that random sampling is used to gather a representative sample and tends to support valid inferences about the population.	samples; random and non-random samples.	**EE7.SP.1** Understand that a sample is a subset of a population. Identify populations and samples. Identify random and nonrandom samples. **Level II Students will:** **EE7.SP.1** Distinguish between a population or a sample. **Level I Students will:** **EE7.SP.1** Distinguish between a whole and a part.

7.SP.4 Given measures of center and variability (mean, median and/or mode; range, interquartile range, and/or standard deviation), for numerical data from random samples, draw appropriate informal comparative inferences about two populations.	**EE7.SP.4** Given measures of center and variability (mean, median, mode, and/or range), for numerical data, make inferences about two populations using the same measure to compare the populations.	**EE7.SP.4 Level IV Students will:**
		 Given all measures of center and variability, make inferences about two populations:
		     a. Mean
		     b. Median
		     c. Mode
		     d. Range
		 EE7.SP.4 Level III Students will:
		 Given three measures of center and/or variability, make inferences about two populations:
		     a. Mean
		     b. Median
		     c. Mode
		     d. Range
		 EE7.SP.4 Level II Students will:
		 Given two measures of center and/or variability, make inferences about two populations:
		     a. Mean
		     b. Median
		     c. Mode
		     d. Range
		 EE7.SP.4 Level I Students will:
		 Given one measures of center and/or variability, make inferences about two populations:
		     a. Mean
		     b. Median
		     c. Mode
		     d. Range

PROPOSED 2024 WYOMING MATH EXTENDED STANDARDS
AND ACHIEVEMENT LEVEL DESCRIPTORS

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptors (ALDs)
Investigate chance processes and develop, use, and evaluate probability models. **7.SP.5** Find and interpret the probability of a random event. Understand that the probability of a random event is a number between, and including 0 and 1 that expresses the likelihood of the event occurring.	**EE7.SP.5** Identify the likelihood of a simple event.	**Level IV Students will:** **EE7.SP.5** Identify the likelihood of an event given a model; (e.g. impossible, unlikely,50-50, likely, certain). For example, given a tree diagram showing the possible outcomes for flipping a coin two times, identify the likelihood of landing on heads twice in a row as unlikely. **Level III Students will:** **EE7.SP.5** Identify the likelihood of an event (e.g. impossible, unlikely, 50- 50, likely, certain). **Level II Students will:** **EE7.SP.5** Determine which section the spinner is the most likely to land on, given a probability model represented as a spinner with different- sized sections labeled A, B, C, etc. Prioritized focus: spinner models that show 2, 3 or 4 sections. **Level I Students will:** **EE7.SP.5** Determine which section of a spinner with different sized sections labeled as A, B, C, etc., given as a probability model, is the largest or smallest. Prioritized focus: spinner models that show 2, 3 or 4 sections.
7.SP.6 Collect multiple samples to compare the relationship between theoretical and experimental probabilities for simple events.	**EE7.SP.6** Given a real-world situation (a coin tossed or a dice rolled) students will determine the theoretical probability of an event occurring (e.g. impossible, unlikely, 50-50, likely, certain).	**Level IV Students will:** **EE7.SP.6** Given an experiment (a coin tossed or a dice rolled) students will determine the experimental probability of an event occurring (e.g. impossible, unlikely, 50-50, likely, certain) and compare it to the theoretical probability. Describe the discrepancy (if it exists). **Level III Students will:** **EE7.SP.6** Given a real-world situation (a coin tossed or a dice rolled) students will determine the theoretical probability of an event occurring (e.g. impossible, unlikely, 50-50, likely, certain). **Level II Students will:** **EE7.SP.6** Compare actual results of simple experiment with the theoretical probability of the experiment. **Level I Students will:** **EE7.SP.6** Match the theoretical probability of an event to a common experiment (a coin tossed or a dice rolled).

Grade 8

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
The Number System	**Grade 8**	
Know that there are numbers that are not rational, and approximate them by rational numbers. **8.NS.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. Explore the real number system and its appropriate usage in real-world situations. A. Make comparisons between rational and irrational numbers. B. Understand that all real numbers have a decimal expansion. C. Model the hierarchy of the real number system, including natural, whole, integer, rational, and irrational numbers. D. Convert repeating decimals to fractions.	**EE8.NS.A.1** Identify both terminating and repeating decimal patterns as rational.	**Level IV Students will:** **EE8.NS.A.1** Identify decimals that neither terminate nor repeat as irrational, such as pi or sq. root (^{2}). **Level III Students will:** **EE8.NS.A.1** Identify both terminating and repeating decimal patterns as rational. **Level II Students will:** **EE8.NS.A.1** Identify a terminating decimal as rational. **Level I Students will:** **EE8.NS.A.1** Convert simple fractions to decimal form, such as ½, ¼, ⅕, ⅛, 1/10.
Expressions and Equations	**Grade 8**	
Understand the connections between proportional relationships, lines, and linear equations. **8.EE.5** Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	**EE8.EE.5** When given data, create a graph and determine if the rate of change has a positive or negative relationship.	**Level IV Students will:** **EE8.EE.5** Collect data, create a graph and determine if the rate of change has a positive or negative relationship. **Level III Students will:** **EE8.EE.5** When given data, create a graph and determine if the rate of change has a positive or negative relationship. **Level II Students will:** **EE8.EE.5** When given multiple graphs determine which graphs have rates of change that are positive/negative. **Level I Students will:** **EE8.EE.5** Given a graph determine if the relationship is positive or negative.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)

Analyze and solve linear equations and pairs of simultaneous linear equations.
8.EE.7 Extend concepts of linear equations and inequalities in one variable to more complex multi-step equations and inequalities in real-world and mathematical situations.
  A. Solve linear equations and inequalities with rational number coefficients that include the use of the distributive property, combining like terms, and variable terms on both sides.
  B. Recognize the three types of solutions to linear equations: one solution, infinitely many solutions, or no solutions.
  C. Generate linear equations with the three types of solutions.
  D. Justify why linear equations have a specific type of solution.
	EE8.EE.7
	Given a linear equation or the graph of a linear equation, determine if an ordered pair is a solution or not.
		Level IV Students will:
		EE8.EE.7 Given a linear equation, match it to the appropriate graph and determine if an ordered pair is a solution or not.
		Level III Students will:
		EE8.EE.7 Given a linear equation or the graph of a linear equation, determine if an ordered pair is a solution or not.
		Level II Students will:
		EE8.EE.7 Solve two-step linear equations and solve two-step inequalities in one variable.
		Level I Students will:
		EE8.EE.7 Solve one-step linear equations or solve one-step inequalities in one variable.

8.EE.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 with integer solutions by graphing the equations.
  C. Solve simple real-world and mathematical problems leading to two linear equations in two variables given $y = mx + b$ form with integer solutions.
	EE8.EE.8 Given the graph of a system of two linear equations, name the solution as an ordered pair.	**Level IV Students will:**
		EE8.EE.8 Given two functions, graph the functions and determine the solution for that system of equations.
		Level III Students will:
		EE8.EE.8 Given the graph of a system of two linear equations, name the solution as an ordered pair.
		Level II Students will:
		EE8.EE.8 Match a solution (an ordered pair) to the proper graph from a selection of graphed systems of equations.
		Level I Students will:
		EE8.EE.8 Given a graph of a system of equations, identify the intersection.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Functions	**Grade 8**	
8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	**EE8.F.2** Compare two functions (non-linear vs linear) using the same representation (graphs, tables).	**Level IV Students will:** EE8.F.2 Compare two different representations of functions (graphs, tables, equations). **Level III Students will:** EE8.F.2 Compare two functions (non-linear vs linear) using the same representation (graphs, tables). (e.g., exponential vs linear functions) **Level II Students will:** EE8.F.2 Compare two linear functions using the same representation (graphs, tables). **Level I Students will:** EE8.F.2 Given two graphs identify the linear function.
Use functions to model relationships between quantities. **8.F.4** Apply the concepts of linear functions to real-world and mathematical situations. A. Understand that the slope is the constant rate of change and the *y*-intercept is the point where *x* = 0. B. Determine the slope and the *y*-intercept of a linear function given multiple representations, including two points, tables, graphs, equations, and verbal descriptions. C. Construct a function in slope-intercept form that models a linear relationship between two quantities. D. Interpret the meaning of the slope and the *y*-intercept of a linear function in the context of the situation.	**EE8.F.4** Given a linear graph, determine the slope and y-intercept.	**Level IV Students will:** EE8.F.4 Given a linear graph, construct a function in slope-intercept form and relate it to a real-world situation. **Level III Students will:** EE8.F.4 Given a linear graph, determine the slope and y-intercept. **Level II Students will:** EE8.F.4 Given a linear graph through the origin, determine the slope and y-intercept. **Level I Students will:** EE8.F.4 When given a linear graph, determine the slope.
Geometry	**Grade 8**	
8.G.2 Recognize through visual comparison that a two-dimensional figure is congruent to another if the second can	**EE8.G.2** Use a transformation to align	**Level IV Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	two objects to determine if they are congruent.	**EE8.G.2** Use transformations to align objects to determine which objects are congruent to one another. **Level III Students will:** **EE8.G.2** Use a transformation to align two objects to determine if they are congruent. **Level II Students will:** **EE8.G.2** Use transformation to align two congruent objects. **Level I Students will:** **EE8.G.2** Determine if two objects are congruent.
8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	**EE8.G.5** When given a diagram of a triangle with the measurements for 2 angles within a triangle, find the measurement of the third angle.	**Level IV Students will:** **EE8.G.5.** Given a diagram of a triangle with an interior angle and two exterior angles, find the missing interior angles. **Level III Students will:** **EE8.G.5** When given a diagram of a triangle with the measurements for 2 angles within a triangle, find the measurement of the third angle. **Level II Students will:** **EE8.G.5** Understand that all angles of a triangle add up to 180°. **Level I Students will:** **EE8.G.5** When shown a right triangle, determine which angle is a right angle and apply the right angle symbol.
8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems.	**EE8.G.7** Use the Pythagorean theorem to calculate the length of the hypotenuse given side a and side b.	**Level IV Students will:** **EE8.G.7** Use the Pythagorean theorem to calculate the length of a side given a side and hypotenuse. **Level III Students will:** **EE8.G.7** Use the Pythagorean theorem to calculate the length of the hypotenuse given side a and side b. **Level II Students will:** **EE8.G.7** Put in the values for sides a, b, and c into the correct locations for the Pythagorean theorem. **Level I Students will:** **EE8.G.7** Given the Pythagorean formula with numbers entered for the values of a, b, and c have the student determine which value is the hypotenuse.
8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	**EE8.G.8** Given a straight line between two points, students will construct a right triangle with that line as the hypotenuse	**Level IV Students will:** **EE8.G.8** Determine the length of the sides and b in the coordinate plane and calculate the hypotenuse "side c" on a coordinate plane. **Level III Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
		EE8.G.8 Plotting at least 3 points on the scatter plot, student will then be able to create a linear model that best represents the data **Level II Students will:** **EE8.G.8** Put the values into the correct locations of the equation on a coordinate plane. **Level I Students will:** **EE8.G.8** Identify the sides of a right angles (specifically identifying the difference between the sides and hypotenuse) on a coordinate plane.
Statistics and Probability	**Grade 8**	
8.SP.3 Use an equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	**EE8.SP.3** Plotting at least 3 points on the scatter plot, student will then be able to create a linear model that best represents the data.	**Level IV Students will:** **EE8.SP.3** Plotting at least 5 points on the scatter plot, student will draw a linear line of best fit that best represents the data and identifies the y-intercept. **Level III Students will:** **EE8.SP.3** Plotting at least 3 points on the scatter plot, student will be able to draw a linear line of best fit that best represents the data. **Level II Students will:** **EE8.SP.3** Given a scatter plot, draw a linear line that best represents a line of best fit. **Level I Students will:** **EE8.SP.3** When provided with a scatter plot, determine if the general direction is positive/negative
8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. **8.SP.4a** Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. **8.SP.4b** Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	**EE8.SP.4a** Complete a table with at least 3 given data points and denote the pattern (ie: positive relationship, no relationship, negative relationship). **EE8.SP.4b** Not Applicable	**Level IV Students will:** **EE8.SP.4a:** Complete a table with at least 5 data points and decipher the pattern occurring within the table between all the data points. **Level III Students will:** **EE8.SP.4a:** Complete a table with at least 3 given data points and denote the pattern. **Level II Students will:** **EE8.SP.4a:** Recognize a pattern within a set of data points. **Level I Students will:** **EE8.SP.4a:** Organize a collection of data points, no more than 3.

Grade HS

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
Number and Quantity - The Real Number System	**High School**	
Extend the properties of exponents to rational exponents. **N.RN.1** Explain how the meaning of the definition 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.	**EEN.RN.1** Demonstrate the extension of integer exponents to rational exponents on a number line	**Level IV Students will:** **EEN.RN.1** Demonstrate the extension of integer exponents to rational exponents on a number line **written in exponential or radical form**. **Level III Students will**: **EEN.RN.1** Demonstrate the extension of integer exponents to rational exponents on a number line. **Level II Students will**: **EEN.RN.1** Demonstrate the extension of integer exponents **with common denominators** to rational exponents on a number line. **Level I Students will**: **EEN.RN.1** Demonstrate the extension of integer exponents **with unit fractions** to rational exponents on a number line.
N.RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.	**EEN.RN.2** Match the radical representation to its rational exponent form. Exponents limited to ½, ⅓, ¼.	**Level IV Students will:** **EEN.RN.2** Given either the radical or rational exponent representation, write its equivalent representation. **Level III Students will:** **EEN.RN.2** Match the radical representation to its rational exponent form. Exponents limited to ½, ⅓, ¼. (e.g., sq. root (x) = x^(½)) **Level II Students will:** **EEN.RN.2** Identify the radical representation and/or rational exponential form. **Level I Students will:** **EEN.RN.2** Recognize the radical representation.
Number and Quantity - Quantities	**High School**	
Reason quantitatively and use units to solve problems. **N.Q.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.	**EEN.Q.1** Choose and use an appropriate unit of measure to model and/or solve problems.	**Level IV Students will:** **EEN.Q.1** Choose and use an appropriate unit of measure to model and/or solve multi-step problems. **Level III Students will:** **EEN.Q.1** Choose and use an appropriate unit of measure to model and/or solve problems. **Level II Students will:** **EEN.Q.1** Identify the attribute to be measured (e.g., weight, length, temperature) and select the appropriate unit of measure. **Level I Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
		EEN.Q.1 Identify measurement tools.
Number and Quantity - The Complex Number System	**High School**	
Use complex numbers in polynomial identities and equations. **N.CN.7** Solve quadratic equations with real coefficients that have complex solutions.	**EEN.CN.7** Identify real solutions given a graph with whole-number values	**Level IV Students will:** **EEN.CN.7** Determine if quadratic functions have complex solutions given a graph**.** **Level III Students will:** **EEN.CN.7** Identify real solutions given a graph with whole-number values **Level II Students will:** **EEN.CN.7** Recognize the number of real solutions (0, 1, or 2) of a quadratic function given a graph with whole-number values**.** **Level I Students will:** **EEN.CN.7** Recognize quadratic functions given a graph
Algebra – Seeing Structure in Expressions	**High School**	
Write expressions in equivalent forms to solve problems. **A.SSE.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.	**EEA.SSE.3** Given an equation in slope-intercept form, identify the constant as the y-intercept and coefficient as the slope of a line.	**Level IV Students will:** **EEA.SSE.3** Given an equation in slope-intercept form, identify the constant as the y-intercept and coefficient as the slope of a line, which may be increasing (positive), decreasing (negative), or constant (zero). **Level III Students will:** **EEA.SSE.3** Given an equation in slope-intercept form, identify the constant as the y-intercept and coefficient as the slope of a line. **Level II Students will:** **EEA.SSE.3** Given an equation in slope-intercept form, identify both the constant and coefficient. **Level I Students will:** **EEA.SSE.3** Given an equation in slope-intercept form, identify the constant.
Algebra – Arithmetic with Polynomials and Rational Expressions	**High School**	

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Perform arithmetic operations on polynomials. **A.APR.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.	**EEA.APR.1** Add and subtract polynomials.	**Level IV Students will:** EEA.APR.1 Add, subtract, and multiply polynomials. **Level III Students will:** EEA.APR.1 Add and subtract polynomials. **Level II Students will:** EEA.APR.1 Add polynomials. **Level I Students will:** EEA.APR.1 Identify a polynomial, limited to monomial, binomial and trinomial.
Understand the relationship between zeros and factors of polynomials (D) **A.APR.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.	**EEA.APR.3** Identify zeros of a polynomial in factored form applying the zero-product property with one- or two-step equations	**Level IV Students will:** EEA.APR.3 Identify solutions with multiplicity greater than one (even/odd) from a graph or from factored form. Technology/calculator is allowed as necessary. **Level III Students will:** EEA.APR.3 Identify zeros of a polynomial in factored form applying the zero-product property with one- or two-step equations. **Level II Students will:** EEA.APR.3 Identify zeros of a polynomial given a graph. **Level I Students will:** EEA.APR.3 Recognize polynomials given algebraic representation and/or a graph.
Algebra – Creating Equations	**High School**	
Create equations that describe numbers or relationships. **A.CED.1** Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	**EEA.CED.1** Solve a one-step equation or inequality with one variable.	**Level IV Students will:** EEA.CED.1 Create and solve an equation or inequality with one variable. **Level III Students will:** EEA.CED.1 Solve a one-step equation or inequality with one variable. **Level II Students will:** EEA.CED.1 Solve a one-step equation with one variable. **Level I Students will:** EEA.CED.1 Identify the variable within an equation.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	**EEA.CED.2** Given an equation in slope-intercept form and its related table, graph a line.	**Level IV Students will:** **EEA.CED.2** Given an equation in slope-intercept form, graph a line. **Level III Students will:** **EEA.CED.2** Given an equation in slope-intercept form and its related table, graph a line. **Level II Students will:** **EEA.CED.2** Given an equation in slope-intercept form and its related table, plot the y-intercept. **Level I Students will:** **EEA.CED.2** Recognize points in a table as ordered pairs (x, y).
A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.	**EEA.CED.3** Identify constraints that are represented graphically.	**Level IV Students will:** **EEA.CED.3** Given a list of possible solutions, determine which are viable/non-viable given constraints**.** **Level III Students will:** **EEA.CED.3** Identify constraints that are represented graphically. **Level II Students will:** **EEA.CED.3** Recognize constraints that are represented graphically. **Level I Students will:** **EEA.CED.3** Recognize when solutions are viable or non-viable.
Algebra – Reasoning with Equations and Inequalities	**High School**	
A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	**EEA.REI.2** Recognize when there is potential for extraneous solutions to exist (variables in radicals and variables in the denominator of a rational equation).	**Level IV Students will:** **EEA.REI.2** Evaluate solutions to determine if they are extraneous or not (SMP1: "mathematically proficient students check their answers...") **Level III Students will:** **EEA.REI.2** Recognize when there is potential for extraneous solutions to exist (variables in radicals and variables in the denominator of a rational equation) **Level II Students will:** **EEA.REI.2** Identify equations with variables in the denominator or under a radical **Level I Students will:** **EEA.REI.2** Identify variables, denominators, and/or radicals
Solve equations and inequalities in one variable. **A.REI.3** Solve linear equations and inequalities in one variable, including	**EEA.REI.3** Solve a two-step, linear equation in one variable.	**Level IV Students will:** **EEA.REI.3** Solve a two-step, linear inequality in one variable, containing a positive, whole number coefficient. **Level III Students will:** **EEA.REI.3** Solve a two-step, linear equation in one variable.

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
equations with coefficients represented by letters.		**Level II Students will:** EEA.REI.3 Solve a one-step equation containing a whole number coefficient. (e.g., 15 = 3x) **Level I Students will:** EEA.REI.3 Solve a one-step equation using addition or subtraction. (e.g., 5 = x + 2)
A.REI.4 Solve quadratic equations in one variable. **B**.Solve quadratic equations by inspection (e.g., for $x^2 = 49$), 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 $a \pm bi$ for real numbers a and b.	**EEA.REI.4** Given a table, identify the solution(s) of the quadratic function when all solutions are whole-numbers.	**Level IV Students will:** EEA.REI.4 Given a quadratic equation, complete a table to find solution(s) and/or other key points of the graph when all solutions are whole-numbers. **Level III Students will:** EEA.REI.4 Given a table, identify the solution(s) of the quadratic function when all solutions are whole-numbers. **Level II Students will:** EEA.REI.4 Recognize the number of solution(s) of a quadratic function when all solutions are whole-numbers. **Level I Students will:** EEA.REI.4 Recognize quadratic functions in any form.
A.REI.6 Estimate solutions graphically and determine algebraic solutions to linear systems, focusing on pairs of linear equations in two variables.	**EEA.REI.6** Locate the solution to a system of linear equations by naming the point of intersection.	**Level IV Students will:** EEA.REI.6 Create two intersecting lines and estimate the point of intersection. **Level III Students will:** EEA.REI.6 Locate the solution to a system of linear equations by naming the point of intersection. (e.g., a graph showing two lines that intersect) **Level II Students will:** EEA.REI.6 Locate both the x- and y- axes. **Level I Students will:** EEA.REI.6 Locate the intersection.
A.REI.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.	**EEA.REI.7** Identify solutions given a graph of a linear-quadratic system (with whole number values only)	**Level IV Students will:** EEA.REI.7 Determine if a point is a solution of a linear-quadratic system (given a graph, tables, and/or equations). **Level III Students will:** EEA.REI.7 Identify solutions given a graph of a linear-quadratic system (with whole number values only) **Level II Students will:** EEA.REI.7 Identify the number of solutions of a linear-quadratic system given a graph (0, 1, 2) **Level I Students will:**

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
		EEA.REI.J.7 Identify linear-quadratic systems given graphical representations
Functions – Interpreting Functions	**High School**	
Understand the concept of a function and use function notation. **F.IF.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 $y = f(x)$.	**EEF.IF.1** Given a function table and rule, determine missing input and output values.	**Level IV Students will:** **EEF.IF.1** Determine whether a table containing data is a function. **Level III Students will:** **EEF.IF.1** Given a function table and rule, determine missing input and output values. **Level II Students will:** **EEF.IF.1** Using a table and provided an input, find the output. **Level I Students will:** **EEF.IF.1** Identify the input and output values within a table.
F.IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	**EEF.IF.2** Match expressions (e.g., 2x+4) with given x-values (e.g., x=3) to functions written using function notation (e.g., f(3) = 2(3) + 4)	**Level IV Students will:** **EEF.IF.2** Students will complete a table provided a function and x-values, where they are asked to fill in the given inputs into the function without evaluating the function. **Level III Students will:** **EEF.IF.2** Match expressions (e.g., 2x+4) with given x-values (e.g., x=3) to functions written using function notation (e.g., f(3) = 2(3) + 4) **Level II Students will:** **EEF.IF.2** Match equations written in y= form to equations written in function notation. **Level I Students will:** **EEF.IF.2** Recognize when an equation is written in function notation.
Interpret functions that arise in applications in terms of the context. **F.IF.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.	**EEF.IF.4** For a function, interpret key features of a graph and/or table, including whether the function is increasing, decreasing, or constant.	**Level IV Students will:** **EEF.IF.4** Interpret key features of a graph and/or table, which may include intercepts and/or intervals. **Level III Students will:** **EEF.IF.4** For a function, interpret key features of a graph and/or table, including whether the function is increasing, decreasing, or constant. **Level II Students will:** **EEF.IF.4** Using a graph, identify whether a function is increasing, decreasing, or constant. **Level I Students will:** **EEF.IF.4** Using a graph, recognize whether a function is increasing.

PROPOSED 2024 WYOMING MATH EXTENDED STANDARDS AND ACHIEVEMENT LEVEL DESCRIPTORS

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)

Analyze functions using different representations.
F.IF.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.
	EEF.IF.7 Identify key feature(s) of two types of functions:
	- Linear and Exponential functions
	  - Growth (linear vs. exponential)
	  - Intercepts
	- Quadratics
	  - Minima/Maxima
	  - Intercepts
	- Polynomials
	  - End Behavior
	  - Intercepts
		* For the following levels, we are asking that students (given a graph of a linear, exponential, quadratic, or polynomial functions) can answer questions pertaining to each type of function, not all key features of each type of function.
		Level IV Students will:
		EEF.IF.7 Identify key feature(s) of all of the following types of functions:
		- **Linear and Exponential functions**
		  - Growth (linear vs. exponential)
		  - Intercepts
		- **Quadratics**
		  - Minima/Maxima
		  - Intercepts
		- **Polynomials**
		  - End Behavior
		  - Intercepts
		Level III Students will:
		EEF.IF.7 Identify key feature(s) of two types of functions:
		- **Linear and Exponential functions**
		  - Growth (linear vs. exponential)
		  - Intercepts
		- **Quadratics**
		  - Minima/Maxima
		  - Intercepts
		- **Polynomials**
		  - End Behavior
		  - Intercepts
		Level II Students will:
		EEF.IF.7 Identify key feature(s) of one type of function:
		- **Linear and Exponential functions**
		  - Growth (linear vs. exponential)
		  - Intercepts
		- **Quadratics**
		  - Minima/Maxima
		  - Intercepts
		- **Polynomials**
		  - End Behavior
		  - Intercepts

2023 Wyoming Mathematics Content Standards	2024 Wyoming Math Extended Standards	Instructional Achievement Level Descriptor (ALDs)
		Level I Students will: EEF.IF.7 Identify linear, exponential, quadratic, and polynomial functions given graphs.
F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	**EEF.IF.9** Compare properties of two functions both represented in the same way using whole number values. Students can utilize two of the following representations: - Graphically - Algebraically - Using a Table	**Level IV Students will:** EEF.IF.9 Compare properties of two functions both represented in the same way using whole number values. Students can utilize all of the following representations: - Graphically - Algebraically - Using a Table **Level III Students will:** EEF.IF.9 Compare properties of two functions both represented in the same way using whole number values. Students can utilize two of the following representations: - Graphically - Algebraically - Using a Table **Level II Students will:** EEF.IF.9 Compare properties of two functions both represented in the same way using whole number values. Students can utilize one of the following representations: - Graphically - Algebraically - Using a Table **Level I Students will:** EEF.IF.9 Identify properties of functions.
Functions – Building Functions	**High School**	
Build a function that models a relationship between two quantities. **F.BF.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.	**EEF.BF.1** Match a function that describes a relationship between the input and output, within a context.	**Level IV Students will:** EEF.BF.1 Write a function that describes the relations, within a context. **Level III Students will:** EEF.BF.1 Match a function that describes a relationship between the input and output, within a context. **Level II Students will:** EEF.BF.1 Describe how the input and output are related. **Level I Students will:** EEF.BF.1 Identify key information.

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Build new functions from existing functions. **F.BF.3** Identify the effect on the graph of replacing *f*(*x*) by *f*(*x*) + *k*, *kf*(*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.	**EEF.BF.3** Identify the correct representation of a horizontal rigid transformation (graphically or algebraically).	**Level IV Students will:** **EEF.BF.3** Identify the correct representation of a vertical or horizontal (graphically and algebraically). **Level III Students will:** **EEF.BF.3** Identify the correct representation of a horizontal rigid transformation (graphically or algebraically). **Level II Students will:** **EEF.BF.3** Identify the correct representation of a vertical rigid transformation (graphically or algebraically). **Level I Students will:** **EEF.BF.3** Identify when a horizontal and/or vertical rigid transformation has taken place (graphically or algebraically)
F.BF.4 Find inverse functions. A. Write an expression for the inverse of a simple, invertible function *f*(*x*). Understand that an inverse function can be obtained by expressing the dependent variable of one function as the independent variable of another, as *f* and *g* are inverse functions, if and only if, *f*(*x*) = *y* and *g*(*y*) = *x*, for all values of *x* in the domain of *f* and all values of *y* in the domain of *g*.	**EEF.BF.4** Not applicable.	***The Extended Standards Educator Committee determined there are no real-world applications for this standard that are appropriate for this population and/or they have been covered in previous standards.**
Functions – Linear, Quadratic, and Exponential Models	**High School**	
Construct and compare linear, quadratic, and exponential models and solve problems. **F.LE.1** Distinguish between situations that can be modeled with linear functions and with exponential functions. A. Verify 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	**EEF.LE.1** Compare growth descriptively between two linear functions or two exponential functions (graph-to-graph, table-to-table, equation-to-equation).	**Level IV Students will:** **EEF.LE.1** Compare growth descriptively between two linear functions and two exponential functions (graph-to-graph, table-to-table, equation-to-equation). **Level III Students will:** **EEF.LE.1** Compare growth descriptively between two linear functions or two exponential functions (graph-to-graph, table-to-table, equation-to-equation). **Level II Students will:** **EEF.LE.1** Identify functions as growing linearly and/or exponentially functions (represented in multiple ways). **Level I Students will:** **EEF.LE.1** Identify functions as growing linearly and/or exponentially (represented in one way - graphically, using a table, or algebraically).

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quantity grows or decays by a constant percent rate per unit interval relative to another.		
F.LE.2 Construct linear and exponential functions using a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	**EEF.LE.2** Construct a linear function using a table.	**Level IV Students will:** EEF.LE.2 Construct a linear function using a situation, or rule. **Level III Student will:** EEF.LE.2 Construct a linear function using a table. **Level II Students will:** EEF.LE.2 Using x- and y- coordinates from a table, plot one point. **Level I Students will:** EEF.LE.2 Identify the input and output as the x- and y- coordinates, respectively.
Geometry – Congruence	**High School**	
G.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	**EEG.CO.3** Given a rectangle, parallelogram, trapezoid, or regular polygon identify the rotation and reflection that carries a figure (having symmetry) onto itself	**Level IV Students will:** EEG.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon identify the combination of rotations and/or reflections that carry a figure (having symmetry) onto itself **Level III Students will:** EEG.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon identify the rotation and reflection that carries a figure (having symmetry) onto itself **Level II Students will:** EEG.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon identify the rotation that carries a figure (having symmetry) onto itself **Level I Students will:** EEG.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon identify the reflection that carries a figure (having symmetry) onto itself
G.CO.8 Explain how the criteria for triangle congruence (*ASA*, *SAS*, and *SSS*) follow from the definition of congruence in terms of rigid motions.	**EEG.CO.8.** Given two congruent triangles, identify two criteria (ASA, SAS, SSS) that prove triangle congruence in terms of rigid motions.	**Level IV Students will:** EEG.CO.8 Given two congruent triangles, identify all criteria (ASA, SAS, SSS) that prove triangle congruence in terms of rigid motions. **Level III Students will:** EEG.CO.8 Given two congruent triangles, identify two criteria (ASA, SAS, SSS) that prove triangle congruence in terms of rigid motions. **Level II Students will:**

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		EEG.CO.8 Given two congruent triangles, identify one criterion (ASA, SAS, SSS) that proves triangle congruence in terms of rigid motions. **Level I Students will**: **EEG.CO.8** Identify corresponding congruent angles and corresponding congruent sides in a set of congruent triangles.
G.CO.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.	**EEG.CO.9** Utilize theorems about lines and angles to solve problems from diagrams and/or in context from any three of the following categories. - Vertical angles are congruent - When a transversal crosses parallel lines, alternate interior angles are congruent - When a transversal crosses parallel lines, corresponding angles are congruent - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints	**Level IV Students will**: **EEG.CO.9** Utilize theorems about lines and angles to solve problems from diagrams and/or in context from all of the following categories. - Vertical angles are congruent - When a transversal crosses parallel lines, alternate interior angles are congruent - When a transversal crosses parallel lines, corresponding angles are congruent - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints **Level III Students will**: **EEG.CO.9** Utilize theorems about lines and angles to solve problems from diagrams and/or in context from any three of the following categories. - Vertical angles are congruent - When a transversal crosses parallel lines, alternate interior angles are congruent - When a transversal crosses parallel lines, corresponding angles are congruent - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints **Level II Students will**: **EEG.CO.9** Utilize theorems about lines and angles to solve problems from diagrams and/or in context from any two of the following categories. - Vertical angles are congruent - When a transversal crosses parallel lines, alternate interior angles are congruent - When a transversal crosses parallel lines, corresponding angles are congruent - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints **Level I Students will**:

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		EEG.CO.9 Utilize theorems about lines and angles to solve PROBLEMS from diagrams and/or in context from one of the following categories.
		  - Vertical angles are congruent
		  - When a transversal crosses parallel lines, alternate interior angles are congruent
		  - When a transversal crosses parallel lines, corresponding angles are congruent
		  - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints.

G.CO.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180 degrees; 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.	**EEG.CO.10** Utilize theorems about triangles to solve problems from diagrams and/or in context from any three of the following categories.
	  - Measures of interior angles of a triangle sum to 180 degrees
	  - 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
		Level IV Students will:
		EEG.CO.10 Utilize theorems about triangles to solve problems from diagrams and/or in context from all of the following categories.
		  - Measures of interior angles of a triangle sum to 180 degrees
		  - 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
		Level III Students will:
		EEG.CO.10 Utilize theorems about triangles to solve problems from diagrams and/or in context from any three of the following categories.
		  - Measures of interior angles of a triangle sum to 180 degrees
		  - 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
		Level II Students will:
		EEG.CO.10 Utilize theorems about triangles to solve problems from diagrams and/or in context from any two of the following categories.
		  - Measures of interior angles of a triangle sum to 180 degrees
		  - 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
		Level I Students will:
		EEG.CO.10 Utilize theorems about triangles to solve problems from diagrams and/or in context from one of the following categories.

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		- Measures of interior angles of a triangle sum to 180 degrees - 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
Geometry – Similarity, Right Triangles, and Trigonometry	**High School**	
Prove theorems involving similarity. **G.SRT.5** Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	**EEG.SRT.5** Use congruence and similarity criteria for triangles within other geometric figures to solve problems from **diagrams.**	**Level IV Students will:** **EEG.SRT.5** Use congruence and similarity criteria for triangles within other geometric figures to solve problems from diagrams and in context. **Level III Students will:** **EEG.SRT.5** Use congruence and similarity criteria for triangles within other geometric figures to solve problems from diagrams. **Level II Students will:** **EEG.SRT.5** Use congruence criteria for triangles within other geometric figures to solve problems from diagrams. **Level I Students will:** **EEG.SRT.5** Identify the similar and congruent triangles within diagrams of other geometric figures (eg., a parallelogram with diagonals drawn).
Define trigonometric ratios and solve problems involving right triangles. **G.SRT.8** Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	**EEG.SRT.8** Given a **diagram** and **technology,** use the Pythagorean Theorem to find any missing sides of a right triangle or identify the correct trigonometric ratio that should be used to solve the triangle	**Level IV Students will:** **EEG.SRT.8** Given a diagram and technology, use the Pythagorean Theorem to find any missing sides of a right triangle and identify the correct trigonometric ratio that should be used to solve the triangle **Level III Students will:** **EEG.SRT.8** Given a diagram and technology, use the Pythagorean Theorem to find any missing sides of a right triangle or identify the correct trigonometric ratio that should be used to solve the triangle **Level II Students will:** **EEG.SRT.8** Given a diagram and technology, use the Pythagorean Theorem to find any side of a right triangle given a diagram **Level I Students will:** **EEG.SRT.8** Identify the sides of a triangle as leg, leg, hypotenuse given a right triangle and identify the sides of a triangle as opposite, adjacent, hypotenuse given a triangle with a labeled acute angle.

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Geometry – Circles	**High School**	
Find arc lengths and areas of sectors of circles. **G.C.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.	**EEG.C.5 Compute** the area of a unit sector given the area of the circle and a diagram. Sectors will be identifiable unit fractions of circles (eg., 1/2, 1/3, 1/4).	**Level IV Students will**: **EEG.C.5** Compute the area of a sector given the area of the circle and a problem in context. Sectors will be identifiable unit fractions of circles (eg., 1/2, 1/3, 1/4). **Level III Students will**: **EEG.C.5** Compute the area of a unit sector given the area of the circle and a diagram. Sectors will be identifiable unit fractions of circles (eg., 1/2, 1/3, 1/4). **Level II Students will**: **EEG.C.5** Identify the formula that matches the area of a sector given the area of a circle and a diagram. Sectors will be identifiable unit fractions of circles (eg., 1/2, 1/3, 1/4). **Level I Students will**: **EEG.C.5** Identify a sector of a circle given diagrams
Geometry – Expressing Geometric Properties with Equations	**High School**	
G.GPE.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).	**EEG.GPE.5.** Determine slopes of parallel and perpendicular lines given equations of lines, diagrams, and/or contextual problems.	**Level IV Students will**: **EEG.GPE.5.** Identify the equation of a parallel and perpendicular line that matches a geometric problem (diagram, equation, and/or in context) **Level III Students will**: **EEG.GPE.5.** Determine slopes of parallel and perpendicular lines given equations of lines, diagrams, and/or contextual problems. **Level II Students will**: **EEG.GPE.5.** Determine slopes of parallel or perpendicular lines given equations of lines, diagrams, and/or contextual problems. **Level I Students will**: **EEG.GPE.5.** Identify slopes of lines given equations of lines, diagrams, and contextual problems.
Geometry – Geometric Measurement and Dimension	**High School**	
G.GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.	**EEG.GMD.3** Provided formulas and measurements, calculate the volume of three dimensional objects including cubes,	**Level IV Students will:** **EEG.GMD.3** Provided formulas and measurements, predict volumes of non-similar, three-dimensional objects and verify the prediction through calculation. **Level III Students will:**

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	rectangular prisms, cylinders, spheres, or cones to solve real-world problems.	**EEG.GMD.3** Provided formulas and measurements, calculate the volume of three dimensional objects including cubes, rectangular prisms, cylinders, spheres, or cones to solve real-world problems. **Level II Students will:** **EEG.GMD.3** Using two similar, three-dimensional objects, predict which has a greater volume and verify the prediction. (e.g., fill containers with water, rice, use a formula). **Level I Students will:** **EEG.GMD.3** Match the three-dimensional object with its appropriate math term.
Statistics and Probability – Interpreting Categorical and Quantitative Data	**High School**	
S.ID.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.	**EES.ID.2** Given a graph, determine measures of central tendency, which may include mean, median, mode, or other measures such as range or outliers.	**Level IV Students will:** **EES.ID.2** Given a graph or data, describe how an outlier would impact any measure of central tendency. **Level III Students will:** **EES.ID.2** Given a graph or data, determine measures of central tendency, which may include mean, median, mode, or other measures such as range or outliers. **Level II Students will:** **EES.ID.2** Given a graph or data, determine the mean or median. **Level I Students will:** **EES-ID.2** Given a graph or data, determine the mode.

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S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. A. Use a function to describe data trends 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.	**EES.ID.6** Given multiple linear trendlines, determine which one best represents the data.	**Level IV Students will:** **EES.ID.6** Given a scatter plot, place a linear trendline and justify its placement. **Level III Students will:** **EES.ID.6** Given multiple linear trendlines, determine which one best represents the data. **Level II Students will:** **EES.ID.6** Differentiate between a scatter plot that is increasing versus decreasing. **Level I Students will:** **EES.ID.6** Identify a scatter plot that is increasing.
Interpret linear models. **S.ID.7** Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	**EES.ID.7** Given a graph, identify the slope as increasing (positive), decreasing (negative), or constant (zero) and find the y-intercept.	**Level IV Students will:** **EES.ID.7** Given a graph, interpret the slope or y-intercept within a context. **Level III Students will:** **EES.ID.7** Given a graph, identify the slope as increasing (positive), decreasing (negative), or constant (zero) and find the y-intercept. **Level II Students will:** **EES.ID.7** Identify the y-intercept as the point where a line intersects the y-axis. **Level I Students will:** **EES.ID.7** Identify the slope of a line as increasing (positive) or decreasing (negative).
S.ID.9 Distinguish between correlation and causation.	**EES.ID.9** Describe the relationship, in context, between the independent and dependent variables (positive, negative, no relationship)	**Level IV Students will:** **EES.ID.9** Given specific, clearly-defined examples of relationships, identify if the relationship is an example of correlation or causation. **Level III Students will:** **EES.ID.9** Describe the relationship, in context, between the independent and dependent variables (positive, negative, no relationship). **Level II Students will:** **EES.ID.9** Identify dependent variables. **Level I Students will:** **EES.ID.9** Identify independent variables.

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Statistics and Probability – Conditional Probability and the Rules of Probability	**High School**	
Understand independence and conditional probability and use them to interpret data. **S.CP.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").	**EES.CP.1** List the possible outcomes of an event.	**Level IV Students will:** **EES.CP.1** Compare theoretical and experimental outcomes. **Level III Students will:** **EES.CP.1** List the possible outcomes of an event. **Level II Students will:** **EES.CP.1** Identify the chance of an event as more, less, or equally likely. **Level I Students will:** **EES.CP.1** Identify the chance of an event as impossible, possible, or certain.