WORKING DRAFT

Idaho Extended Content Standards Alignment in Mathematics

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INTRODUCTION

All Idaho students, including students with disabilities, are required to participate in the Idaho Standards Achievement Test (ISAT). Students with disabilities can participate in the ISAT in one of three ways. They may take the ISAT without accommodations, the ISAT with accommodations, or the Idaho Alternate Assessment (IDAA). The IDAA is available to students with the most significant cognitive impairments (SCI), representing about 1.0% of the total student population. Student with SCI must meet four participation criteria to qualify for the IDAA, as determined by the Individualized Education Program (IEP) team. The Idaho Extended Content Standards (ECS) serve as instructional standards for students who qualify for the IDAA. The ECS are aligned with the Idaho Content Standards (ICS), but have been reduced in depth, breadth, and complexity.

The current ECS in Mathematics were adopted in 2017. Between January and April 2023, they underwent a review to ensure appropriate alignment with the ICS. The alignment review also included an examination of appropriate reductions in depth, breadth, and complexity, as would be appropriate for students with the most SCI. Forty-six educational partners served on the alignment review committees for English Language Arts/Literacy, Mathematics, and Science representing parents, community members, general and special educators, and administrators.

DOCUMENT STRUCTURE

The structure of the current ECS has become obsolete because of organizational changes made to the ICS adopted in 2022. Therefore, the existing ECS document will be completely replaced. Described below are global changes that will not appear in this red-lined document, nor the proposed ECS document.

- The term Core Content Connectors (CCC), which was included in the title and used to refer to the individual standards in the current ECS, has been removed to mirror language in the ICS.
- The College and Career Readiness Anchors (CCRAs) have been removed because references to the CCRAs were removed from the 2022 Idaho Content Standards.
- The number convention for the proposed ECS has been revised to correspond with the numbering conventions used in the 2022 Idaho Content Standards, with ".ECS" added to the end of each standard number. At a minimum, the numbering convention for all retained and revised ECS has changed.
    - As mentioned above, the ECS do not cover the full breadth of the ICS. In other words, there are not as many ECS as there are ICS. In this document, you will notice ICS that do not have corresponding ECS as would be expected. In the proposed document, the numbering of the ECS will have gaps.

This document is intended to illustrate the process the committee followed to review the current ECS and propose revisions to alignment to the ICS and appropriate reductions to depth, breadth, and complexity. To illustrate the changes to the current ECS, the proposed revisions to the current ECS appear as follows:

- Retained text appears in black text.
- Deleted text appears in ~~red, strikethrough~~ text.
- Changed text appears in blue text. [not sure which blue color to use here.]

The proposed revisions to the current ECS are organized into tables with four columns with one row per standard, as illustrated below.

Table 1: Organization of Proposed Revisions to ECS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
This column contains the ICS	This column contains the current ECS. In some cases, there are several ECS for a single ICS.	This column contains the red-lined proposed revisions	This column contains the committee's rationale for the proposed revisions.

ABBREVIATIONS

- CCC: Core Content Connectors
- CCRA: College and Career Readiness Anchor
- ECS: Idaho Extended Content Standards
- ELA/L: English Language Arts/Literacy
- ICS: Idaho Content Standards
- IDAA: Idaho Alternate Assessment
- IEP: Individualized Education Program
- ISAT: Idaho Standards Achievement Test
- SCI: Significant cognitive impairment

KINDERGARTEN COUNTING AND CARDINALITY – K.CC

Kindergarten: Know number names and the count sequence.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.CC.A.1 Count to 100 by ones and by tens.	**K.NO.1a1** Rote count up to 10 (suggest count 10 objects) **K.NO.1a2** Rote count up to 31 **K.NO.1a3** Rote count up to 100	**K.CC.A.1.ECS** Rote count up to 10 (suggest count 10 objects). ~~**K.NO.1a2** Rote count up to 31~~ ~~**K.NO.1a3** Rote count up to 100~~	Only the first ECS standard was relevant to the kindergarten standard.
K.CC.A.2 Starting at a given number, count forward within 100 and backward within 20.			
K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	**K.NO.1d1** Identify numerals 1-10 **K.NO.1d2** Identify the numerals 1-10 when presented the name of the number **K.NO.1e1** Write or select the numerals 1-10	**K.CC.A.3.ECS** Identify, write, or select numerals 0-10. ~~**K.NO.1d2** Identify the numerals 1-10 when presented the name of the number~~ ~~**K.NO.1e1** Write or select the numerals 1-10~~	The 3 standards were consolidated.

Kindergarten: Count to tell the number of objects.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality. **a.** When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. **b.** Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. **c.** Understand that each successive number name refers to a quantity that is one larger. Recognize the "one more" pattern of counting using objects.	**K.NO.1a4** Count up to 10 objects in a line, rectangle, or array **K.NO.1b1** Match the numeral to the number of objects in a set	**K.CC.B.4.ECS** Count up to 10 objects in a line, rectangle, or array. ~~**K.NO.1b1** Match the numeral to the number of objects in a set~~	Divided with standard below in order to simplify and separate value and corresponding numeral
K.CC.B.5 Given a group of up to 20 objects, count the number of objects in that group and state the number of objects in a rearrangement of that group without recounting. Given a	**K.NO.1b1** Match the numeral to the number of objects in a set **K.DPS.1a1** Select a question that is answered by collected data	**K.CC.B.5.ECS** Match the numeral to the number of objects in a set up to 10. ~~**K.DPS.1a1** Select a question that is answered by collected data~~	Divided with standard above in order to simplify and separate value and corresponding numeral

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
verbal or written number from zero to 20, count out that many objects. *Clarification: Objects can be arranged in a line, a rectangular array, or a circle. For as many as ten objects, they may be arranged in a scattered configuration.*	**K.NO.1a4** Count up to 10 objects in a line, rectangle, or array	~~**K.NO.1a4** Count up to 10 objects in a line, rectangle, or array~~	

Kindergarten: Compare numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.CC.C.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups with up to ten objects.	**K.NO.1b2** Identify the set that has more	**K.CC.C.6.ECS** Given two sets of objects between 1-10, i~~I~~dentify the set that has more.	Specified "1-10" and two sets
K.CC.C.7 Compare two numbers between one and ten presented as written numerals.	**K.NO.1f1** Identify the smaller or larger number given 2 numbers between 0-10	**K.CC.C.7.ECS** Identify the ~~smaller or~~ larger number given 2 numerals between ~~0~~1-10.	Keeping with 1-10 and identifying the concept of "more" or "most". Took away "smaller" and the concept of 0 to match with the above 1-10 specification

KINDERGARTEN OPERATIONS AND ALGEBRAIC THINKING – K.OA

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

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.OA.A.1 Represent addition and subtraction of two whole numbers within ten. Use objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.	**K.PRF.1b1** Use objects or pictures to respond appropriately to "add __" and "take away ___" **K.PRF.1b2** Communicate answer after adding or taking away	**K.OA.A.1a.ECS** Use objects or pictures to respond appropriately to "add __" and "take away ___" with a sum or a difference up to 10. ~~**K.PRF.1b2** Communicate answer after adding or taking away~~	Including "up to 10"
K.OA.A.2 Solve addition and subtraction word problems within ten by using physical, visual, and symbolic representations. *Clarification: Students are not expected to independently read word problems.*	**K.PRF.1c1** Solve one step addition and subtraction word problems, and add and subtract within 10 using objects, drawings, pictures **K.NO.2a1** Count 2 sets to find sums up to 10 **K.NO.2a3** Solve word problems within 10	**K.OA.A.2.ECS** Solve one step addition and subtraction word problems, and add and subtract within 10 using objects, drawings, pictures. ~~**K.NO.2a1** Count 2 sets to find sums up to 10~~ ~~**K.NO.2a3** Solve word problems within 10~~	The other standards were removed because it was repetitive and covered in other areas.
K.OA.A.3 Decompose whole numbers from one to ten into pairs in more than one way by using physical, visual, or symbolic representations.	**K.NO.2a2** Decompose a set of up to 10 objects into a group; count the quantity in each group	**K.OA.A.3.ECS** Decompose whole numbers from one to ten ~~a set of up to 10~~ objects into a group; count the quantity in each group.	1-10

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: Decomposing 5 may include 5=2+3 and 5=4+1.			
K.OA.A.4 For a given whole number from one to nine, find the number that makes ten when added to the number by using physical, visual, or symbolic representations.	**1.NO.2a4** For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record or select the answer.	**K.OA.A.4.ECS** For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record or select the answer.	Moved from 1st to kindergarten
K.OA.A.5 Fluently add and subtract within five, including zero. *Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*			

KINDERGARTEN NUMBER AND OPERATIONS IN BASE TEN – K.NBT

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

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.NBT.A.1 Compose (put together) and decompose (break apart) numbers from 11 to 19 into ten ones and some further ones, and record each composition or decomposition by using physical, visual, or symbolic			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
representations; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. *Example: Recording the decomposition of 18 may look like 18=10+8.*			

KINDERGARTEN MEASUREMENT AND DATA – K.MD

Kindergarten: Describe and compare measurable attributes.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	**K.ME.1a1** Describe objects in terms of measurable attributes (longer, shorter, heavier, lighter…)	**K.MD.A.1.ECS** Describe or select objects in terms of measurable attributes (longer, shorter, heavier, lighter…).	Added "select" in consideration of non-verbal students
K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has "more of"/ "less of" the attribute, and describe the difference. *Example: Directly compare the heights of two children and describe one child as taller/shorter.*	**K.ME.1b2** Compare 2 objects with a measurable attribute in common to see which object has more/less of the attribute (length, height, weight)	**K.MD.A.2.ECS** Compare 2 objects with a measurable attribute in common to see which object has more/less of the attribute (length, height, weight).	

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

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category (up to and including ten) and sort the categories by count.	**K.ME.1b1** Sort objects by characteristics (e.g., big/little, colors, shapes, etc.)	**K.MD.B.3.ECS** Sort objects by characteristics (e.g., big/little, colors, shapes, etc.).	

KINDERGARTEN GEOMETRY – K.G

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

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.G.A.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as "above," "below," beside, "in front of," "behind," and "next to."	**K.GM.1a3** Use spatial language (e.g., above, below, etc.) to describe two-dimensional shapes **K.GM.1a2** Recognize two-dimensional shapes in environment regardless of orientation or size	**K.G.A.1b.ECS** Use spatial language (e.g., above, below, etc.) to ~~describe~~ identify two-dimensional shapes found in the environment. ~~**K.GM.1a2** Recognize two-dimensional shapes in environment regardless of orientation or size~~	Changed verb in second standard to make more accommodating
K.G.A.2 Correctly name shapes regardless of their orientations or overall size.	**K.GM.1a1** Recognize two-dimensional shapes (e.g., circle, square, triangle, rectangle) regardless of orientation or size	**K.G.A.2.ECS** Recognize two-dimensional shapes ~~(e.g., circle, square, triangle, rectangle)~~ regardless of orientation or size	Removing examples so not to limit teaching/ learning

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.G.A.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).			

Kindergarten: Analyze, compare, create, and compose shapes.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.G.B.4 Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts, and other attributes. *Examples:* *1) Number of sides and vertices/ “corners”* *2) Having sides of equal length*			
K.G.B.5 Model shapes in the world by building shapes from components/materials and drawing shapes. *Clarification: Components/materials may include: sticks, clay balls, marshmallows and/or spaghetti.*		**K.G.B.5.ECS** Model shapes in the world by building shapes from components/materials and drawing shapes. *Clarification: Components/materials may include: sticks, clay balls, marshmallows and/or spaghetti*	This ICS is appropriate for all students and relevant for students with significant cognitive impairments.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
K.G.B.6 Compose simple shapes to form larger two-dimensional shapes. *Example: Can you join these two triangles with full sides touching to make a rectangle?*	**K.GM.1c1** Compose a larger shape from smaller shapes	**K.G.B.6.ECS** Compose a larger shape from smaller shapes.	

Kindergarten: ECS without obvious corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	K.PRF.2a1 Describe or select the repeating pattern using objects or pictures (AB or ABC)	~~K.PRF.2a1 Describe or select the repeating pattern using objects or pictures (AB or ABC)~~	Removing ECS as there is no grade level ICS to correlate with.
None	K.PRF.2a2 Extend a repeating pattern using objects or pictures (AB or ABC)	~~K.PRF.2a2 Extend a repeating pattern using objects or pictures (AB or ABC)~~	Removing ECS as there is no grade level ICS to correlate with.
None	K.PRF.2a3 Extend a repeating numerical AB pattern	~~K.PRF.2a3 Extend a repeating numerical AB pattern~~	Removing ECS as there is no grade level ICS to correlate with.
None	K.PRF.2b1 Create a repeating pattern using objects, pictures, or numbers	~~K.PRF.2b1 Create a repeating pattern using objects, pictures, or numbers~~	Removing ECS as there is no grade level ICS to correlate with.

GRADE 1 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 1 OPERATIONS AND ALGEBRAIC THINKING – 1.OA

Grade 1: Represent and solve problems involving addition and subtraction.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.OA.A.1 Solve addition and subtraction word problems within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using physical, visual, and symbolic representations.	**1.PRF.1c2** Solve one step addition and subtraction word problems where the change or result is unknown (4 + _ = 7) or (4 + 3 = __), within 20 using objects, drawings, pictures **1.NO.2a9** Use manipulatives or representations to write simple addition or subtraction equations within 20 based upon a word problem **1.NO.2a10** Use data presented in graphs (i.e., pictorial, object) to solve one step "how many more" or "how many less" word problems **1.NO.2a11** Solve word problems within 20 **1.PRF.1b3** Using objects or pictures respond appropriately to "add __" and "take away ___"	**1.OA.A.1.ECS** Solve one-step addition and subtraction word problems ~~where the change or result is unknown (4 + _ = 7) or (4 + 3 = __),~~ within 20 using objects, drawings, or pictures ~~**1.NO.2a9** Use manipulatives or representations to write simple addition or subtraction equations within 20 based upon a word problem~~ ~~**1.NO.2a10** Use data presented in graphs (i.e., pictorial, object) to solve one step "how many more" or "how many less" word problems~~ ~~**1.NO.2a11** Solve word problems within 20~~ ~~**1.PRF.1b3** Using objects or pictures respond appropriately to "add __" and "take away ___"~~	All encompassing

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 by using physical, visual, and symbolic representations. *Clarification: Students are not expected to independently read word problems.*			

Grade 1: Understand and apply properties of operations and the relationship between addition and subtraction.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.OA.B.3 Apply properties of operations to add. *Examples:* *1) If 8+3=11 is known, then 3+8=11 is also known. (Commutative property of addition.)* *2) To add 2+6+4, the second two numbers can be added to make a ten, so 2+6+4=2+10=12. (Associative property of addition.)* *Clarification: Students need not use formal terms for these properties.*	**1.NO.1i1** Recognize zero as representing none or no objects **1.NO.1i2** Recognize zero as an additive identity	~~**1.NO.1i1** Recognize zero as representing none or no objects~~ ~~**1.NO.1i2** Recognize zero as an additive identity~~ **1.OA.B.3.ECS** Select corresponding examples of properties of operations to add.	New ECS better aligns with the ICS.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.OA.B.4 Restate a subtraction problem as a missing addend problem using the relationship between addition and subtraction. *Example: The equation 12−7= ? can be restated as 7+ ?=12 to determine the difference is 5.*			

Grade 1: Add and subtract within 20.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.OA.C.5 Relate counting to addition and subtraction. *Example: When students count on 3 from 4, they should write this as 4+3=7. When students count on for subtraction, 3 from 7, they should connect this to 7−3=4. Students write "7−3= ?" and think "I count on 3+ ?=7."*	**1.NO.2a6** Count 2 sets to find sums up to 20 **1.NO.2a8** Decompose a set of up to 20 objects into a group; count the quantity in each group	~~**1.NO.2a6** Count 2 sets to find sums up to 20~~ ~~**1.NO.2a8** Decompose a set of up to 20 objects into a group; count the quantity in each group~~ **1.OA.C.5.ECS** Relate counting and decomposing up to 20 to addition and subtraction.	Original ECS not aligned. Decomposing implies subtraction, counting applies adding... Clarified number range "up to 20"
1.OA.C.6 Demonstrate fluency for addition and subtraction within ten, use strategies to add and subtract within 20.	**1.NO.2a6** Count 2 sets to find sums up to 20 **1.NO.2a7** Decompose a set of up to 10 objects into a group; count the quantity in each group	~~**1.NO.2a6** Count 2 sets to find sums up to 20~~ ~~**1.NO.2a7** Decompose a set of up to 10 objects into a group;~~	Focus on strategies and number sense, fluency not yet relevant

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility. Students may use mental strategies such as counting on, making ten, decomposing a number leading to a ten, using the relationship between addition and subtraction, and creating equivalent but easier or known sums.	**1.NO.2a8** Decompose a set of up to 20 objects into a group; count the quantity in each group	~~count the quantity in each group~~ ~~**1.NO.2a8** Decompose a set of up to 20 objects into a group; count the quantity in each group~~	

Grade 1: Work with addition and subtraction equations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *Example: Which of the following equations are true and which are false? 6=6, 7=8−1, 5+2=2+5, 4+1=5+2*	**1.NO.2c1** Identify and apply addition and equal signs	**1.OA.D.7.ECS** Identify and select equations that correctly use the ~~apply addition and~~ equal sign~~s~~.	Revised to better align with ICS.
1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers,	**1.NO.2a4** For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or	~~**1.NO.2a4** For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using~~	Original ECS better aligned to kindergarten. New ECS better aligns with ICS.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
with the unknown in any position. *Example: Determine the unknown number that makes the equation true in each of the equations 8+ ?=11, 5= ?–3, 6+6= ?.*	drawings, and record or select the answer	~~objects or drawings, and record or select the answer~~ **1.OA.D.8.ECS** Select the unknown whole number in an addition and/or subtraction equation.	

GRADE 1 NUMBER AND OPERATIONS IN BASE TEN – 1.NBT

Grade 1: Extend the counting sequence.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.NBT.A.1 Starting at a given number, count forward and backwards within 120 by ones. Skip count by twos to 20, by fives to 100, and by tens to 120. In this range, read and write numerals and represent a number of objects with a written numeral.	**1.NO.1a5** Rote count up to 31 **1.NO.1a6** Rote count up to 100 **1.NO.1a7** Count forward beginning from any given number below 10 **1.NO.1a8** Count up to 31 objects in a line, rectangle, or array **1.NO.1c1** Use a number line to count up to 31 objects by matching 1 object per number **1.NO.1d3** Identify numerals 0-31 **1.NO.1d4** Identify the numeral up to 31 when presented the name **1.NO.1e2** Write or select the numerals 0-31	**1.NBT.A.1B.ECS** Rote count up to 31, count forward and backwards by ones beginning from any given number below 10 using numerals, manipulatives or visual representation, and identify, write or select numerals 0-31. ~~**1.NO.1a6** Rote count up to 100~~ ~~**1.NO.1a8** Count up to 31 objects in a line, rectangle, or array~~ ~~**1.NO.1c1** Use a number line to count up to 31 objects by matching 1 object per number~~ ~~**1.NO.1d3** Identify numerals 0-31.~~	Consolidate to include 0-31 range with the skills of rote counting, forwards and backwards counting by one, and writing or identifying numerals

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
		~~**1.NO.1d4** Identify the numeral up to 31 when presented the name~~ ~~**1.NO.1e2** write or select the numerals 0-31~~	

Grade 1: Understand place value.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand: **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 zero ones).	**1.NO.1h1** Build representations of numbers up to 19 by creating a group of 10 and some 1s (e.g., 13 = one 10 and three 1s) **1.NO.1h2** Identify the value of the numbers in the tens and ones place within a given number up to 31	**1.NBT.B.2.ECS** Understand that the two digits of a two-digit number represent amounts of tens and ones. **b.** Build and/or identify representations of numbers 11 ~~up~~ to ~~19~~ 31 by creating a group of 10 and some 1s (e.g., 13 = one 10 and three 1s). ~~**1.NO.1h2** Identify the value of the numbers in the tens and ones place within a given number up to 31.~~	Used the beginning of the ICS to combine the ECS and cleaned up the rest of the standard to align with the ICS.
1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of	**1.NO.1h3** Compare two-digit numbers up to 31 using representations and numbers (e.g., identify more tens, less tens, more	**1.NBT.B.3.ECS** Compare two-digit numbers up to 31 using representations and numbers (e.g., identify more tens, less	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
comparisons with the symbols >, =, and <.	ones, less ones, larger number, smaller number)	tens, more ones, less ones, larger number, smaller number).	

Grade 1: Use place value understanding and properties of operations to add and subtract.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.NBT.C.4 Add whole numbers within 100 by using physical, visual, and symbolic representations, with an emphasis on place value, properties of operations, and/or the relationship between addition and subtraction. **a.** Add a two-digit number and a one-digit number. **b.** Add a two-digit number and a multiple of ten. **c.** Understand that when adding two-digit numbers, combine like base-ten units such as tens and tens, ones and ones, and sometimes it is necessary to compose a ten.			
1.NBT.C.5 Given a two-digit number, mentally find ten more or ten less than the number, without having to count; explain the reasoning used.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.NBT.C.6 Subtract multiples of ten in the range 10 – 90 from multiples of ten in the range 10 – 90 by using physical, visual, and symbolic representations, with an emphasis on place value, properties of operations, and/or the relationships between addition and subtraction; relate the strategy to a written method and explain the reasoning used. *Example: 70–40 can be thought of as 7 tens take away 4 tens, or can be rewritten as a missing addend problem: 40+ ?=70.*			

GRADE 1 MEASUREMENT AND DATA – 1.MD

Grade 1: Measure lengths indirectly and by iterating (repeating) length units.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.	**1.ME.1b3** Order up to 3 objects based on a measurable attribute (height, weight, length) **1.ME.1b4** Compare the lengths of two objects indirectly by using a third object	**1.MD.A.1.ECS** Order up to 3 objects ~~based on a measurable attribute (height, weight, length)~~ by length. ~~**1.ME.1b4** Compare the lengths of two objects indirectly by using a third object.~~	Simplified ordering objects to just one characteristic.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.MD.A.2 Express the length of an object as a whole number of length units by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Clarification: Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. Include use of standard units such as inch-tiles or centimeter tiles.*	**1.ME.2b1** Express length of an object as a whole number of lengths unit by laying multiple copies of a shorter object end to end **1.ME.1c1** Compare 2 units of measurement and identify which unit would require more or less when measuring a selected object (e.g., Measure with paper clips or markers? Which unit will require more to measure the table?) **1.ME.2a1** Measure using copies of one object to measure another	**1.MD.A.2.ECS** Express length of an object as a whole number of lengths unit by laying multiple copies of a shorter object end to end. ~~**1.ME.1c1** Compare 2 units of measurement and identify which unit would require more or less when measuring a selected object (e.g., Measure with paper clips or markers? Which unit will require more to measure the table?)~~ ~~**1.ME.2a1** Measure using copies of one object to measure another~~	Simplifying the standard by removing the comparison portion and measuring using copies.

Grade 1: Tell and write time.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.MD.B.3 Tell and write time in hours and half-hours using analog and digital clocks.	**1.ME.1a2** Identify minutes and hours on a digital clock **1.ME.2a2** Use time to sequence up to 3 events, using a digital or analog clock	~~1.ME.1a2 Identify minutes and hours on a digital clock.~~ ~~**1.ME.2a2** Use time to sequence up to 3 events, using a digital or analog clock~~	Simplified the standards and added in or analog to align more with the standard.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
		1.MD.B.3B.ECS Tell time to the nearest hour using digital or analog clocks.	

Grade 1: Represent and interpret data.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	**1.DPS.1a2** Select questions that ask about "How many" and represent up to three categories that can be concretely represented **1.DPS.1a3** Identify 2 categories resulting from a selected question **1.DPS.1a4** Analyze data by sorting into 2 categories; answer questions about the total number of data points and how many in each category **1.DPS.1c1** Using a picture graph, represent each object/person counted on the graph (1:1 correspondence) for 2 or more categories **1.DPS.1d1** Interpret a picture graph to answer questions about how many in each category	**1.MD.C.4.ECS** Organize, represent, and interpret data with up to three categories; answer questions about the data. ~~**1.DPS.1a2** Select questions that ask about "How many" and represent up to three categories that can be concretely represented~~ ~~**1.DPS.1a3** Identify 2 categories resulting from a selected question~~ ~~**1.DPS.1a4** Analyze data by sorting into 2 categories; answer questions about the total number of data points and how many in each category~~ ~~**1.DPS.1c1** Using a picture graph, represent each object/person counted on the graph (1:1 correspondence) for 2 or more categories~~	Broader language about how to interact with data. Limited to answering questions about data instead of specific values/ data points

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	1.DPS.1e1 Compare the values of the 2 categories of data in terms of more or less	~~**1.DPS.1d1** Interpret a picture graph to answer questions about how many in each category~~ ~~**1.DPS.1e1** Compare the values of the 2 categories of data in terms of more or less~~	

Grade 1: Work with money.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.MD.D.5 Identify quarters, dimes, and nickels and relate their values to pennies. Find equivalent values (e.g., a nickel is equivalent to five pennies).		**1.MD.D.5.ECS** Identify quarters, dimes, nickels and pennies, and select their value.	This is a new standard so an ECS standard was added to go with it.

GRADE 1 GEOMETRY – 1.G

Grade 1: Reason with shapes and their attributes.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1.G.A.1 Compare defining attributes and non-defining attributes of two- and three-dimensional shapes; build and draw shapes that possess defining attributes. *Clarification: The defining attributes of triangles are closed and three-*	**1.GM.1b2** Distinguish two-dimensional shapes based upon their defining attributes (i.e., size, corners, and points) **1.GM.1b1** Identify shapes as two-dimensional (lying flat) or three-dimensional (solid)	**1.G.A.1.ECS** ~~Distinguish~~ Identify two-dimensional shapes based upon their defining attributes (i.e., size, corners~~, and points~~). ~~**1.GM.1b1** Identify shapes as two-dimensional (lying flat) or three-dimensional (solid)~~	Top standard already aligned in kinder, switched verb for clarity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
sided versus non-defining attributes of color, orientation, and overall size.			
1.G.A.2 Compose two-dimensional (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. *Clarification: Students do not need to learn formal names such as "right rectangular prism."*	**1.GM.1c2** Compose two- and three-dimensional shapes	**1.G.A.2.ECS** Compose two-dimensional shapes ~~and three-dimensional shapes~~ (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) given visuals and/or manipulatives.	
1.G.A.3 Partition circles and rectangles into two and four equal shares. Understand for these examples that decomposing into more equal shares creates smaller shares. **a.** Describe the shares using the words "halves," "fourths," and "quarters," and use the phrases "half of," "a fourth of," and "a quarter of." **b.** Describe the whole as two of, or four of, the shares.	**1.GM.1f1** Partition circles and rectangles into two equal parts	**1.G.A.3.ECS** Partition circles and rectangles into two equal parts. **a.** Label a partitioned shape as "halves."	Added wording from ICS about describing shares.

Grade 1: ECS without obvious corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	**1.PRF.2a4** Use a number line to extend the numerical patterns that grow at a constant rate (2, 4, 6, 8)	~~**1.PRF.2a4** Use a number line to extend the numerical patterns that grow at a constant rate (2, 4, 6, 8)~~	Removing ECS as there is no grade level ICS to correlate with.
None	**1.PRF.2b2** Create a growing pattern using numbers or objects	~~**1.PRF.2b2** Create a growing pattern using numbers or objects~~	Removing ECS as there is no grade level ICS to correlate with.
None	**1.PRF.2c1** Identify the rule of a given arithmetic pattern	~~**1.PRF.2c1** Identify the rule of a given arithmetic pattern~~	Removing ECS as there is no grade level ICS to correlate with.
None	**1.NO.2a5** Count 2 sets to find sums up to 10	~~**1.NO.2a5** Count 2 sets to find sums up to 10~~	Removing ECS as there is no grade level ICS to correlate with.
None	**1.NO.1f2** Order up to 3 sets that have up to 10 objects in each set **1.NO.1f3** Order up to 3 sets with up to 20 objects in each set **1.NO.1f4** Order up to 3 numbers up to 31	~~**1.NO.1f2** Order up to 3 sets that have up to 10 objects in each set~~ ~~**1.NO.1f3** Order up to 3 sets with up to 20 objects in each set~~ ~~**1.NO.1f4** Order up to 3 numbers up to 31~~	Removing ECS as there is no grade level ICS to correlate with.
None	**1.NO.1f5** Identify the smaller or larger number given 2 numbers between 0-31.	~~**1.NO.1f5** Identify the smaller or larger number given 2 numbers between 0-31~~	Removing ECS as there is no grade level ICS to correlate with.

GRADE 2 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 2 OPERATIONS AND ALGEBRAIC THINKING – 2.OA

Grade 2: Represent and solve problems involving addition and subtraction.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using physical, visual, and symbolic representations.	**2.NO.2a16** Solve word problems within 20 **2.NO.2a17** Solve word problems within 100 **2.PRF.1c3** Solve one or two step addition and subtraction problems, and add and subtract within 100, using objects, drawings, pictures **2.PRF.1c4** Use pictures, drawings or objects to represent the steps of a problem **2.PRF.1c5** Write or select an equation representing the problem and its solution **2.SE.1c1** Compare sets and use appropriate symbol to label the first as =, <, or > the second set **2.SE.1c2** Label simple equations as = or with the phrase not equal **2.SE.1d1** Represent addition of 2 sets when shown the + symbol	**2.OA.A.1.ECS** Write or select a one-step addition or subtraction equation from a word problem and solve using objects, drawings, and/or pictures within 100. ~~**2.NO.2a16** Solve word problems within 20~~ ~~**2.NO.2a17** Solve word problems within 100~~ ~~**2.PRF.1c3** Solve one or two step addition and subtraction problems, and add and subtract within 100, using objects, drawings, picture.~~ ~~**2.PRF.1c4** Use pictures, drawings or objects to represent the steps of a problem~~ ~~**2.PRF.1c5** Write or select an equation representing the problem and its solution.~~	Simplified the standards to be closer aligned to the original standard and took out any standards that didn't apply 2nd grade.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	2.SE.1d2 Represent a "taking away" situation with the – symbol	~~**2.SE.1c1** Compare sets and use appropriate symbol to label the first as =, <, or > the second set~~ ~~**2.SE.1c2** Label simple equations as = or with the phrase not equal~~ ~~**2.SE.1d1** Represent addition of 2 sets when shown the + symbol~~ ~~**2.SE.1d2** Represent a "taking away" situation with the – symbol~~	

Grade 2: Add and subtract within 20.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.OA.B.2 Demonstrate fluency for addition and subtraction within 20 using mental strategies. By the end of grade two, recall basic facts to add and subtract within 20 with automaticity. *Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.* *Students may use mental strategies such as counting on, making ten; decomposing a number leading to a*	**2.NO.2b1** Use commutative properties to solve addition problems with sums up to 20 (e.g., 3 + 8 = 11 therefore 8 + 3 = __) **2.NO.2b2** Use associative property to solve addition problems with sums up to 20 **2.NO.2c2** Identify and apply addition, subtraction, and equal signs	~~**2.NO.2b1** Use commutative properties to solve addition problems with sums up to 20 (e.g., 3 + 8 = 11 therefore 8 + 3 = __)~~ ~~**2.NO.2b2** Use associative property to solve addition problems with sums up to 20~~ ~~**2.NO.2c2** Identify and apply addition, subtraction, and equal signs~~	"fluency" not appropriate for students with cognitive disabilities/ working memory concerns

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
ten; using the relationship between addition and subtraction, and creating equivalent but easier or known sums.		**2.OA.B.2.ECS** Demonstrate addition and subtraction within 20 using multiple strategies.	

Grade 2: Work with equal groups of objects to gain foundations for multiplication.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members and write an equation to express an even number as a sum of two equal addends. *Clarification: Students may pair objects or count them by twos.*	**2.NO.1e7** Identify numbers as odd or even	**2.OA.C.3.ECS** ~~Identify numbers as~~ Determine whether a group of objects (up to 20) has an odd or even number of items.	Aligned the ECS standard to more closely resemble the ICS.
2.OA.C.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. *Example: The total number of objects arranged in a 2×5 rectangular array can be found by adding 2+2+2+2+2.*			

GRADE 2 NUMBER AND OPERATIONS IN BASE TEN – 2.NBT

Grade 2: Understand place value.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.NBT.A.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. Understand: **a.** 100 can be thought of as a bundle of ten tens—called a "hundred." **b.** The numbers 100, 200, 300, 400, 500, 600, 700, 800, and 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). *Example: The number 241 can be expressed as 2 hundreds + 4 tens – 1 one or as 24 tens + 1 one or as 241 ones.*	**2.NO.1h5** Build representations of 3-digit numbers using hundreds, tens and ones **2.NO.1h4** Build representations of 3-digit numbers using tens and ones	**2.NBT.A.1.ECS** Given a manipulative and/or visual, b~~B~~uild representations of ~~3-digit~~ numbers up to 3-digit using hundreds, tens and ones. ~~**2.NO.1h4** Build representations of 3-digit numbers using tens and ones~~	Simplifying standard.
2.NBT.A.2 Count within 1,000; skip-count by fives, tens, and 100s. Identify patterns in skip counting starting at any number.	**2.NO.1e4** Skip count by 5s **2.NO.1e5** Skip count by 10s **2.NO.1e6** Skip count by 100s	**2.NBT.A.2.ECS** Skip count by 5s, 10's and 100's. ~~**2.NO.1e5** Skip count by 10s~~ ~~**2.NO.1e6** Skip count by 100s~~	Consolidated standards

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.NBT.A.3 Read and write numbers from 0 to 1,000 using standard form, expanded form, and word form. *Example: The number two-hundred forty-one written in standard form is 241 and in expanded form is 200+40+1.*	**2.NO.1d5** Identify numerals 0-100 **2.NO.1d6** Identify the numeral between 0 and 100 when presented the name **2.NO.1e3** Write or select the numerals 0-100 **2.NO.1h8** Write or select expanded form for any 2-digit number **2.NO.1h9** Write or select expanded form for any 3-digit number **2.NO.1i3** Explain what the zero represents in place value (hundreds, tens, ones) in a number	**2.NBT.A.3.ECS** ~~Identify~~ Write or select numbers 0-100 using standard form and expanded form. ~~**2.NO.1d6** Identify the numeral between 0 and 100 when presented the name~~ ~~**2.NO.1e3** Write or select the numerals 0-100~~ ~~**2.NO.1h8** Write or select expanded form for any 2-digit number~~ ~~**2.NO.1h9** Write or select expanded form for any 3-digit number~~ ~~**2.NO.1i3** Explain what the zero represents in place value (hundreds, tens, ones) in a number~~	Consolidated standards
2.NBT.A.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, recording the results of comparisons with the symbols >,=, and <.	**2.NO.1f6** Compare (greater than, less than, equal to) 2 numbers up to 100 **2.NO.1h6** Compare 2-digit numbers using representations and numbers (e.g., identify more tens, less tens, more ones, less ones, larger number, smaller number)	**2.NBT.A.4.ECS** Compare (greater than, less than, equal to) 2 numbers up to 100 and record or select the results of comparisons with the symbols >,=, and <. ~~**2.NO.1h6** Compare 2-digit numbers using representations and numbers (e.g., identify~~	Consolidated standards

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	2.NO.1h7 Compare 3-digit numbers using representations and numbers (e.g., identify more hundreds, less hundreds, more tens, less tens, more ones, less ones, larger number, smaller number)	~~more tens, less tens, more ones, less ones, larger number, smaller number)~~ ~~**2.NO.1h7** Compare 3-digit numbers using representations and numbers (e.g., identify more hundreds, less hundreds, more tens, less tens, more ones, less ones, larger number, smaller number)~~	
	2.NO.1a9 Rote count up to 100	~~**2.NO.1a9** Rote count up to 100~~	No grade level standard.

Grade 2: Use place value understanding and properties of operations to add and subtract.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.NBT.B.5 Fluently add and subtract whole numbers within 100 using understanding of place value and properties of operations. *Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*	**2.NO.2a14** Model addition and subtraction with base 10 blocks within 100 **2.NO.2a12** Model addition and subtraction with base 10 blocks within 20 **2.NO.2a13** Model addition and subtraction with base 10 blocks within 50	**2.NBT.B.5.ECS** Model addition and subtraction ~~with base 10 blocks~~ within 100. ~~**2.NO.2a12** Model addition and subtraction with base 10 blocks within 20~~ ~~**2.NO.2a13** Model addition and subtraction with base 10 blocks within 50~~	Consolidated standards; removed base ten blocks to allow for multiple representations.
2.NBT.B.6 Add up to four two-digit numbers using strategies based on	**2.NO.2a19** Combine up to 3 sets of 20 or less	**2.NBT.B.6.ECS** Add ~~Combine~~ up to ~~3 sets of~~ three 2-digit numbers,	Use similar language to ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
place value and properties of operations.		each number with the value of 20 or less.	
2.NBT.B.7 Add and subtract whole numbers within 1,000, by using physical, visual, and symbolic representations, with an emphasis on place value, properties of operations, and/or the relationships between addition and subtraction. **a.** Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones. **b.** Understand that sometimes it is necessary to compose or decompose tens or hundreds. *Example: Students may use equations to represent their strategies based on place value such as: 324+515=(300+500)+(20+10)+(4+5) =839.*	**2.NO.2a18** Use diagrams and number lines to solve addition or subtraction problems **2.NO.2c3** Compose ones into tens and/or tens into hundreds in addition situation **2.NO.2c4** Decompose tens into ones and/or hundreds into tens in subtraction situations	**2.NBT.B.7.ECS** Add and subtract whole numbers within 100, by using physical, visual, or symbolic representations. ~~**2.NO.2a18** Use diagrams and number lines to solve addition or subtraction problems~~ ~~**2.NO.2c3** Compose ones into tens and/or tens into hundreds in addition situation~~ ~~**2.NO.2c4** Decompose tens into ones and/or hundreds into tens in subtraction situations~~	Simplified ECS using language from ICS
2.NBT.B.8 Use mental strategies to add or subtract a number that is ten more, ten less, one hundred more, and one hundred less than a given three-digit number.	**2.NO.1e8** Mentally add or subtract 10 from a given set from the 10s family (e.g., what is 10 more than 50? What is 10 less than 70?)	**2.NBT.B.8.ECS** ~~Mentally~~ Given manipulatives or strategies, add or subtract 10 from a given set from the 10s family (e.g., what is 10	Consolidated standards

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	2.NO.1e9 Mentally add or subtract 100 from a given set from the 100s family (e.g., what is 100 more than 500? What is 100 less than 700?)	more than 50? What is 10 less than 70?). ~~**2.NO.1e9** Mentally add or subtract 100 from a given set from the 100s family (e.g., what is 100 more than 500? What is 100 less than 700?)~~	
2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.			

GRADE 2 MEASUREMENT AND DATA – 2.MD

Grade 2: Measure and estimate lengths in standard units.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.MD.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	**2.ME.1a3** Select appropriate tool and unit of measurement to measure an object (ruler or yard stick; inches or feet) **2.ME.2b2** Select appropriate tools and demonstrate or identify appropriate measuring techniques	~~**2.ME.1a3** Select appropriate tool and unit of measurement to measure an object (ruler or yard stick; inches or feet)~~ ~~**2.ME.2b2** Select appropriate tools and demonstrate or identify appropriate measuring techniques~~ **2.MD.A.1.ECS** Measure the length of an object by selecting and using appropriate tools.	Using ICS as it combines what is currently written for ECS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.MD.A.2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	**2.ME.1c2** Measure the attributes (length, width, height) of an object using 2 different size units	**2.MD.A.2.ECS** Measure the attributes (length, width, height) of an object using ~~2 different size units~~ an appropriate unit.	
2.MD.A.3 Estimate lengths using units of inches, feet, centimeters, and meters.	**2.ME.1c3** Recognize that standard measurement units can be decomposed into smaller units **2.ME.2a3** Estimate the length of an object using units of feet and inches	~~**2.ME.1c3** Recognize that standard measurement units can be decomposed into smaller units~~ **2.MD.A.3.ECS** Estimate the length of an object using ~~units of feet and inches~~ various forms of measurement (inches, feet or other standard units).	Simplified standard; added language to allow multiple units of measure
2.MD.A.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard-length unit.	**2.ME.1b5** Solve word problems involving the difference in standard length units	~~**2.ME.1b5** Solve word problems involving the difference in standard length units~~ **2.MD.A.4.ECS** Measure to determine how much longer one object is than another.	Simplified standards to reflect verbiage from ICS. Moved **2.ME.2a4** to align to ICS **2.MD.B.5**.

Grade 2: Relate addition and subtraction to length.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.MD.B.5 Use addition and subtraction within 100 to solve	**2.ME.2a4** Solve one step subtraction problems involving the	**2.MD.B.5.ECS** Solve one step addition and subtraction word problems involving the	Modified to better align to ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
word problems involving lengths that are given in the same units. *Clarification: Students may use drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.*	difference of the lengths of 2 objects in standard length units	difference of the lengths~~ of 2 objects in standard length ~~given in the same units.	
2.MD.B.6 Represent whole numbers as lengths from zero on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.	**2.NO.2a18** Use diagrams and number lines to solve addition or subtraction problems	**2.MD.B.6.ECS** Use ~~diagrams and~~ number lines to represent whole numbers as lengths from zero and ~~solve addition or subtraction problems and~~ represent whole-number sums and differences within 20.	Added verbiage from ICS and specified within 20 as using a number line is a new skill.

Grade 2: Work with time and money.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.MD.C.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	**2.ME.1a5** Tell time to the nearest ½ hour using digital clocks	**2.MD.C.7.ECS** Tell time to the nearest ½ hour using digital or analog clocks, using a.m. and p.m.	Added analog and AM and PM from ICS to better align.
2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies (up to $10), using	**2.ME.1a4** Solve word problems using dollar bills, quarters, dimes, nickels, or pennies	**2.MD.C.8.ECS** Identify values of coins and bills; and s~~S~~olve ~~word~~ problems using dollar	Added "identify values" here to increase awareness that it was removed previously.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
$ and ¢ symbols appropriately and whole-dollar amounts. *Example: A sample question could be, "If you have 2 dimes and 3 pennies, how many cents do you have? If you have $3 and 4 quarters, how many dollars or cents do you have?"*		bills, quarters, dimes, nickels, or pennies.	

Grade 2: Represent and interpret data.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.MD.D.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Organize and record data on a line plot (dot plot) where the horizontal scale is marked off in whole-number units.	**2.DPS.1c3** Organize data by representing continuous data on a line plot	**2.MD.D.9.ECS** Organize data by representing ~~continuous~~ data on a line plot.	Continuous implies a different diagram.
2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in the graph.	**2.DPS.1c2** Organize data by representing categorical data on a pictorial graph or bar graph **2.DPS.1a7** Analyze data by sorting into categories established by each question **2.DPS.1d2** Identify the value of each category represented on	**2.MD.D.10.ECS** ~~Organize data by representing~~ Select a representation of categorical data ~~on~~ as a pictorial graph or bar graph. ~~**2.DPS.1a7** Analyze data by sorting into categories established by each question~~	Used similar verbiage from 1st grade ECS. Combined ECS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	picture graph and bar graph or each point on a line plot **2.DPS.1e2** Compare the information shown in a bar graph or picture graph with up to 4 categories. Solve simple comparisons of how many more or how many less	~~**2.DPS.1d2** Identify the value of each category represented on picture graph and bar graph or each point on a line plot~~ ~~**2.DPS.1e2** Compare the information shown in a bar graph or picture graph with up to 4 categories. Solve simple comparisons of how many more or how many less~~	

GRADE 2 GEOMETRY – 2.G

Grade 2: Reason with shapes and their attributes.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
2.G.A.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, squares, rectangles, rhombi, trapezoids, pentagons, hexagons, octagons, and cubes.	**2.GM.1a4** Identify two-dimensional shapes such as rhombus, pentagons, hexagons, octagon, ovals, equilateral, isosceles, and scalene triangles **2.GM.1b3** Distinguish two- or three-dimensional shapes based upon their attributes (i.e., # of sides, equal or different lengths of sides, # of faces, # of corners) **2.GM.1e1** Draw two- dimensional shapes with specific attributes	~~**2.GM.1a4** Identify two-dimensional shapes such as rhombus, pentagons, hexagons, octagon, ovals, equilateral, isosceles, and scalene triangles~~ ~~**2.GM.1b3** Distinguish two- or three- dimensional shapes based upon their attributes (i.e., # of sides, equal or different lengths of sides, # of faces, # of corners)~~	Replaced with ICS verbiage. Original ECS aligned with 1st grade.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
		~~**2.GM.1e1** Draw two-dimensional shapes with specific attributes~~ **2.G.A.1.ECS** Select shapes having specified attributes, such as a given number of angles or a given number of equal faces. Select triangles, squares, rectangles, rhombi, trapezoids, pentagons, hexagons, or octagons.	
2.G.A.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	**2.GM.1d1** Compose three-dimensional shapes	~~**2.GM.1d1** Compose three-dimensional shapes~~ **2.G.A.2.ECS** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	Replaced with ICS verbiage. Original ECS aligned with 1st grade.
2.G.A.3 Partition circles and rectangles into two, three, or four equal shares. Understand for these examples that decomposing into more equal shares creates smaller shares. a. Describe the shares using the words "halves," "thirds," "fourths," and "quarter," and use	**2.GM.1f2** Partition circles and rectangles into 2 and 4 equal parts **2.GM.1f3** Label a partitioned shape (e.g., one whole rectangle was separated into 2 halves, one whole circle was separated into three thirds)	**2.G.A.3.ECS** Partition circles and rectangles into 2 and 4 equal parts. **a.** Label a partitioned shape as "halves" or "fourths". ~~(e.g., one whole rectangle was separated into 2 halves, one whole circle was separated into three thirds)~~	1st grade standard covered 2 equal parts, 2nd continues to 4 parts and naming as fractional parts

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
the phrases “half of,” “a third of,” “a fourth of,” and “quarter of.” b. Describe the whole as two of, three of, or four of the shares. c. Recognize that equal shares of identical wholes need not have the same shape.			

Grade 2: ECS without obvious corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	**2.DPS.1a8** Interpret the number of points in each category	~~**2.DPS.1a8** Interpret the number of points in each category~~	Removing ECS as there is no grade level ICS to correlate with.
None	**2.ME.2c1** Determine whether a situation calls for a precise measurement or an estimation	~~**2.ME.2c1** Determine whether a situation calls for a precise measurement or an estimation~~	Removing ECS as there is no grade level ICS to correlate with.
None	**2.DPS.1a5** Select a question about 3 attributes that can be concretely represented	~~**2.DPS.1a5** Select a question about 3 attributes that can be concretely represented~~	Removing ECS as there is no grade level ICS to correlate with.
None	**2.DPS.1a6** Identify up to 3 categories resulting from a selected question	~~**2.DPS.1a6** Identify up to 3 categories resulting from a selected question~~	Removing ECS as there is no grade level ICS to correlate with.

GRADE 3 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 3 OPERATIONS AND ALGEBRAIC THINKING – 3.OA

Grade 3: Represent and solve problems involving multiplication and division.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.OA.A.1 Interpret a product of whole numbers as a grouping of sets, e.g., 5×7 as five groups of seven objects each.	**3.NO.2d1** Find the total number of objects when given the number of identical groups and the number of objects in each group neither number larger than 5 **3.NO.2d2** Find total number inside an array with neither number in the columns or rows larger than 5 **3.NO.2d3** Solve multiplication problems with neither number greater than 5 **3.PRF.1d1** Use objects to model multiplication and division situations involving up to 5 groups with up to 5 objects in each group and interpret the results	**3.OA.A.1.ECS** Identify/model a product of whole numbers as a grouping of sets. ~~**3.NO.2d1** Find the total number of objects when given the number of identical groups and the number of objects in each group neither number larger than 5~~ ~~**3.NO.2d2** Find total number inside an array with neither number in the columns or rows larger than 5~~ ~~**3.NO.2d3** Solve multiplication problems with neither number greater than 5~~ ~~**3.PRF.1d1** Use objects to model multiplication and division situations involving up to 5 groups with up to 5 objects in each group and interpret the results~~	Updated ECS to reflect ICS verbiage – reduced and simplified

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.OA.A.2 Interpret a quotient of whole numbers as equal sharing, e.g., 56÷8 as the number in each share when 56 objects are split into 8 equal shares, or as the number of shares when 56 objects are split into equal shares of 8 objects each.	**3.NO.2d4** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 5 **3.NO.2d5** Determine the number of groups given the total number of objects and the number of objects in each group where the number in each group and the number of groups is not greater than 5 **3.PRF.1d1** Use objects to model multiplication and division situations involving up to 5 groups with up to 5 objects in each group and interpret the results	**3.OA.A.2.ECS** Identify/model a quotient of whole numbers as equal sharing. ~~**3.NO.2d4** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 5~~ ~~**3.NO.2d5** Determine the number of groups given the total number of objects and the number of objects in each group where the number in each group and the number of groups is not greater than 5~~ ~~**3.PRF.1d1** Use objects to model multiplication and division situations involving up to 5 groups with up to 5 objects in each group and interpret the results~~	Updated ECS to reflect ICS verbiage – reduced and simplified
3.OA.A.3 Use multiplication and division within 100 to solve word problems involving equal groups, arrays, and measurements by using visual and symbolic representations, with a symbol for an unknown number.	**3.NO.2e1** Solve or solve and check one or two step word problems requiring addition, subtraction or multiplication with answers up to 100	~~**3.NO.2e1** Solve or solve and check one or two step word problems requiring addition, subtraction or multiplication with answers up to 100~~ **3.OA.A.3.ECS** Use multiplication and division within 100 to solve one step word problems using visual and symbolic representations.	Aligned to the ICS more

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *Example: Determine the unknown number that makes the equation true in each of the equations: 8× ?=48, 5= ? ÷3, 6×6= ?.*			

Grade 3: Understand properties of multiplication and the relationship between multiplication and division.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.OA.B.5 Apply the properties of operations to multiply and divide. *Clarification: Students need not use formal terms for these properties (identity, communicative, associative, distributive).*	**3.PRF.2d2** Apply properties of operations as strategies to multiply and divide	**3.OA.B.5.ECS** Apply properties of operations as strategies to multiply and divide.	
3.OA.B.6 Understand division as determining an unknown factor in a multiplication problem.	**3.NO.2d4** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 5	~~**3.NO.2d4** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 5~~	Aligned to ICS with different DOK verb

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	3.NO.2d5 Determine the number of groups given the total number of objects and the number of objects in each group where the number in each group and the number of groups is not greater than 5	~~**3.NO.2d5** Determine the number of groups given the total number of objects and the number of objects in each group where the number in each group and the number of groups is not greater than 5~~ **3.OA.B.6.ECS** Identify/model division as determining an unknown factor in a multiplication problem.	

Grade 3: Multiply and divide within 100.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.OA.C.7 Demonstrate fluency for multiplication within 100. **a.** Demonstrate understanding of strategies that make use of the relationship between multiplication and division or properties of operations. **b.** Know from memory all products of two single-digit numbers and related division facts. *Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*			

Grade 3: Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.OA.D.8 Solve two-step word problems involving whole numbers using the four operations. **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.	**3.NO.2e1** Solve or solve and check one or two step word problems requiring addition, subtraction or multiplication with answers up to 100	**3.OA.D.8.ECS** Solve ~~or solve and check~~ one ~~or two~~ step word-problems involving whole numbers using the four operations ~~requiring addition, subtraction or multiplication~~ with answers up to 100.	Aligning more with ICS verbiage
3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations. *Example: Arithmetic patterns are patterns that change by the same rate, such as adding the same number; the series 2,4,6,8,10 is an arithmetic pattern that increases by 2 between each term.*	**3.PRF.1e2** Select or name the 3 next terms in a numerical pattern where numbers increase by 2, 5 or 10 **3.PRF.1e1** Describe the rule for a numerical pattern (e.g., increase by 2, 5 or 10) **3.PRF.2d1** Identify multiplication patterns in a real-world setting	**3.OA.D.9.ECS** Select or name the ~~3 next terms in a numerical~~ arithmetic pattern where numbers increase by 2, 5 or 10. ~~**3.PRF.1e1** Describe the rule for a numerical pattern (e.g., increase by 2, 5 or 10)~~ ~~**3.PRF.2d1** Identify multiplication patterns in a real-world setting~~	Aligned verbiage to match ICS Simplified standards

GRADE 3 NUMBER AND OPERATIONS IN BASE TEN – 3.NBT

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

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.NBT.A.1 Round a whole number to the tens or hundreds place, using place value understanding or a visual representation.	**3.NO.1j3** Use place value to round to the nearest 10 or 100 **3.NO.1j4** Use rounding to solve word problems **3.NO.1j1** Build representations of numbers using hundreds, tens and ones	~~**3.NO.1j3** Use place value to round to the nearest 10 or 100~~ ~~**3.NO.1j4** Use rounding to solve word problems~~ ~~**3.NO.1j1** Build representations of numbers using hundreds, tens and ones~~ **3.NBT.A.1.ECS** Round a whole number to the tens or hundreds place, using place value understanding or a visual representation.	Aligned to ICS; simplified standards
3.NBT.A.2 Fluently add and subtract whole numbers within 1,000 using understanding of place value and properties of operations. *Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*	**3.NO.2c1** Solve multi-step addition and subtraction problems up to 100 **3.NO.2b1** Use the relationships between addition and subtraction to solve problems	**3.NBT.A.2.ECS** Model ~~Solve multi-step~~ addition and subtraction ~~problems up to 100~~ within 1000. ~~**3.NO.2b1** Use the relationships between addition and subtraction to solve problems~~	Aligned standard to better match ICS.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.NBT.A.3 Multiply one-digit whole numbers by multiples of ten in the range 10– 90 using understanding of place value and properties of operations.	**3.NO.1j2** Write or select the expanded form for up to 3-digit number	~~**3.NO.1j2** Write or select the expanded form for up to 3-digit number~~	Standard does not align to ICS; Choosing to not have ECS here due to the complexity of standard.

GRADE 3 NUMBER AND OPERATIONS – FRACTIONS – 3.NF

Grade 3: Develop understanding of fractions as numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.NF.A.1 Understand a fraction $1/b$ as the quantity formed by one part when a whole (a single unit) is partitioned into b equal parts; understand a/b as the quantity formed by a parts of size $1/b$.	**3.NO.1l1** Identify the number of highlighted parts (numerator) of a given representation (rectangles and circles) **3.NO.1l2** Identify the total number of parts (denominator) of a given representation (rectangles and circles) **3.NO.1l3** Identify the fraction that matches the representation (rectangles and circles; halves, fourths, thirds, eighths)	**3.NF.A.1a.ECS** Identify the number of highlighted parts (numerator) and the total number of parts (denominator) of a given representation (rectangles and circles). ~~**3.NO.1l2** Identify the total number of parts (denominator) of a given representation (rectangles and circles)~~ ~~**3.NO.1l3** Identify the fraction that matches the representation (rectangles and circles; halves, fourths, thirds, eighths)~~	Combined standards; removed third ECS to move align with ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram. **a.** Represent a unit 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 fraction $1/b$ is located $1/b$ of a whole unit from 0 on the number line. **b.** Represent a fraction a/b on a number line diagram by marking off a length $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	**3.NO.1l4** Identify that a part of a rectangle can be represented as a fraction that has a value between 0 and 1 **3.NO.1l5** Locate given common unit fractions (i.e., ½, ¼, ⅛) on a number line or ruler **4.NO.1l6** Locate fractions on a number line **4.NO.1l7** Order fractions on a number line	~~**3.NO.1l4** Identify that a part of a rectangle can be represented as a fraction that has a value between 0 and 1~~ ~~**3.NO.1l5** Locate given common unit fractions (i.e., ½, ¼, ⅛) on a number line or ruler~~ ~~**4.NO.1l6** Locate fractions on a number line~~ ~~**4.NO.1l7** Order fractions on a number line~~ **3.NF.A.2.ECS** Identify the fraction that matches the representation (rectangles, circles or a number line; halves, fourths, thirds, eighths).	Simplified standards
3.NF.A.3 Explain equivalence of fractions and compare fractions by reasoning about their size, in limited cases. **a.** Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	**3.SE.1g1** Use =, <, or > to compare 2 fractions with the same numerator or denominator	**3.NF.A.3.ECS** Use =, <, or > to compare 2 fractions with the same ~~numerator or~~ denominator. **b.** Recognize or generate simple equivalent fractions by using a visual fraction model.	Matched **b** with ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. Recognize and generate simple equivalent fractions, and explain why the fractions are equivalent, such as by using a visual fraction model. *Example: 1/2=2/4; 4/6=2/3* **c.** Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Example: Express 3 in the form 3=3/1; recognize that 6/1=6; locate 4/4 and 1 at the same point of a number line diagram.* **d.** Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize the comparisons are valid only when the two fractions refer to the same whole. Record the results of the comparisons with the symbols >,= , and <, and justify the conclusion using visual representations and/or verbal reasoning.			

GRADE 3 MEASUREMENT AND DATA – 3.MD

Grade 3: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.MD.A.1 Tell and write time to the nearest minute within the same hour and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes. *Clarification: Students may use tools such as clocks, number line diagrams, and tables to solve problems involving time intervals.*	**3.ME.1a1** Tell time to the nearest 5 minutes using a digital clock **3.ME.1a2** Solve word problems involving the addition and subtraction of time intervals of whole hours or within an hour (e.g., whole hours: 5:00 to 8:00, within hours: 7:15 to 7:45) **3.PRF.1f1** Determine the equivalence between number of minutes and the fraction of the hour (e.g., 30 minutes = ½ hour) **3.PRF.1f 2** Determine the equivalence between the number of minutes and the number of hours (e.g., 60 minutes = 1 hour)	**3.MD.A.1a.ECS** Tell time to the nearest 5 minutes using a digital or analog clock. ~~**3.ME.1a2**~~ Solve word problems involving the addition and subtraction of time intervals of whole hours or within an hour (e.g., whole hours: 5:00 to 8:00~~, within hours: 7:15 to 7:45~~). ~~**3.PRF.1f1** Determine the equivalence between number of minutes and the fraction of the hour (e.g., 30 minutes = ½ hour)~~ ~~**3.PRF.1f 2** Determine the equivalence between the number of minutes and the number of hours (e.g., 60 minutes = 1 hour)~~	Combined two ESC to align with the ICS; removed the two that did not align with ICS
3.MD.A.2 Identify and use the appropriate tools and units of measurement, both customary and metric, to solve one-step word problems using the four operations involving weight, mass, liquid volume, and capacity (within the same system and unit).	**3.ME.1f1** Select appropriate units for measurement (liquid volume, area, time, money) **3.ME.1f2** Add to solve 1 step word problems **3.ME.2e1** Select appropriate tool for measurement: liquid volume, area, time, money	**3.MD.A.2.ECS** Select appropriate units and tools for customary or metric measurement (liquid volume, area, time, money) to represent or solve one-step word problems. ~~**3.ME.1f2** Add to solve 1 step word problems~~	Combined standards; removed those not aligned with new ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Clarification: Students may use drawings (such as a beaker with a measurement scale) to represent the problem. *This standard does not include conversions between units. The focus is on measuring and reasonable estimates, using benchmarks to measure weight, and capacity.*	**3.ME.2i1** Estimate liquid volume	~~**3.ME.2e1** Select appropriate tool for measurement: liquid volume, area, time, money~~ ~~**3.ME.2i1** Estimate liquid volume~~	

Grade 3: Represent and interpret data.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.MD.B.3 Draw a scaled picture graph and scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. *Example: Draw a bar graph in which each square in the bar graph might represent five pets.*	**3.DPS.1g1** Collect data, organize into picture or bar graph **3.DPS.1i1** Select the appropriate statement that describes the data representations based on a given graph (picture, bar, line plots)	**3.MD.B.3.ECS** Collect data, organize into picture or bar graph. ~~**3.DPS.1i1**~~ Select the appropriate statement that describes the data representations based on a given graph (picture, bar, line plots).	Combined ESC to align with the ICS.
3.MD.B.4 Generate measurement data by measuring lengths of objects using rulers marked with halves and fourths	**3.ME.2e2** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch	**3.MD.B.4.ECS** Generate measurement data by measuring lengths ~~using rulers marked with~~	Combined ESC to align with the ICS.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
of an inch. Record and show the data by making a line plot (dot plot), where the horizontal scale is marked off in appropriate units— whole numbers, halves, or fourths.	**3.DPS.1g2** Organize measurement data into a line plot **3.ME.2e3** Measure to solve problems using number lines and ruler to 1 inch, ½ inch, or ¼ of an inch	in wholes, halves, or fourths of an inch. Organize it into a line plot. ~~**3.DPS.1g2** Organize measurement data into a line plot~~ ~~**3.ME.2e3** Measure to solve problems using number lines and ruler to 1 inch, ½ inch, or ¼ of an inch~~	

Grade 3: Geometric measurement: Understand concepts of area and relate area to multiplication and to addition.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement. **a.** A square with side length one unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. **b.** A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.		**3.MD.C.5.ECS** Recognize area as being made up of square units.	Created new ECS based off ICS
3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and nonstandard units).	**3.ME.1d2** Measure area of rectilinear figures by counting squares	**3.MD.C.6.ECS** Measure area of ~~rectilinear~~ rectangular figures by counting squares.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.MD.C.7 Relate area to the operations of multiplication and addition. **a.** Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. **b.** Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. **c.** Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b+c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. *Example: Using the distributive property, the area of a shape that is 6 by 7 can be determined by finding the area of the 6×5 section and the 6×2 section and then adding the two products together.* **d.** Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-	**3.ME.1d1** Use tiling and addition to determine area	**3.MD.C.7.ECS** Use ~~tiling~~ visual strategies and addition or multiplication to represent and determine area.	Modified ECS to better align with the ICS.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
overlapping parts, applying this technique to solve real-world problems. *Example: A pool is comprised of two non-overlapping rectangles in the shape of an "L." The area for a cover of a pool can be found by adding the areas of the two non-overlapping rectangles.*			

Grade 3: Geometric measurement: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.MD.D.8 Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**3.ME.1g1** Identify a figure as getting larger or smaller when the dimensions of the figure change **3.ME.2h1** Use addition to find the perimeter of a rectangle	~~**3.ME.1g1** Identify a figure as getting larger or smaller when the dimensions of the figure change~~ ~~**3.ME.2h1** Use addition to find the perimeter of a rectangle.~~ **3.MD.D.8.ECS** Solve real-world and mathematical problems involving perimeters of familiar polygons.	Used ICS verbiage to create a new ECS

GRADE 3 GEOMETRY – 3.G

Grade 3: Reason with shapes and their attributes.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
3.G.A.1 Understand that shapes in different categories may share attributes, and that the shared attributes can define a larger category. Compare and classify shapes by their sides and angles. Recognize rhombi, rectangles, squares, and trapezoids as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	**3.GM.1h1** Identify shared attributes of shapes	**3.G.A.1.ECS** Identify shapes that share~~d~~ common attributes of shapes (e.g., identify all shapes with four sides).	Added compare from ICS
3.G.A.2 Partition two-dimensional figures into equal areas, and express the area of each part as a unit fraction of the whole. *Example: Draw lines to separate a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	**3.GM.1i1** Partition rectangles into equal parts with equal area	**3.G.A.2.ECS** Partition ~~rectangles~~ two-dimensional figures into ~~equal parts with~~ equal areas, and express the area of each part as a unit fraction of the whole.	Matching ICS

Grade 3: ECS without obvious Corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	**3.DPS.1f1** Develop questions, make a plan for data collection	~~**3.DPS.1f1** Develop questions, make a plan for data collection~~	Removing ECS as there is no grade level ICS to correlate with.
None	**3.DPS.1k1** Apply results of data to a real world situation	~~**3.DPS.1k1** Apply results of data to a real world situation~~	Removing ECS as there is no grade level ICS to correlate with.
None	**3.NO.1e1** Skip count by 100s	~~**3.NO.1e1** Skip count by 100s~~	Removing ECS as there is no grade level ICS to correlate with.
None	**3.NO.1e2** Mentally add or subtract 100 from a given set from the 100s family (e.g., what is 100 more than 500? What is 100 less than 700?)	~~**3.NO.1e2** Mentally add or subtract 100 from a given set from the 100s family (e.g., what is 100 more than 500? What is 100 less than 700?)~~	Removing ECS as there is no grade level ICS to correlate with.
None	**3.NO.1h1** Compare 3-digit numbers using representations and numbers (e.g., identify more hundreds, less hundreds, more tens, less tens, more ones, less ones, larger number, smaller number)	~~**3.NO.1h1** Compare 3-digit numbers using representations and numbers (e.g., identify more hundreds, less hundreds, more tens, less tens, more ones, less ones, larger number, smaller number)~~	Removing ECS as there is no grade level ICS to correlate with.

GRADE 4 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 4 OPERATIONS AND ALGEBRAIC THINKING – 4.OA

Grade 4: Use the four operations with whole numbers to solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.OA.A.1 Interpret a multiplication equation as a comparison, e.g., 35=5×7, as 35 is 5 times as many as 7. Represent verbal multiplicative comparisons as equations.	**4.NO.2d6** Find total number inside an array with neither number in the columns or rows larger than 10 **4.NO.2d8** Match an accurate addition and multiplication equation to a representation **4.PRF.1d2** Use objects to model multiplication and division situations involving up to 10 groups with up to 5 objects in each group and interpret the results	~~**4.NO.2d6** Find total number inside an array with neither number in the columns or rows larger than 10.~~ **4.OA.A.1.ECS** Match an accurate addition and multiplication equation to a representation. ~~**4.PRF.1d2** Use objects to model multiplication equations as a comparison. and division situations involving up to 10 groups with up to 5 objects in each group and interpret the results~~	Removed standard to simplify. Added verbiage to match ICS. Combined two ECS to align with ICS.
4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison. *Example: If the cost of a red hat is three times more than a blue hat that costs $5, then a red hat costs $15.* *Clarification: Students may use drawings and equations with a*	**4.NO.2d7** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 10 **4.PRF.1e3** Solve multiplicative comparisons with an unknown using up to 2-digit numbers with information presented in a graph	~~**4.NO.2d7** Determine how many objects go into each group when given the total number of objects and the number of groups where the number in each group or number of groups is not greater than 10~~ ~~**4.PRF.1e3** Solve multiplicative comparisons with an unknown using up to 2-digit numbers with information presented in a graph~~	Simplified standards to match ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
symbol for the unknown number to represent the problem. *Distinguish between multiplicative comparison and additive comparison.*	or word problem (e.g., an orange hat cost $3. A purple hat cost 2 times as much. How much does the purple hat cost? [3 x 2 = p])	~~or word problem (e.g., an orange hat cost $3. A purple hat cost 2 times as much. How much does the purple hat cost? [3 x 2 = p])~~ **4.OA.A.2.ECS** Multiply or divide to solve word problems involving multiplicative comparison with factors or divisor of 10 or less.	
4.OA.A.3 Solve multi-step whole-number word problems using the four operations, 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.	**4.NO.2e2** Solve or solve and check one or two step word problems requiring addition, subtraction or multiplication with answers up to 100	**4.OA.A.3.ECS** Solve ~~or solve and check~~ one- ~~or two~~ step whole number word problems ~~requiring addition, subtraction or multiplication~~ using the four operations with answers up to 100 and without remainders.	Revised ECS to align more with ICS verbiage

Grade 4: Gain familiarity with factors and multiples.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.OA.B.4 Find all factor pairs for a whole number in the range 1–100.	**4.NO.2f1** Identify multiples for a whole number (e.g., 2 = 2, 4, 6, 8, 10)	**4.OA.B.4.ECS** Find all factor pairs for a whole number in the range 1–50.	Used verbiage from ICS; adjusted range

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
a. Recognize that a whole number is a multiple of each of its factors. **b.** Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. **c.** Determine whether a given whole number in the range 1–100 is prime or composite.		**a.** Identify multiples for a whole number (e.g., 2 = 2, 4, 6, 8, 10).	

Grade 4: Generate and analyze patterns.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.OA.C.5 Generate a number or shape pattern that follows a given rule. Identify and explain features of the pattern that were not explicit in the rule itself. *Example: Given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	**4.PRF.2d3** Generate a pattern when given a rule and word problem (I run 3 miles every day, how many miles have I run in 3 days) **4.PRF.2e1** Extend a numerical pattern when the rule is provided	~~**4.PRF.2d3** Generate a pattern when given a rule and word problem (I run 3 miles every day, how many miles have I run in 3 days)~~ ~~**4.PRF.2e1** Extend a numerical pattern when the rule is provided~~ **4.OA.C.5.ECS** Generate a number or shape pattern that follows a given rule.	Aligned verbiage to match ICS; simplified by conjoining standards

GRADE 4 NUMBER AND OPERATIONS IN BASE TEN – 4.NBT

Grade 4: Generalize place value understanding for multi-digit whole numbers, less than or equal to 1,000,000.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.NBT.A.1 Recognize that in a multi-digit whole number, a digit in any place represents ten times as much as it represents in the place to its right.	**4.NO.1k1** Compare the value of a number when it is represented in different place values of two 3-digit numbers	**4.NBT.A.1.ECS** Compare the value of a ~~number~~ digit when it is represented in different place values of two 3-digit numbers.	
4.NBT.A.2 Read and write multi-digit whole numbers using standard form, expanded form, and word form. Compare two multi-digit numbers based on meanings of the digits and each place, recording the results of comparisons with the symbols >,=, and <. *Example: The number two hundred seventy-five thousand eight hundred two written in standard form is 275,802, and in expanded form is 200,000+70,000+5,000+800+2 or (2×100,000)+(7×10,000)+(5×1,000)+(8×100)+(2×1).*	**4.NO.1j6** Compare multi-digit numbers using representations and numbers **4.NO.1j7** Write or select the expanded form for a multi-digit number **4.NO.2c2** Solve multi digit addition and subtraction problems up to 1000	**4.NBT.A.2.ECS** Compare multi-digit numbers using representations and numbers. ~~**4.NO.1j7**~~ Write or select the expanded form for a multi-digit number. ~~**4.NO.2c2** Solve multi digit addition and subtraction problems up to 1000~~	Removed **2c2** as it does not align to ICS. Combined 2 ECS to align with the ICS.
4.NBT.A.3 Use place value understanding or visual	**4.NO.1j5** Use place value to round to any place (i.e., ones, tens, hundreds, thousands)	**4.NBT.A.3.ECS** Use place value understanding or visual representation to round multi-digit	Matched ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
representation to round multi-digit whole numbers to any place.		whole numbers to any place. ~~(i.e., ones, tens, hundreds, thousands)~~	

Grade 4: Use place value understanding and properties of operations to perform multi-digit arithmetic on whole numbers less than or equal to 1,000,000.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.NBT.B.4 Fluently use the standard algorithm for multi-digit whole-number addition and subtraction. *Example: What is the difference between 634 and 328 using the standard algorithm?* $\begin{array}{r} 6\,{}^{2}\cancel{3}\,{}^{1}4 \\ -3\;2\;8 \\ \hline 3\;0\;6 \end{array}$ *Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*	**4.NO.2c2** Solve multi digit addition and subtraction problems up to 1000	**4.NBT.B.4.ECS** Solve multi-digit addition and subtraction problems up to 1000.	
4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers.	**4.NO.2f2** Solve multiplication problems up to two digits by one digit	**4.NBT.B.5.ECS** Solve multiplication problems up to two digits by one digit.	Removed duplicative standard

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
a. Use strategies based on place value and the properties of operations. **b.** Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. *Clarification: Students should be familiar with multiple strategies but should be able to select and use the strategy with which they most closely connect and understand, with the ultimate goal of supporting students to use more efficient strategies.*	**4.PRF.1f4** Solve a 2-digit by 1-digit multiplication problem using 2 different strategies	~~**4.PRF.1f4** Solve a 2-digit by 1-digit multiplication problem using 2 different strategies~~	
4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors. **a.** Use strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. **b.** Illustrate and explain the calculation by using rectangular arrays, area models, and/or equations.		**4.NBT.B.6.ECS** Find whole-number quotients without remainders with up to two-digit dividends and one-digit divisors.	Added ECS that matched verbiage from ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Clarification: Students should be familiar with multiple strategies but should be able to select and use the strategy with which they most closely connect and understand, with the ultimate goal of supporting students to use more efficient strategies.			

GRADE 4 NUMBER AND OPERATIONS – FRACTIONS – 4.NF

Grade 4: Extend understanding of fraction equivalence and ordering.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.NF.A.1 Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{n \times a}{n \times b}$ by using visual fraction models, with attention to how the numbers and sizes of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions, including fractions greater than 1. *Example: When a horizontal line is drawn through the center of the model, the number of equal parts doubles and the size of the parts is halved.*	**4.NO.1m1** Determine equivalent fractions **4.NO.1n1** Select a model of a given fraction (halves, thirds, fourths, sixths, eighths)	**4.NF.A.1.ECS** Determine equivalent fractions using visual fraction models. ~~**4.NO.1n1** Select a model of a given fraction (halves, thirds, fourths, sixths, eighths)~~	Added some words (visual models) from ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.NF.A.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 $\frac{1}{2}$. **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 <, and justify the conclusions, by using a visual fraction model and/or verbal reasoning.	**4.SE.1g2** Use =, <, or > to compare 2 fractions (fractions with a denominator of 10 or less) **4.NO.1n2** Compare up to 2 given fractions that have different denominators **4.NO.1l6** Locate fractions on a number line **4.NO.1l7** Order fractions on a number line	**4.NF.A.2.ECS** Use =, <, or > to compare 2 fractions (fractions with a denominator of 10 or less). ~~**4.NO.1n2** Compare up to 2 given fractions that have different denominators~~ ~~**4.NO.1l6** Locate fractions on a number line~~ ~~**4.NO.1l7** Order fractions on a number line~~	Simplified by joining standards

Grade 4: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.NF.B.3 Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$. **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	**4.NO.2h2** Add and subtract fractions with like denominators (2, 3, 4, or 8) using representations **4.NO.2g1** Using a representation, decompose a fraction into multiple copies of a unit fraction (e.g., ¾ = ¼ + ¼ + ¼) **4.NO.2h3** Solve word problems involving addition and subtraction	**4.NF.B.3** Understand a fraction with a numerator greater than 1 as a sum of fractions with common denominators. **a.** Add and subtract fractions with like denominators (2, 3, 4, or 8) using representations. **b.** Using a representation, decompose a fraction into	Deleted **2h1** because it is almost the exact same as **2h2** Removed **1h1** because it is aligned to a 3rd grade standard. Combined multiple ECS and made them into one standard better aligned to the ICS.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
denominator in more than one way, recording each decomposition by an equation. Justify the conclusions by using a visual fraction model and/or verbal reasoning. *Example:* $\frac{3}{8}=\frac{1}{8}+\frac{1}{8}+\frac{1}{8}$; $\frac{3}{8}=\frac{1}{8}+\frac{2}{8}$; $2\frac{1}{8}=1+1+\frac{1}{8}=\frac{8}{8}+\frac{8}{8}+\frac{1}{8}$ **c.** Add and subtract mixed numbers with like denominators by replacing the mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction. **d.** Solve word problems involving addition and subtraction of fractions, including mixed numbers, with the same denominator. Justify the conclusions using a visual fraction model and/or verbal reasoning.	of fractions with like denominators (2, 3, 4, or 8) **4.NO.2h1** Add and subtract fractions with like denominators of (2, 3, 4, or 8) **4.SE.1h1** Express whole numbers as fractions	multiple copies of a unit fraction (e.g., ¾ = ¼ + ¼ + ¼). **d.** Solve word problems involving addition and subtraction of fractions with like denominators (2, 3, 4, or 8). ~~**4.NO.2h1** Add and subtract fractions with like denominators of (2, 3, 4, or 8)~~ ~~**4.SE.1h1** Express whole numbers as fractions~~	
4.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.		**4.NF.B.4.ECS** Apply and extend previous understandings of multiplication or repeated addition to multiply a fraction by a whole number.	Created standard from ICS and added repeated addition

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
a. Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. *Example: Use a visual fraction model to represent* $\frac{5}{4}$ *as the product* $5 \times \frac{1}{4}$ *, recording the conclusion by the equation* $\frac{5}{4} = 5 \times \frac{1}{4}$. **b.** Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number. *Example: Use a visual fraction model to express* $3 \times \frac{2}{5}$ *as* $6 \times \frac{1}{5}$, *recognizing this product as* $\frac{6}{5}$. *In general,* $n \times \frac{a}{b} = \frac{n \times a}{b}$. **c.** Solve word problems involving multiplication of a fraction by a whole number e.g., by using visual fraction models and/or equations to represent the problem. *Example: If each person at a party will eat* $\frac{3}{8}$ *of a pound of roast beef, and there will be* 5 *people at the party, how many*			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
pounds of roast beef will be needed? Between what two whole numbers does your answer lie?			

Grade 4: Understand decimal notation for fractions, and compare decimal fractions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *Example: Express* $\frac{3}{10}$ *as* $\frac{30}{100}$, *and add* $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$. *Clarification: Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general, but addition and subtraction with unlike denominators is not a requirement at this grade.*	**4.NO.1o2** Find the equivalent decimal for a given fraction	~~**4.NO.1o2** Find the equivalent decimal for a given fraction~~	The ECS does not match the standard. This seems like too big a jump.
4.NF.C.6 Use decimal notation to represent fractions with denominators 10 or 100.	**4.NO.1o1** Match a fraction with a denominator of 10 or 100 as a decimal (5/10 = .5)	**4.NF.C.6.ECS** Read, write, or m~~M~~atch a fraction with a denominator of 10 or 100 to ~~as~~ a decimal (5/10 = .5)	Combined the standards

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: rewrite 0.62 *as* $\frac{62}{100}$*; describe a length as* 0.62 *meters; locate* 0.62 *on a number line diagram.*	**4.NO.1p1** Read, write or select decimals to the tenths place **4.NO.1p2** Read, write or select decimals to the hundredths place **4.SE.1h2** Identify the equivalent decimal for a fraction	~~**4.NO.1p1** Read, write or select decimals to the tenths place~~ ~~**4.NO.1p2** Read, write or select decimals to the hundredths place~~ ~~**4.SE.1h2** Identify the equivalent decimal for a fraction~~	
4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. **a.** Recognize that comparisons are valid only when the two decimals refer to the same whole. **b.** Record the results of the comparisons with the symbols >,=, and <, and justify the conclusions using visual representations and/or verbal reasoning. *Clarification: Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division, but division of a fraction by a fraction is not a requirement at this grade.*	**4.SE.1g3** Use =, <, or > to compare 2 decimals (decimals in multiples of .10) **4.NO.1q1** Compare two decimals to the tenths place with a value of less than 1 **4.NO.1q2** Compare two decimals to the hundredths place with a value of less than 1	**4.NF.C.7.ECS** Use =, <, or > to compare 2 decimals no bigger than the hundredths place with a value less than 1 using visual representations. ~~(decimals in multiples of .10)~~ ~~**4.NO.1q1** Compare two decimals to the tenths place with a value of less than 1~~ ~~**4.NO.1q2** Compare two decimals to the hundredths place with a value of less than 1~~	Combined the standards

GRADE 4 MEASUREMENT AND DATA – 4.MD

Grade 4: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.MD.A.1 Know relative sizes of measurement units within any one system of units. **a.** Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. **b.** Record measurement equivalents in a two-column table. *Example: Know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1,12), (2,24), (3,36), ...*	**4.ME.2f1** Complete a conversion table for length and mass within a single system	**4.MD.A.1.ECS** Complete a conversion table for length and/or mass within a single system.	Added /or to provide choice and decrease complexity.
4.MD.A.2 Use the four operations to solve word problems involving measurements. **a.** Include problems involving simple fractions or decimals. **b.** Include problems that require expressing measurements given	**4.ME.1g2** Solve word problems using perimeter and area where changes occur to the dimensions of a rectilinear figure **4.ME.2g1** Determine whether a situation calls for a precise measurement or an estimation (distance, volume, mass, time, money)	**4.MD.A.2.ECS** Use the four operations to solve one- or two-step word problems involving measurements. ~~**4.ME.1g2** Solve word problems using perimeter and area where changes occur to the dimensions of a rectilinear figure~~	Removed **2g1** because there is nothing correlated in ICS. Used ICS to create new ECS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
in a larger unit in terms of a smaller unit. **c.** Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. *Clarification: Measurement may include, but is not limited to, length, area, volume, capacity, mass, weight, and money.*		~~**4.ME.2g1** Determine whether a situation calls for a precise measurement or an estimation (distance, volume, mass, time, money)~~	
4.MD.A.3 Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. *Example: Find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.* *Clarification: Students should express their answers in linear (perimeter) and square (area) units. Students are not expected to use the* 1cm^2 *notation.*	**4.ME.1g2** Solve word problems using perimeter and area where changes occur to the dimensions of a rectilinear figure **4.ME.2h1** Apply the formulas for area and perimeter to solve real world problems	~~**4.ME.1g2** Solve word problems using perimeter and area where changes occur to the dimensions of a rectilinear figure~~ **4.MD.A.3.ECS** Apply the formulas for area and perimeter to solve real world problems.	Removed **1g2**

Grade 4: Represent and interpret data.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.MD.B.4 Make a line plot (dot plot) to show a set of measurements in fractions of a unit ($\frac{1}{2},\frac{1}{4},\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots (dot plots). *Example: From a line plot (dot plot), find and interpret the difference in length between the longest and shortest specimens in an insect collection.*	**4.DPS.1g3** Collect data, organize in graph (e.g., picture graph, line plot, bar graph) **4.DPS.1k2** Apply results of data to a real-world situation	**4.MD.B.4.ECS** Collect data, organize in graph (e.g., picture graph, line plot, bar graph). ~~**4.DPS.1k2** Apply results of data to a real-world situation~~	Removed **1k2** because it aligns with 3rd grade standards.

Grade 4: Geometric measurement: Understand concepts of angle and measure angles.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.MD.C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. **a.** An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of		**4.MD.C.5.ECS** Recognize the angles 45, 90, 180, 270, 360.	Added a simplified version of the ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
the circular arc between the points where the two rays intersect the circle. *Example: An angle that turns through* $\frac{1}{360}$ *of a circle is called a "one-degree angle" and can be used to measure angles.* **b.** An angle that turns through n one-degree angles is said to have an angle measure of n degrees.			
4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	**4.ME.2e4** Select appropriate tool for measurement: mass, length, angles **4.ME.2e5** Construct a given angle **4.ME.2e6** Measure right angles using a tool (e.g., angle ruler, protractor)	**4.MD.C.6.ECS** Measure and/or construct a right angle using a tool. ~~**4.ME.2e4** Select appropriate tool for measurement: mass, length, angles~~ ~~**4.ME.2e5** Construct a given angle~~ ~~**4.ME.2e6** Measure right angles using a tool (e.g., angle ruler, protractor)~~	Combined standards
4.MD.C.7 Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems. **a.** Use an equation with a symbol for the unknown angle measure.	**4.ME.1d3** Use tiling and multiplication to determine area **4.PRF.1f3** Apply the distributive property to solve problems with models	**4.MD.C.7.ECS** Solve addition and subtraction problems to find unknown (whole) angles on a diagram in real-world and mathematical problems. ~~**4.ME.1d3** Use tiling and multiplication to determine area~~	Aligned with ICS, removed others that aligned with 3rd grade.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.	**4.ME.2h1** Apply the formulas for area and perimeter to solve real world problems	~~**4.PRF.1f3** Apply the distributive property to solve problems with models~~ ~~**4.ME.2h1** Apply the formulas for area and perimeter to solve real world problems~~	
	4.DPS.1i1 Select the appropriate statement that describes the data representations based on a given graph (picture, bar, line plots) **4.DPS.1j1** Select an appropriate statement that describes the most frequent or the least frequent data point using a line plot, picture graph, or bar graph	~~**4.DPS.1i1** Select the appropriate statement that describes the data representations based on a given graph (picture, bar, line plots)~~ ~~**4.DPS.1j1** Select an appropriate statement that describes the most frequent or the least frequent data point using a line plot, picture graph, or bar graph~~	3rd grade alignment - removed

GRADE 4 GEOMETRY – 4.G

Grade 4: Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	**4.GM.1j1** Recognize a point, line and line segment, rays in two-dimensional figures **4.GM.1j2** Recognize perpendicular and parallel lines in two-dimensional figures	**4.G.A.1.ECS** Recognize a point, line and line segment, rays, angles, perpendicular, and parallel lines in two-dimensional figures.	Combined ECS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	4.GM.1j3 Recognize an angle in two-dimensional figures	~~**4.GM.1j2** Recognize perpendicular and parallel lines in two-dimensional figures~~ ~~**4.GM.1j3** Recognize an angle in two-dimensional figures~~	
4.G.A.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.	**4.GM.1h2** Classify two-dimensional shapes based on attributes (# of angles) **4.GM.1j4** Categorize angles as right, acute, or obtuse	**4.G.A.2.ECS** Classify two-dimensional shapes based on attributes (# of angles). ~~**4.GM.1j4**~~ Categorize angles as right, acute, or obtuse.	Combined two ECS to align with the ICS.
4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	**4.GM.1k1** Recognize a line of symmetry in a figure	**4.GM.1k1** ~~Recognize a line of symmetry in a figure.~~ **4.G.A.3.ECS** Recognize if a figure is symmetrical.	Reduced complexity.

Grade 4: ECS without obvious Corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	**4.ME.1f3** Select appropriate units for measurement: mass, length, angles	~~**4.ME.1f3** Select appropriate units for measurement: mass, length, angles~~	Removing ECS as there is no grade level ICS to correlate with.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	**4.ME.1f4** Select appropriate units for the value of a set of coins or dollars	~~**4.ME.1f4** Select appropriate units for the value of a set of coins or dollars~~	Removing ECS as there is no grade level ICS to correlate with.

GRADE 5 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 5 OPERATIONS AND ALGEBRAIC THINKING – 5.OA

Grade 5: Write and interpret numerical expressions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. *Example: 4.5+(3×2) in word form is four and five tenths plus the quantity 3 times 2.*	**5.SE.1a1** Given a real-world problem, write an expression using 1 set of parentheses	**5.OA.A.1.ECS** Given a real-world problem, ~~write~~ evaluate an expression using 1 set of parentheses.	Changed verb to correlate more with ICS
5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *Example: Express the calculation "Add 8 and 7, then multiply by 2" as 2×(8+7). Recognize that 12×(7+91) is twelve times as large as 7+91, without having to calculate the indicated sum or product.*		**5.OA.A.2.ECS** Write or select a simple expression that records calculations with numbers and interpret numerical expressions.	Wrote a new ECS aligning with the verbiage of the ICS.

Grade 5: Analyze patterns and relationships.

<table>
<tr><th>Idaho Content Standards (ICS)</th><th>Extended Content Standards (ECS)</th><th>Proposed Alignment Revisions</th><th>Rationale for Revisions</th></tr>
<tr>
<td>**5.OA.B.3** Generate two numerical patterns using two given rules.

a. Identify apparent relationships between corresponding terms.

b. Form ordered pairs consisting of corresponding terms from the two patterns.

c. Graph the ordered pairs on a coordinate plane.

Example: Given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences. Observe that the terms in one sequence are twice the corresponding terms in the other sequence and explain why this is so.</td>
<td>**5.PRF.1b1** Given 2 patterns involving the same context (e.g., collecting marbles) determine the 1st 5 terms and compare the values

<table><tr><th>Day</th><th>Joe</th><th>Kim</th></tr><tr><td>1</td><td>2</td><td>4</td></tr><tr><td>2</td><td>4</td><td>8</td></tr><tr><td>3</td><td>6</td><td>12</td></tr><tr><td>4</td><td>8</td><td>16</td></tr></table>
5.PRF.1b2 When given a line graph representing two arithmetic patterns, identify the relationship between the two

5.PRF.2b1 Generate or select a comparison between two graphs from a similar situation</td>
<td>**5.OA.B.3.ECS** ~~Given~~ Extend 2 patterns involving the same context using visuals aids and/or manipulatives. ~~(e.g., collecting marbles) determine the 1st 5 terms and compare the values~~

<table><tr><th>~~Day~~</th><th>~~Joe~~</th><th>~~Kim~~</th></tr><tr><td>~~1~~</td><td>~~2~~</td><td>~~4~~</td></tr><tr><td>~~2~~</td><td>~~4~~</td><td>~~8~~</td></tr><tr><td>~~3~~</td><td>~~6~~</td><td>~~12~~</td></tr><tr><td>~~4~~</td><td>~~8~~</td><td>~~16~~</td></tr></table>
a. Identify apparent relationships between corresponding terms.

c. Generate or select an ordered pair on the coordinate plane (from quadrant 1).

~~**5.PRF.2b1.** Generate or select a comparison between two graphs from a similar situation.~~

~~**5.PRF.1b2** When given a line graph representing two arithmetic patterns, identify the relationship between the two~~</td>
<td>Combined the ECS to align with the ICS.</td>
</tr>
<tr>
<td></td>
<td>**5.PRF.2a1** Generate a pattern that follows the provided rule</td>
<td>~~**5.PRF.2a1** Generate a pattern that follows the provided rule~~</td>
<td>Removing because it aligns with 4th grade</td>
</tr>
</table>

GRADE 5 NUMBER AND OPERATIONS IN BASE TEN – 5.NBT

Grade 5: Understand the place value system.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.NBT.A.1 Recognize that in a multi-digit number, including decimals, a digit in any place represents ten times as much as it represents in the place to its right and 110 of what it represents in the place to its left. *Example: In the number 55.55, each digit is 5, but the value of the digits is different because of the placement.*	**5.NO.1a1** Compare the value of a number when it is represented in different place values of two 3-digit numbers	**5.NBT.A.1.ECS** Compare the value of a ~~number~~ digit when it is represented in different place values of ~~two 3-digit numbers~~ 4-digit numbers including up to two decimals.	Alignment to real-world application of money.
5.NBT.A.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of ten, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of ten. Use whole-number exponents to denote powers of ten. *Example: 102, which is 10×10=100, and 103, which is 10×10×10=1,000*			ICS is too complex to create a standard for this grade level.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.NBT.A.3 Read, write, and compare decimals to thousandths. **a.** Read and write decimals to thousandths using standard form, expanded form, and word from. *Example:* 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × $\frac{1}{10}$ + 9 × $\frac{1}{100}$ + 2 × $\frac{1}{1,000}$ **b.** Compare two decimals to thousandths based on meanings of the digits in each place, and record the results of the comparisons using >,=, and <.	**5.NO.1b1** Read, write, or select a decimal to the hundredths place **5.NO.1b3** Compare two decimals to the thousandths place with a value of less than 1 **5.NO.1b2** Read, write or select a decimal to the thousandths place	**5.NBT.A.3.ECS** Read, write or select a decimal up to the hundredths place. **b.** Compare two decimals to the ~~thousandths~~ hundredths place ~~with a value of less than 1~~ using comparison symbols <, >, =. ~~**5.NO.1b2** Read, write or select a decimal to the thousandths place~~	Combined standards Reduced depth by changing from thousandths place to hundredths. Also, this is more applicable to real-world example of money. Added comparison symbols to reflect ICS Reduced depth by changing from thousandths place to hundredths. Also, this is more applicable to real-world example of money.
5.NBT.A.4 Use place value understanding to round decimals to any place.	**5.NO.1b4** Round decimals to the next whole number **5.NO.1b5** Round decimals to the tenths place **5.NO.1b6** Round decimals to the hundredths place	**5.NBT.A.4.ECS** Round decimals to the next whole number, tenths, and/or hundredths place. ~~**5.NO.1b5** Round decimals to the tenths place~~ ~~**5.NO.1b6** Round decimals to the hundredths place~~	Combined standards

Grade 5: Perform operations with multi-digit whole numbers and with decimals to hundredths.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.NBT.B.5 Demonstrate fluency for multiplication of multi-digit whole numbers using the standard algorithm. Include two-digit × four-digit numbers and three-digit × three-digit numbers. *Example: What is the product of 304 and 23 using the standard algorithm?* $3{}^{1}04$ x 23 912 +6080 6992 *Clarification: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*	**5.NO.2a1** Solve problems or word problems using up to three-digit numbers and addition or subtraction or multiplication	**5.NBT.B.5.ECS** Solve multiplication problems ~~or word problems~~ using up to ~~three-digit numbers and addition or subtraction or multiplication~~ two-digit x two-digit numbers.	Aligned the ECS to better reflect the new ICS
5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors. **a.** Use strategies based on place value, the properties of operations, and/or the	**5.NO.2a3** Find whole number quotients up to two dividends and two divisors **5.NO.2a4** Find whole number quotients up to four dividends and two divisors	**5.NBT.B.6.ECS** Find whole number quotients up to two-digit dividends and two-digit divisors. ~~**5.NO.2a4** Find whole number quotients up to four dividends and two divisors~~	Removed **2a2** because it aligns with 4th grade. Simplified standards to match our multiplication standard above. Clarified by adding two-digit

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
relationship between multiplication and division. **b.** Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. *Clarification: Students should be familiar with multiple strategies but should be able to select and use the strategy with which they most closely connect and understand, with the ultimate goal of supporting students to use more efficient strategies.*	**5.NO.2a5** Solve word problems that require multiplication or division **5.NO.2a2** Separate a group of objects into equal sets when given the number of sets to find the total in each set with the total number less than 50	~~**5.NO.2a5** Solve word problems that require multiplication or division~~ ~~**5.NO.2a2** Separate a group of objects into equal sets when given the number of sets to find the total in each set with the total number less than 50~~	
5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths. **a.** Use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction and between multiplication and division. **b.** Relate the strategy to a written method and explain the reasoning used. *Clarification: Students should be familiar with multiple strategies*		**5.NBT.B.7.ECS** Add and/or subtract decimals to hundredths.	Added new standard

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
but should be able to select and use the strategy with which they most closely connect and understand, with the ultimate goal of supporting students to use more efficient strategies.			

GRADE 5 NUMBER AND OPERATIONS – FRACTIONS – 5.NF

Grade 5: Use equivalent fractions as a strategy to add and subtract fractions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.NF.A.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions to produce an equivalent sum or difference of fractions with like denominators. *Example:* $\frac{2}{3}+\frac{5}{4}=\frac{8}{12}+\frac{15}{12}=\frac{23}{12}$. *In general,* $\frac{a}{b}+\frac{c}{d}=\frac{ad+bc}{bd}$.	**5.NO.2b2** Add or subtract fractions with unlike denominators **5.NO.2b1** Add and subtract fractions with unlike denominators by replacing fractions with equivalent fractions (identical denominators)	**5.NF.A.1.ECS** Add or subtract proper benchmark fractions with unlike denominators (e.g. halves, thirds, fourths). **5.NO.2b1** ~~Add and subtract fractions with unlike denominators by replacing fractions with equivalent fractions (identical denominators)~~	Combined standards
5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole (the whole can be a set of objects), including cases of unlike denominators.	**5.NO.2c2** Solve word problems involving the addition, subtraction, multiplication or division of fractions	**5.NF.A.2.ECS** Solve word problems involving the addition~~,~~ and subtraction~~, multiplication or division~~ of fractions referring to the same whole, including cases of unlike denominators.	Aligned with ICS verbiage.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
a. Justify the conclusions by using visual fraction models and/or equations to represent the problem. **b.** Use benchmark fractions and number sense of fraction to estimate mentally and assess the reasonableness of answers. *Example: Recognize an incorrect result* $\frac{2}{5}+\frac{1}{2}=\frac{3}{7}$ *by observing that* $\frac{3}{7}<\frac{1}{2}$.			

Grade 5: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.NF.B.3 Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b}=a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers by using visual fraction models and/or equations to represent the problem. *Example: Interpret* $\frac{3}{4}$ *as the result of dividing 3 by 4, noting that* $\frac{3}{4}$ *multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people, each person has*	**5.NO.2b4** Divide unit fractions by whole numbers and whole numbers by unit fractions.	~~**5.NO.2b4** Divide unit fractions by whole numbers and whole numbers by unit fractions.~~ **5.NF.B.3.ECS** Select the corresponding fraction represented by the division of the numerator by the denominator ($\frac{a}{b}=a \div b$).	Align with ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
a share of size $\frac{3}{4}$. If nine people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?			
	5.NO.1c1 Rewrite a fraction as a decimal **5.NO.1c2** Rewrite a decimal as a fraction	~~**5.NO.1c1** Rewrite a fraction as a decimal~~ ~~**5.NO.1c2** Rewrite a decimal as a fraction~~	Aligned with 4th grade standards - removed
5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. **a.** Interpret the product $(\frac{a}{b}) \times q$ as a parts of a partitions of q into b equal parts, and equivalently, as the result of the sequence of operations $a \times q \div b$. Example: Use a visual model and/or area model to show $(\frac{2}{3}) \times 4 = \frac{8}{3}$, and create a story context for this equation. Do the same with $(\frac{2}{3}) \times (\frac{4}{5}) = \frac{8}{15}$. In general, $(\frac{a}{b}) \times (\frac{c}{d}) = \frac{ac}{bd}$.	**5.NO.2b3** Multiply a fraction by a whole or mixed number.	**5.NF.B.4.ECS** Multiply a fraction by a whole number or ~~mixed number.~~ fraction.	Matched ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. Find the area of a rectangle with fractional side lengths. i. Tile it with unit squares of the appropriate unit fraction side lengths. ii. Show that the area is the same by tiling as would be found by multiplying the side lengths. iii. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.			
5.NF.B.5 Interpret multiplication as scaling (resizing), by: **a.** Comparing the size of a fractional product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. *Example: Without multiplying, tell which number is greater:* 225 *or* $\frac{3}{4} \times 225$; $\frac{11}{50}$ *or* $\frac{3}{2} \times \frac{11}{50}$? **b.** Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given	**5.PRF.1a1** Determine whether the product will increase or decrease based on the multiplier **6.PRF.1a2** Determine whether or not the quotient will increase or decrease based on the divisor	**5.NF.B.5.ECS** Determine whether the product or quotient will increase or decrease based on the multiplier or divisor. ~~**6.PRF.1a2** Determine whether or not the quotient will increase or decrease based on the divisor~~	Combined standards

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
number, explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number, and relating the principle of fraction equivalence $\frac{a}{b} = \frac{n \times a}{n \times b}$ to the effect of multiplying $\frac{a}{b}$ by 1.			
5.NF.B.6 Solve real-world problems involving multiplication of fractions and mixed numbers by using visual fraction models and/or equations to represent the problem. *Example: Evan bought six roses for his mother, $\frac{2}{3}$ of them were red. How many red roses were there?*		**5.NF.B.6.ECS** Solve one-step real-world problems involving multiplication of fractions by using visual fraction models and/or equations to represent the problem.	Added standard to match ICS, removed mixed numbers from verbiage.
5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. **a.** Represent division of a unit fraction by a nonzero whole number and compute such quotients using a visual fraction model. Use the relationship	**5.NO.2b4** Divide unit fractions by whole numbers and whole numbers by unit fractions. **5.NO.2b3** Multiply a fraction by a whole or mixed number. **5.NO.2c1** Solve 1 step problems using decimals	**5.NF.B.7.ECS** Divide unit fractions by whole numbers and whole numbers by unit fractions. ~~**5.NO.2b3** Multiply a fraction by a whole or mixed number.~~ ~~**5.NO.2c1** Solve 1 step problems using decimals~~	Simplified

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
between multiplication and division to explain that $\frac{1}{b} \div c = \frac{1}{bc}$ because $\frac{1}{bc} \times c = \frac{1}{b}$. *Example: Create a story context to explain* $\frac{1}{3} \div 4$*, and use a visual fraction model to show the quotient.* **b.** Represent division of a whole number by a unit fraction, and compute such quotients using a visual fraction model. Use the relationship between multiplication and division to explain that $a \div \frac{1}{b} = ab$ because $ab \times \frac{1}{b} = a$. *Example: Create a story context to explain* $4 \div \frac{1}{5}$*, and use a visual fraction model to show the quotient.* **c.** Solve real-world problems involving division of unit fractions by nonzero whole numbers and division of whole numbers by unit fractions by using visual fraction models and/or equations to represent the problem. *Example: How much chocolate will each person get if three*			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$ cup servings are in two cups of raisins?			

GRADE 5 MEASUREMENT AND DATA – 5.MD

Grade 5: Convert like measurement units within a given measurement system.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system. Use conversions in solving multi-step, real-world problems. *Example: Convert* 5 *cm to* 0.05 *m.*	**5.ME.1b1** Convert standard measurements of time **5.ME.1b2** Convert standard measurements of length **5.ME.1b3** Convert standard measurements of mass **5.ME.2a1** Solve problems involving conversions of standard measurement units when finding area, volume, time lapse, or mass **5.ME.1a1** Identify the appropriate units of measurement for different purposes in a real-life context (e.g., measure a wall using feet, not inches)	**5.MD.A.1.ECS** Given a measurement system and/or visual strategies, select the corresponding conversion of two different-sized standard measurement units. ~~**5.ME.1b1** Convert standard measurements of time~~ ~~**5.ME.1b2** Convert standard measurements of length~~ ~~**5.ME.1b3** Convert standard measurements of mass~~ ~~**5.ME.2a1** Solve problems involving conversions of standard measurement units when finding area, volume, time lapse, or mass~~	Simplified

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
		~~**5.ME.1a1** Identify the appropriate units of measurement for different purposes in a real-life context (e.g., measure a wall using feet, not inches)~~	

Grade 5: Represent and interpret data.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.MD.B.2 Collect, represent, and interpret numerical data, including whole numbers, and fractional and decimal values. **a.** Interpret numerical data, with whole-number values, represented with tables or line plots. **b.** Use graphic displays of data (line plots (dot plots), tables, etc.) to solve real-world problems using fractional data. *Example: Given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*	**5.DPS.1c1** Collect and graph data: bar graph, line plots, picture graph (e.g., average height among 3 classrooms, # of boys and girls)	**5.MD.B.2.ECS** Collect and graph data: bar graph, line plots, picture graph (e.g., average height among 3 classrooms, # of boys and girls).	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	5.DPS.1d1 Select an appropriate statement about the range of the data for a given graph (bar graph, line plot) (i.e., range of data) up to 10 points	~~**5.DPS.1d1** Select an appropriate statement about the range of the data for a given graph (bar graph, line plot) (i.e., range of data) up to 10 points~~	Aligned with 6^{th} grade
	5.DPS.1e1 Use measures of central tendency to interpret data including overall patterns in the data	~~**5.DPS.1e1** Use measures of central tendency to interpret data including overall patterns in the data~~	Aligned with 6^{th} grade

Grade 5: Geometric measurement: Understand concepts of volume and relate volume to multiplication and to addition.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.MD.C.3 Recognize volume as an attribute of solid figures and understand volume measurement in terms of cubic units. **a.** A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume. **b.** A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.		**5.MD.C.3.ECS** Recognize volume as an attribute of solid figures and understand volume measurement in terms of cubic units using concrete and/or visual models.	Created ECS to align with ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.MD.C.4 Use concrete and/or visual models to measure the volume of rectangular prisms in cubic units by counting cubic cm, cubic in, cubic ft, and nonstandard units.	**5.ME.2b1** Use filling and multiplication to determine volume	~~**5.ME.2b1** Use filling and multiplication to determine volume~~ **5.MD.C.4.ECS** Use concrete and/or visual models to measure the volume of a singular rectangular prism in cubic units.	Used verbiage from ICS
5.MD.C.5 Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume. **a.** Find the volume of a right rectangular prism with whole-number edge lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. *Example: To represent the associative property of multiplication,* $(l \times w) \times h = l \times (w \times h)$. **b.** Apply the formulas $V = l \times w \times h$ and $V = B \times h$ (where B stands for the area of the base) for rectangular prisms to find volumes of right rectangular prisms with	**5.ME.2b2** Apply formula to solve one step problems involving volume	**5.MD.C.5.ECS** Apply formula to solve one step problems involving volume.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
whole-number edge lengths, and in the context of solving real-world and mathematical problems. **c.** Recognize volume as additive. i. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts. ii. Apply this technique to solve real-world problems.			

GRADE 5 GEOMETRY – 5.G

Grade 5: Graph points on the coordinate plane to solve real-world and mathematical problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.G.A.1 Describe and understand the key attributes of the coordinate plane. **a.** Use a pair of perpendicular number lines (axes) with the intersection of the lines (the origin (0,0)) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.	**5.GM.1c1** Locate the x and y axis on a graph **5.GM.1c2** Locate points on a graph **5.GM.1c3** Use order pairs to graph given points **5.GM.1j1** Recognize parallel and perpendicular lines within the context of two-dimensional figures	**5.G.A.1.ECS** Identify or select the key attributes of the coordinate plane. **a.** Locate the x and y axis on a graph. **b.** Locate and plot points on a graph within quadrant 1 and name the ~~**5.GM.1c3** Use~~ ordered pairs ~~to graph given points~~.	Combined the ECS to align with the ICS. Added quadrant 1 to simplify the standard.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. Understand that the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin.		~~**5.GM.1j1** Recognize parallel and perpendicular lines within the context of two-dimensional figures~~	
5.G.A.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane (x and y both have positive values), and interpret coordinate values of points in the context of the situation.	**6.GM.1c6** Find coordinate values of points in the context of a situation	**5.G.A.2.ECS** Find coordinate values of points in the context of a situation.	

Grade 5: Classify two-dimensional figures into categories based on their properties.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all of the subcategories of that category. *Example: All rectangles have four right angles and squares are rectangles, so all squares have four right angles.*	**5.GM.1a1** Recognize properties of simple plane figures	**5.G.B.3.ECS** ~~Recognize properties~~ Given categories of simple plane figures, select their attributes.	Clarification

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties. *Example: All rectangles are parallelograms because they are all quadrilaterals with two pairs of opposite sides parallel.*	**5.GM.1b1** Distinguish plane figures by their properties	**5.G.B.4.ECS** ~~Distinguish~~ Identify or select examples of familiar plane figures by their properties.	Reduced complexity.

GRADE 6 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 6 RATIOS AND PROPORTIONAL RELATIONSHIPS – 6.RP

Grade 6: Understand ratio and rate concepts and use ratio and rate reasoning to solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *Examples:* *1) The ratio of wings to beaks in the bird house at the zoo was* 2:1*, because for every two wings there was one beak.* *2) For every vote candidate A received, candidate C received*	**6.NO.1f2** Write or select a ratio to match a given statement and representation **6.NO.1f3** Select or make a statement to interpret a given ratio **6.PRF.1c1** Describe the ratio relationship between two quantities for a given situation	**6.RP.A.1.ECS** Write or select a ratio to match a given statement and representation. ~~**6.NO.1f3** Select or make a statement to interpret a given ratio~~ ~~**6.PRF.1c1** Describe the ratio relationship between two quantities for a given situation~~	Deleted one standard not aligned to same grade level and deleted two standards for redundancy and one for complexity.

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nearly three votes, meaning that candidate C received approximately three times the number of votes as candidate A, or candidate A received approximately $\frac{1}{3}$ of the number of votes that candidate C received.	**6.PRF.2b3** Complete a statement that describes the ratio relationship between two quantities **6.PRF.1a2** Determine whether or not the quotient will increase or decrease based on the divisor	~~**6.PRF.2b3** Complete a statement that describes the ratio relationship between two quantities~~ ~~**6.PRF.1a2** Determine whether or not the quotient will increase or decrease based on the divisor~~	
6.RP.A.2 Understand the concept of a unit rate $\frac{a}{b}$ associated with a ratio a:b with $b \neq 0$, and use rate language in the context of a ratio relationship. *Example: This recipe has a ratio of three cups of flour to four cups of sugar, so there is $\frac{3}{4}$ cup of flour for each cup of sugar. We paid \$75 for 15 hamburgers, which is a rate of five dollars per hamburger.*	**6.PRF.2b4** Determine the unit rate in a variety of contextual situations **6.PRF.1c2** Represent proportional relationships on a line graph	**6.RP.A.2.ECS** Determine the unit rate in a variety of contextual situations. ~~**6.PRF.1c2** Represent proportional relationships on a line graph~~	Removed one standard because it describes an instructional strategy.
6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. **a.** Make tables of equivalent ratios relating quantities with	**6.NO.1f4** Find a missing value (representations, whole numbers, common fractions, decimals to hundredths place, percent) for a given ratio **6.PRF.2b5** Use ratios and reasoning to solve real-world mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape	**6.RP.A.3.ECS** Find unit rates within a real-world context. **a.** Select equivalent ratios **b.** Find a missing value (~~representations,~~ whole numbers, common fractions, ~~decimals to hundredths place,~~ percent) for a	Removed multiple standards and reworded another standard to represent more appropriate depth and provide context.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
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. *Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?* **c.** Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent. *Example: 30% of a quantity means $\frac{30}{100}$ times the quantity.*	diagrams, double number line diagrams, or equations) **6.NO.1f5** Solve unit rate problems involving unit pricing **6.NO.1f1** Find a percent of a quantity as rate per 100	given ratio within a real-world mathematical context. ~~**6.PRF.2b5** Use ratios and reasoning to solve real-world mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations)~~ ~~**6.NO.1f5** Solve unit rate problems involving unit pricing~~ ~~**6.NO.1f1** Find a percent of a quantity as rate per 100~~	No ECS needed. Redundant standard.
d. Use ratio reasoning to convert measurement units within and between measurement systems; manipulate and transform units appropriately when multiplying or dividing quantities. Examples: *1) Malik is making a recipe, but he cannot find his measuring*	**6.ME.2a2** Solve one step real world measurement problems involving unit rates with ratios of whole numbers when given the unit rate (3 inches of snow falls per hour, how much in 6 hours) **6.ME.1b4** Complete a conversion table for length, mass, time, volume	**d.** Solve one step real world ~~measurement~~ problems involving measurement conversions. ~~unit rates with ratios of whole numbers when given the unit rate (3 inches of snow falls per hour, how much in 6 hours)~~	Deleted two standards that were overly complex. Reworded one standard to focus on measurement conversion.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
cups! He has, however, found a tablespoon. His cookbook says that 1 cup = 16 tablespoons. Explain how he could use the tablespoon to measure out the following ingredients: two cups of flour, $\frac{1}{2}$ cup sunflower seeds, and $1\frac{1}{4}$ cup of oatmeal. *2) Jessica is building a doghouse out of wooden planks. If the instructions say the house is 30 inches long, how long would the doghouse be using metric measurements (1 in = 2.54 cm)?*	**6.ME.1b5** Analyze table to answer questions	~~**6.ME.1b4** Complete a conversion table for length, mass, time, volume~~ ~~**6.ME.1b5** Analyze table to answer questions~~	

GRADE 6 THE NUMBER SYSTEM – 6.NS

Grade 6: Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *Examples:*	**6.NO.2c4** Solve word problems involving the addition, subtraction, multiplication or division of fractions **6.NO.2c3** Solve one step, addition, subtraction, multiplication, or division problems with fractions or decimals	**6.NS.A.1.ECS** Solve one-step word problems involving the addition, subtraction, multiplication or division of fractions. ~~**6.NO.2c3** Solve one step, addition, subtraction, multiplication, or division problems with fractions or decimals~~	Deleted a standard that had too great of a breadth.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1) Create a story context for $\frac{2}{3} \div \frac{3}{4}$ *and use a visual fraction model to show the quotient.* *2) Use the relationship between multiplication and division to explain that* $\frac{2}{3} \div \frac{3}{4} = \frac{8}{9}$ *because* $\frac{3}{4}$ of $\frac{8}{9}$ is $\frac{2}{3}$. *In general,* $\frac{a}{b} \div \frac{c}{d} = \frac{ad}{bc}$. *3) After hiking* $6\frac{1}{2}$ *miles along the Salmon River, Fred realized he had traveled* $\frac{3}{4}$ *of the way to his campsite. What is the total distance Fred will end up traveling during his hike?* *4) How many* $\frac{3}{4}$ *cup servings are in* $\frac{2}{3}$ *of a cup of yogurt?* *5) How wide is a rectangular strip of land with length* $\frac{3}{4}$ *mi and area* $\frac{1}{2}$ *square mi?*			

Grade 6: Compute fluently with multi-digit numbers and find common factors and multiples.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm.	**6.NO.2c5** Divide multi-digit whole numbers	~~**6.NO.2c5** Divide multi-digit whole numbers~~	Combined with **6.NS.B.3.ECS**

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: What is the quotient of 657 and 3 using the standard algorithm? $\begin{array}{r} 219 \\ 3\overline{)657} \\ \underline{-6} \\ 05 \\ \underline{-3} \\ 27 \\ \underline{-27} \\ 0 \end{array}$			
6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. *Example: What is the difference of 1.82 and 0.06 using the standard algorithm?* $\begin{array}{r} 1.{}^{7}\cancel{8}{}^{1}2 \\ \underline{-0.0\ 6} \\ 1.7\ 6 \end{array}$	**6.NO.2c3** Solve one step, addition, subtraction, multiplication, or division problems with fractions or decimals	**6.NS.B.3.ECS** Solve one step addition, subtraction, multiplication, or division problems with whole numbers, ~~fractions, or~~ and decimals.	Combined with above
6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *Example: Express 36+8 as 4(9+2).*			

Grade 6: Apply and extend previous understandings of numbers to the system of rational numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Use positive and negative numbers (including fractions and decimals) to represent quantities in real-world contexts, explaining the meaning of zero in each situation. *Examples: Temperature above/below zero, elevation above/below sea level, credits/debits, and positive/negative electric charge*	**6.NO.1d4** Select the appropriate meaning of a negative number in a real-world situation	**6.NS.C.5.ECS** Select the appropriate meaning of a positive or negative number in a real-world situation.	Added "positive" to better align with the ICS.
6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and	**6.NO.1d3** Plot positive and negative numbers on a number line **6.NO.1d5** Find given points between -10 and 10 on both axis of a coordinate plane	**6.NS.C.6.ECS** Plot positive and negative numbers on a number line.	Removed three standards for redundancy and one for complexity.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
in the plane with negative number coordinates. **a.** Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., −(−3)=3, and that 0 is its own opposite. **b.** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. **c.** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.	**6.NO.1d1** Identify numbers as positive or negative **6.NO.1d2** Locate positive and negative numbers on a number line **6.NO.1d6** Label points between -10 and 10 on both axis of a coordinate plane **6.NO.2e1** Determine the difference between two integers using a number line	**b.** Find given points between -10 and 10 on both axis of a coordinate plane. ~~**6.NO.1d1** Identify numbers as positive or negative~~ ~~**6.NO.1d2** Locate positive and negative numbers on a number line~~ ~~**6.NO.1d6** Label points between -10 and 10 on both axis of a coordinate plane~~ ~~**6.NO.2e1** Determine the difference between two integers using a number line~~	
6.NS.C.7 Understand ordering and absolute value of rational numbers. **a.** Interpret statements of inequality as statements about	**6.NO.1e1** Determine the meaning of absolute value **6.NO.2e2** Compare two numbers on a number line (e.g., -2 > -9)	**6.NS.C.7.ECS** Determine the meaning of absolute value. **a.** Compare two numbers on a number line (e.g., -2 > -9).	Made **NO.2e2** subsection **a** to align with a in ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
the relative position of two numbers on a number line diagram. *Examples: Interpret* $-3.7 > -7\frac{1}{2}$ *as a statement that* -3.7 *is located to the right of* $-7\frac{1}{2}$ *on a number line oriented from left to right.* **b.** Write, interpret, and explain statements of order for rational numbers in real-world contexts. *Example: Write* −3°C > −7°C *to express the fact that* −3°C *is warmer than* −7° C. **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. *Example: For an account balance of* −30 *dollars, write* $\lvert -30 \rvert = 30$ *to describe the size of the debt in dollars.* **d.** Distinguish comparisons of absolute value from statements about order.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: Recognize that an account balance less than −30 dollars represents a debt greater than 30 dollars.			
6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. *Example: Samuel draws a coordinate plane on a map of his neighborhood. He found that the distance between two consecutive whole-number points is one block. His house is located at* (−4,6), *and his school is located at* (−4,−3). *How many blocks are between Samuel's house and school?*			

GRADE 6 EXPRESSIONS AND EQUATIONS – 6.EE

Grade 6: Apply and extend previous understandings of arithmetic to algebraic expressions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	**6.NO.1i2** Solve numerical expressions involving whole number exponents **6.NO.1i1** Identify what an exponent represents (e.g., 8^3 = 8 x 8 x 8)	**6.EE.A.1.ECS** Solve numerical expressions involving whole number exponents. ~~**6.NO.1i1** Identify what an exponent represents (e.g., 8^3 = 8 x 8 x 8)~~	One deleted for redundancy and alignment.
6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. **a.** Write expressions that record operations with numbers and with letters standing for numbers. *Example: Express the calculation "Subtract* y *from* 5*" as* $5-y$. **b.** Identify parts of an expression using mathematical terms (e.g. sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *Example: Describe the expression* 2(8+7) *as a product of two factors; view* (8+7) *as both a*	**6.SE.1a2** Given a real-world problem, write an equation using 1 set of parentheses	**6.EE.A.2.ECS** Given a real-world problem, write an expression ~~equation~~ using 1 set of parentheses.	Updated wording for alignment

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
single entity and a sum of two terms. **c.** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *Examples:* *1) Use the formulas* $V = s^3$ 3 *and* $A = 6s^2$ *to find the volume (V) and surface area (A) of a cube with sides of length* $s = \frac{1}{2}$. *2) The formula for finding the perimeter of a rectangle is* $P = 2l + 2w$. *Find the perimeter of a rug that measures* 7.5 ft *by* 9.5 ft.			
6.EE.A.3 Apply the properties of operations to generate equivalent expressions. *Examples:*	**6.SE.1b2** Use properties to produce equivalent expressions	**6.EE.A.3.ECS** Use properties to produce or select equivalent expressions.	Reduce depth.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1) Apply the distributive property to the expression $3(2+x)$ *to produce the equivalent expression* $6+3x$. *2) Apply the distributive property to the expression* $24x+18y$ *to produce the equivalent expression* $6(4x+3y)$. *3) Apply properties of operations to* $y+y+y$ *to produce the equivalent expression* $3y$.			
6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *Example: The expressions* $y+y+y$ *and* $3y$ *are equivalent because they name the same number regardless of the numeric value of* y.	**6.SE.1b1** Evaluate whether or not both sides of an equation are equal	**6.EE.A.4.ECS** Identify ~~Evaluate~~ whether or not both sides of an equation are equal.	Edited to reduce depth
	6.PRF.2b2 Using provided table with numerical patterns, form ordered pairs	~~**6.PRF.2b2** Using provided table with numerical patterns, form ordered pairs~~	Deleted for alignment

Grade 6: Reason about and solve one-variable equations and inequalities.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: Which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.			
6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or depending on the purpose at hand, any number in a specified set.	**6.PRF.2a2** Use variables to represent numbers and write expressions when solving real-world problems	**6.EE.B.6.ECS** Use variables to represent numbers and write expressions when solving real-world problems.	
6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers.	**6.PRF.1d1** Solve real world single step linear equations **6.NO.2a6** Solve problems or word problems using up to three-digit numbers and any of the four operations	**6.EE.B.7.ECS** Solve real world single step linear equations. ~~**6.NO.2a6** Solve problems or word problems using up to three-digit numbers and any of the four operations~~	Deleted for complexity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.EE.B.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. **a.** Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions. **b.** Represent solutions of such inequalities on number line diagrams.	**6.SE.1a4** Given a real-world problem, write an inequality.	**6.EE.B.8.ECS** Given a real-world problem, write or select an inequality of the form x>c or x<c.	Edited to reduce depth Added an example.

Grade 6: Represent and analyze quantitative relationships between two variables.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write equations to represent the relationship between the two quantities. Analyze the relationship using graphs and tables and relate these to the equations. Include an understanding of independent and dependent variables. *Examples:*	**6.PRF.2a4** Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation **6.PRF.2a3** Use variables to represent two quantities in a real-world problem that change in relationship to one another	**6.EE.C.9.ECS** ~~Analyze~~ Select statements about the relationship between the dependent and independent variables using graphs and tables and relate these to the equation. ~~**6.PRF.2a3** Use variables to represent two quantities in a real-world problem that change in relationship to one another~~	Revised for depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
1) In a problem involving mixing water (W) *and orange concentrate* (C) *to make a consistent flavor of orange juice, list and graph ordered pairs of cups of water and orange concentrate, and write the equations* (e.g., $C = \frac{1}{2} \cdot W$ or $W = 2 \cdot C$) *to represent the relationship between water* (W) *and orange concentrate* (C). *2) When examining the relationship between time and the growth of a plant, time tends to be thought of as the independent variable and the height of the plant tends to be thought of as the dependent variable.*			

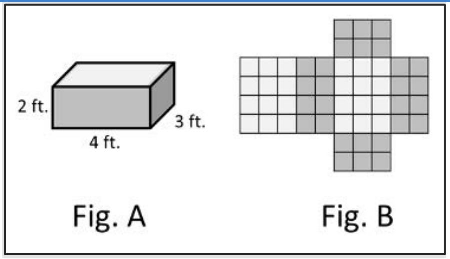
GRADE 6 GEOMETRY – 6.G

Grade 6: Solve real-world and mathematical problems involving area, surface area, and volume.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or	**6.ME.2b3** Decompose complex shapes (polygon, trapezoid, pentagon) into simple shapes	**6.G.A.1.ECS** Decompose complex shapes (polygon, trapezoid, pentagon) into simple shapes (rectangles,	Deleted multiple items for breadth. Edited to reduce complexity.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.	(rectangles, squares, triangles) to measure area **6.GM.1d1** Find area of quadrilaterals **6.GM.1d2** Find area of triangles **6.ME.1a2** Identify the appropriate formula (i.e., perimeter, area, volume) to use when measuring for different purposes in a real life context **6.ME.2a3** Apply the formula to find the area of triangles **6.GM.1c4** Locate points on a graph **6.GM.1c5** Use order pairs to graph given points **6.ME.2b4** Decompose complex 3-D shapes into simple 3-D shapes to measure volume	squares, triangles) to measure area using concrete and pictorial representations. ~~**6.GM.1d1** Find area of quadrilaterals~~ ~~**6.GM.1d2** Find area of triangles~~ ~~**6.ME.1a2** Identify the appropriate formula (i.e., perimeter, area, volume) to use when measuring for different purposes in a real life context~~ ~~**6.ME.2a3** Apply the formula to find the area of triangles~~ ~~**6.GM.1c4** Locate points on a graph~~ ~~**6.GM.1c5** Use order pairs to graph given points~~ ~~**6.ME.2b4** Decompose complex 3-D shapes into simple 3-D shapes to measure volume~~	
6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths and show that the volume is the same as would be found by multiplying the edge lengths of the prism.	**6.ME.1a2** Identify the appropriate formula (i.e., perimeter, area, volume) to use when measuring for different purposes in a real-life context	**6.G.A.2.ECS** Identify the appropriate formula (i.e., perimeter, area, volume) to use when measuring for different purposes in a real-life context. ~~**6.ME.1c1** Find the area of a 2-dimensional figure and the~~	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Apply the formulas $V=lwh$ and $V=Bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	**6.ME.1c1** Find the area of a 2-dimensional figure and the volume of a 3-dimensional figure **6.GM.1c6** Find coordinate values of points in the context of a situation	~~volume of a 3-dimensional figure~~ ~~**6.GM.1c6** Find coordinate values of points in the context of a situation~~	
6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side and area by joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.	**6.GM.1c7** Use coordinate points to draw polygons **6.GM.1c8** Use coordinate points to find the side lengths of polygons that are horizontal or vertical	**6.G.A.3.ECS** Use coordinate points to draw polygons. ~~**6.GM.1c8** Use coordinate points to find the side lengths of polygons that are horizontal or vertical~~	Deleted for complexity
6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. *Example: Explain how you could find the surface area of a rectangular prism given a three-dimensional representation (Fig. A) or a net (Fig. B).*			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
 Fig. A Fig. B			

GRADE 6 STATISTICS AND PROBABILITY – 6.SP

Grade 6: Develop understanding of statistical variability.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *Example: "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*	**6.DPS.1a2** Identify statistical questions and make a plan for data collection	**6.SP.A.1.ECS** Identify statistical questions and make a plan for data collection.	
6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution, which can be described by its center (median	**6.DPS.1d4** Find the range of a given data set **6.DPS.1d6** Explain or identify what the mode represents in a set of data	**6.SP.A.2.ECS** Find the range of a given data set. ~~**6.DPS.1d6** Explain or identify what the mode represents in a set of data~~	Deleted for alignment.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
and/or mean), spread (range, interquartile range, and/or mean absolute deviation), and overall shape. The focus of mean absolute deviation (MAD) is visualizing deviations from the mean as a measure of variability as opposed to a focus on calculating MAD.			
6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.	**6.DPS.1d5** Explain or identify what the mean represents in a set of data **6.DPS.1d2** Solve for mean of a given data set	**6.SP.A.3.ECS** Explain or identify what the mean represents in a set of data. ~~**6.DPS.1d2** Solve for mean of a given data set~~	Deleted for complexity

Grade 6: Summarize and describe distributions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	**6.DPS.1c2** Collect and graph data: bar graph, line plots, dot plots, histograms	**6.SP.B.4.ECS** Collect and graph data: bar graph, line plots, dot plots, or histograms**.**	Added verbiage to reduce depth
6.SP.B.5 Summarize numerical data sets in relation to their context, such as by: **c.** Giving quantitative measures of center (median, and/or mean)	**6.DPS.1d7** Explain or identify what the median represents in a set of data **6.DPS.1d3** Select statement that matches mean, mode, and spread	**6.SP.B.5.ECS** Explain or identify what the median represents in a set of data. ~~**6.DPS.1d3** Select statement that matches mean, mode, and~~	Deleted for complexity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
and variability (range, interquartile range, and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	of data for 1 measure of central tendency for a given data set **6.DPS.1e2** Use measures of central tendency to interpret data including overall patterns in the data	~~spread of data for 1 measure of central tendency for a given data set~~ ~~**6.DPS.1e2** Use measures of central tendency to interpret data including overall patterns in the data~~	

Grade 6: ECS without obvious Corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	6.SE.1a3 Write expressions for real-world problems involving one unknown number	~~6.SE.1a3 Write expressions for real-world problems involving one unknown number~~	Removing ECS as there is no grade level ICS to correlate with.

GRADE 7 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 7 RATIOS AND PROPORTIONAL RELATIONSHIPS – 7.RP

Grade 7: Analyze proportional relationships and use them to solve real-world and mathematical problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of	**7.NO.2f3** Find unit rates given a ratio	**7.RP.A.1.ECS** Find unit rates given a ratio.	Deleted for depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
lengths, areas and other quantities measured in like or different units. *Example: If a person walks* $\frac{1}{2}$ *mile in each* $\frac{1}{4}$ *hour, compute the unit rate as the complex fraction* $\frac{1/2}{1/4}$ *miles per hour, equivalently 2 miles per hour.*	**7.ME.2e2** Solve one step problems involving unit rates associated with ratios of fractions **7.ME.2e2** Solve one step problems involving unit rates associated with ratios of fractions **7.PRF.1e1** Determine unit rates associated with ratios of lengths, areas, and other quantities measured in like units	~~**7.ME.2e2** Solve one step problems involving unit rates associated with ratios of fractions~~ ~~**7.ME.2e2** Solve one step problems involving unit rates associated with ratios of fractions~~ ~~**7.PRF.1e1** Determine unit rates associated with ratios of lengths, areas, and other quantities measured in like units~~	
7.RP.A.2 Recognize and represent proportional relationships between quantities. **a.** Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. **b.** Identify the constant of proportionality in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. Recognize the constant of proportionality as	**7.NO.2f1** Identify the proportional relationship between two quantities **7.NO.2f2** Determine if two quantities are in a proportional relationship using a table of equivalent ratios or points graphed on a coordinate plane **7.NO.2f4** Use a rate of change or proportional relationship to determine the points on a coordinate plane **7.PRF.1e2** Represent proportional relationships on a line graph	**7.RP.A.2.ECS** Identify the proportional relationship between two quantities. ~~**7.NO.2f2** Determine if two quantities are in a proportional relationship using a table of equivalent ratios or points graphed on a coordinate plane~~ ~~**7.NO.2f4** Use a rate of change or proportional relationship to determine the points on a coordinate plane~~ ~~**7.PRF.1e2** Represent proportional relationships on a line graph~~	Deleted for depth and complexity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
both the unit rate and as the multiplicative comparison between two quantities. **c.** Represent proportional relationships by equations. *Example: If total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t=pn$.* **d.** Explain what a point (x,y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0,0) and $(1,r)$ where r is the unit rate.			
7.RP.A.3 Use proportional relationships to solve multi-step ratio, rate, and percent problems. *Examples: Simple interest, tax, price increases and discounts, gratuities and commissions, fees, percent increase and decrease, percent error*	**7.NO.2h1** Find percents in real world contexts **7.NO.2f5** Use proportions to solve ratio problems **7.NO2.f6** Solve word problems involving ratios **7.NO.2h2** Solve one step percentage increase and decrease problems **7.PRF.1f1** Use proportional relationships to solve multistep percent problems in real world situations	**7.RP.A.3.ECS** Find percents in real world contexts. ~~**7.NO.2f5** Use proportions to solve ratio problems~~ ~~**7.NO2.f6** Solve word problems involving ratios~~ ~~**7.NO.2h2** Solve one step percentage increase and decrease problems~~ ~~**7.PRF.1f1** Use proportional relationships to solve multistep~~	Deleted for complexity and depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	7.NO.1h1 Identify an equivalent fraction, decimal and percent when given one of the three numbers	~~percent problems in real world situations~~ ~~**7.NO.1h1** Identify an equivalent fraction, decimal and percent when given one of the three numbers~~	

GRADE 7 THE NUMBER SYSTEM – 7.NS

Grade 7: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. **a.** Describe situations in which opposite quantities combine to make zero. *Example: If you open a new bank account with a deposit of $30.52 and then withdraw $30.52, you are left with a $0 balance.*	**7.NO.1g1** Identify the additive inverse of a number (e.g., -3 and +3) **7.NO.1g2** Identify the difference between two given numbers on a number line using absolute value	**7.NS.A.1.ECS** Extend previous understandings of addition and subtraction to add and subtract integers and other rational numbers. **a.** Identify the additive inverse of a number (e.g., -3 and +3). **b.** Identify the difference between two given numbers on a number line using absolute value.	Added the standard to accompany the sub standards.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. Understand $p+q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether qq is positive or negative. Show that a number and its opposite are additive inverses because they have a sum of 0 (e.g., 12.5+(−12.5)=0). Interpret sums of rational numbers by describing real-world contexts. **c.** Understand subtraction of rational numbers as adding the additive inverse, $p-q=p+(-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. **d.** Apply properties of operations as strategies to add and subtract rational numbers. Example: $\frac{1}{4} - 5 + \frac{3}{4} + 7 = (\frac{1}{4} + \frac{3}{4}) + ((-5) + 5) + 2$			
7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide	**7.NO.2i1** Solve multiplication problems with positive/negative numbers **7.NO.2i2** Solve division problems with positive/negative numbers	**7.NS.A.2.ECS** Solve multiplication and division problems with positive/negative numbers.	Combined two for breadth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
integers and other rational numbers. **a.** Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-\frac{1}{2})(-1)=\frac{1}{2}$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. **b.** Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with nonzero divisor) is a rational number. If p and q are integers, then $-(\frac{p}{q}) = \frac{-(p)}{q} = \frac{p}{-(q)}$. Interpret quotients of rational numbers by describing real- world contexts. Interpret quotients of rational numbers by describing real-world contexts. **c.** Apply properties of operations as strategies to multiply and divide rational numbers.		~~**7.NO.2i2** Solve division problems with positive/negative numbers~~	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: $-4(0.25-1)=((-4)\times 0.25)+((-4)\times(-1))=-1+4=3$ **d.** Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates or eventually repeats.			
7.NS.A.3 Solve real-world and mathematical problems involving the four operations with integers and other rational numbers. *Example: A water well drilling rig has dug to a depth of −60 feet after one full day of continuous use. If the rig has been running constantly and is currently at a depth of −143.6 feet, for how long has the rig been running? (Modified from Illustrative Mathematics.)*	**8.NO.2i3** Solve one step addition, subtraction, multiplication, division problems with fractions, decimals, and positive/negative numbers.	**7.NS.A.3.ECS** Solve one-step addition, subtraction, multiplication, division problems with ~~fractions, decimals, and or~~ positive/negative ~~numbers~~ integers, fractions, or decimals.	Edited for depth Reworded to emphasize the focus on working with positive and negative numbers at this grade level.

GRADE 7 EXPRESSIONS AND EQUATIONS – 7.EE

Grade 7: Use properties of operations to generate equivalent expressions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.EE.A.1 Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. *Example*: $4x + 2 = 2\,(2x + 1)$ *and* $-3\,(x - \frac{5}{3}) = -3x + 5$	**7.SE.1f3** Add and subtract linear expressions. **7.SE.1f4** Factor and expand linear expressions.	**7.SEE.A.1.ECS** Add and subtract linear expressions. ~~**7.SE.1f4** Factor and expand linear expressions.~~	Deleted for depth
7.EE.A.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *Examples:* *1)* $a + 0.05a = 1.05a$ *means that "increase by 5%" is the same as "multiply by 1.05."* *2) A shirt at a clothing store is on sale for 20% off the regular price,* p. *The discount can be expressed as* $0.2p$. *The new price for the shirt can be expressed as* $p - 0.2p$ *or* $0.8p$.			

Grade 7: Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (integers, fractions, and decimals). Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *Examples:* *1) If a woman making $25 per hour gets a 10% raise, she will make an additional* $\frac{1}{10}$ *of her salary an hour, or $2.50, for a new salary of $27.50.* *2) If you want to place a towel bar* $9\frac{3}{4}$ *inches long in the center of a door that is* $27\frac{1}{2}$ *inches wide, you will need to place the bar about nine inches from each edge; this estimate can be used as a check on the exact computation.*	**7.PRF.1g1** Solve real world multi step problems using whole numbers	**7.EE.B.3.ECS** Solve real world multi step problems using whole numbers.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. **a.** Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *Example: The perimeter of a rectangle is 54 cm. Its width is 6 cm. What is its length?* **b.** Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *Example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your*	**7.SE.1f1** Set up equations with 1 variable based on real world problems **7.PRF.1g2** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities **7.PRF.2d1** Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers **7.SE.1f2** Solve equations with 1 variable based on real world problems **7.PRF.2a5** Use variables to represent two quantities in a real-world problem that change in relationship to one another	**7.EE.B.4.ECS** Set up or select equations or inequalities with one ~~1~~ variable based on real world problems. ~~**7.PRF.1g2** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities~~ ~~**7.PRF.2d1** Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers~~ ~~**7.SE.1f2** Solve equations with 1 variable based on real world problems~~ ~~**7.PRF.2a5** Use variables to represent two quantities in a real-world problem that change in relationship to one another~~	Deleted for complexity and merged two. Edited to decrease depth.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.			

GRADE 7 GEOMETRY – 7.G

Grade 7: Draw, construct, and describe geometrical figures and describe the relationships between them.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. *Example: Mariko has an $\frac{1}{4}$ inch scale drawing ($\frac{1}{4}$ inch=1 foot) of the floor plan of her house. On the floor plan, the scaled dimensions of her rectangular living room are $4\frac{1}{2}$ inches by $8\frac{3}{4}$ inches. What is the area of her living room in square feet?*	**7.ME.2e1** Solve one step real world problems related to scaling **7.ME.1d1** Solve problems that use proportional reasoning with ratios of length and area	**7.G.A.1.ECS** Solve one step real world problems related to scaling. ~~**7.ME.1d1** Solve problems that use proportional reasoning with ratios of length and area~~	Deleted for depth
7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) two-dimensional geometric shapes with given	**7.GM.1e1** Construct or draw plane figures using properties	**7.G.A.2.ECS** Construct or draw ~~plane figures using properties~~ triangles using a ruler.	Edited for specificity.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine unique triangles, more than one triangle, or no triangle. *Example: A triangle with side lengths 3 cm, 4 cm, and 5 cm exists. Use a compass and ruler to draw a triangle with these side lengths. (Modified from Engage NY M6L9.)*			
7.G.A.3 Describe the shape of the two-dimensional face of the figure that results from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	**7.GM.1h5** Describe the two-dimensional figures that result from a decomposed three dimensional figure.	**7.G.A.3.ECS** ~~Describe~~ Identify the two-dimensional ~~figures~~ shapes that ~~result from a decomposed~~ compose a three-dimensional figure.	Edited for depth and complexity

Grade 7: Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.G.B.4 Understand the attributes and measurements of circles. **a.** Know that a circle is a two-dimensional shape created by connecting all of the points	**7.ME.2d1** Apply formula to measure area and circumference of circles	**7.G.B.4.ECS** Apply formula to measure area and circumference of circles.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
equidistant from a fixed point called the center of the circle. **b.** Develop an understanding of circle attributes including radius, diameter, circumference, and area and investigate the relationships between each. **c.** Informally derive and know the formulas for the area and circumference of a circle and use them to solve problems.			
7.G.B.5 Use facts about supplementary, complementary, vertical, and adjacent angles to write equations and use them to solve for an unknown angle in a figure. *Example: The ratio of the measurement of an angle to its complement is 1:2. Create and solve an equation to find the measurement of the angle and its complement. (Modified from Engage NY M5L1.)*	**8.GM.1i1** Identify supplementary angles **8.GM.1i2** Identify complimentary angles **8.GM.1i3** Identify adjacent angles	**7.G.B.5.ECS** Identify supplementary, complementary, or adjacent angles.	Merged standards for breadth
7.G.B.6 Generalize strategies for finding area, volume, and surface areas of two- and three-dimensional objects composed of triangles, quadrilaterals,	**7.ME.2c1** Solve one step real world measurement problems involving area, volume, or surface area of two- and three-dimensional objects	**7.G.B.6.ECS** Solve one step real world measurement problems involving area, volume, or surface area of two- and three-	Deleted for depth and complexity. Clarified for reduced complexity.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
polygons, cubes, and right prisms. Solve real-world and mathematical problems in each of these areas. *Example: A playground is being updated. Sand underneath a swing needs to be at least 15 inches deep. The sand under the swings is currently only 12 inches deep. The rectangular area under the swing set measures 9 feet by 12 feet. How much additional sand will be needed to meet the requirement? (Modified from Illustrative Mathematics.)*	**7.GM.1h1** Add the area of each face of a prism to find surface area of three-dimensional objects **7.GM.1h2** Find the surface area of three-dimensional figures using nets of rectangles or triangles **7.GM.1h3** Find area of plane figures and surface area of solid figures (quadrilaterals) **7.GM.1h4** Find area of an equilateral, isosceles, and scalene triangle	dimensional objects given manipulatives to model. ~~**7.GM.1h1** Add the area of each face of a prism to find surface area of three-dimensional objects~~ ~~**7.GM.1h2** Find the surface area of three-dimensional figures using nets of rectangles or triangles~~ ~~**7.GM.1h3** Find area of plane figures and surface area of solid figures (quadrilaterals)~~ ~~**7.GM.1h4** Find area of an equilateral, isosceles, and scalene triangle~~	

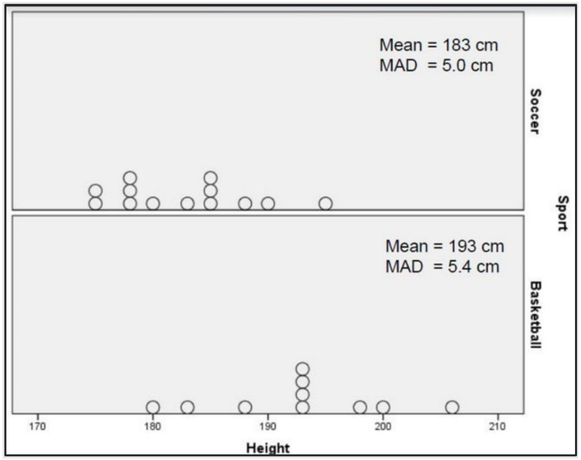
GRADE 7 STATISTICS AND PROBABILITY – 7.SP

Grade 7: Use random sampling to draw inferences about a population.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about	**7.DPS.1b1** Determine sample size to answer a given question	**7.SP.A.1.ECS** Determine sample size to answer a given question.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.			
7.SP.A.2 Use data from a random sample about an unknown characteristic of a population. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions, i.e., generate a sampling distribution. *Example: Estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*			
	7.DPS.1g1 Graph continuous data using line graphs, histograms, or dot plots	~~**7.DPS.1g1** Graph continuous data using line graphs, histograms, or dot plots~~	Deleted for alignment

Grade 7: Draw informal comparative inferences about two populations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *Example: The difference in the mean height between players on the basketball team versus the soccer team is 10 cm. This difference in the means - 10 cm - is about twice the variability (mean absolute deviation) on either team (i.e., mean divided by the MAD). On a dot plot, the separation between the two distributions of heights is noticeable.* 	**7.DPS.1j1** Make or select a statement to compare the distribution of 2 data sets	**7.SP.B.3.ECS** Make or select a statement to compare the distribution of 2 data sets.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *Example: Decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*	**7.DPS.1i2** Identify the range (high/low), median (middle), mean, or mode of a given data set **7.DPS.1k1** Analyze graphs to determine or select appropriate comparative inferences about two samples or populations **7.DPS.1i1** Solve for the median of a given data set **8.DPS.1j2** Make or select an appropriate statement based upon two unequal data	**7.SP.B.4.ECS** Identify the range (high/low), median (middle), mean, or mode of a given data set. ~~**7.DPS.1k1** Analyze graphs to determine or select appropriate comparative inferences about two samples or populations~~ ~~**7.DPS.1i1** Solve for the median of a given data set~~ ~~**8.DPS.1j2** Make or select an appropriate statement based upon two unequal data~~	Deleted for complexity

Grade 7: Investigate chance processes and develop, use, and evaluate probability models.

Idaho Content Standards (ICS)	Current ECS	Suggested Revisions to ECS	Rationale
7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. A probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	**7.DPS.2d1** Describe the probability of events as being certain or impossible, likely, less likely or equally likely **7.DPS.2d2** State the theoretical probability of events occurring in terms of ratios (words, percentages, decimals)	**7.SP.C.5.ECS** Describe the probability of events as being certain or impossible, likely, less likely or equally likely. ~~**7.DPS.2d2** State the theoretical probability of events occurring in terms of ratios (words, percentages, decimals)~~	Deleted for depth and complexity

Idaho Content Standards (ICS)	Current ECS	Suggested Revisions to ECS	Rationale
Example: The likelihood of drawing a heart from a deck of cards is 0.25. The likelihood of flipping a coin and landing on heads is 0.5. It is more likely that a flipped coin will land on heads than it is to choose a heart from a deck of cards. (0.5 is greater than 0.25).			
7.SP.C.6 Approximate the (theoretical) probability of a chance event by collecting data and observing its long-run relative frequency (experimental probability). Predict the approximate relative frequency given the (theoretical) probability. *Examples:* *1) When drawing chips out of a bag containing an unknown number of red and white chips, estimate the probability of selecting a particular chip color given 50 draws.* *2) When rolling a number cube 600 times, predict that a 3 or 6 would be rolled approximately 200 times, but probably not exactly 200 times.*	**7.DPS.2d4** Make a prediction regarding the probability of an event occurring; conduct simple probability experiments	**7.SP.C.6.ECS** Make a prediction regarding the probability of an event occurring; conduct simple probability experiments.	
7.SP.C.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.	**7.DPS.2d5** Compare actual results of simple experiment with theoretical probabilities	**7.SP.C.7.ECS** Compare actual results of ~~simple experiment~~ experimental probabilities with theoretical probabilities.	Edited for clarity

Idaho Content Standards (ICS)	Current ECS	Suggested Revisions to ECS	Rationale
a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *Example: If a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* **b.** Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *Example: Find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*			
7.SP.C.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. **a.** Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. **b.** Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., "rolling	**7.DPS.2e2** Collect data from multistage probability experiments (2 coins, 2 dice) **7.DPS.2e1** Determine the theoretical probability of multistage probability experiments (2 coins, 2 dice) **7.DPS.2e3** Compare actual results of multistage experiment with theoretical probabilities	**7.SP.C.8.ECS** Collect data from multistage probability experiments (2 coins, 2 dice). ~~**7.DPS.2e1** Determine the theoretical probability of multistage probability experiments (2 coins, 2 dice)~~ ~~**7.DPS.2e3** Compare actual results of multistage experiment with theoretical probabilities~~	Deleted for complexity Edited for clarity.

Idaho Content Standards (ICS)	Current ECS	Suggested Revisions to ECS	Rationale
double sixes"), identify the outcomes in the sample space which compose the event. **c.** Design and use a simulation to generate frequencies for compound events. *Example: Use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*	**8.DPS.2e4** Determine the theoretical probability of multistage probability experiments (2 coins, 2 dice) **8.DPS.2e5** Collect data from multistage probability experiments (2 coins, 2 dice) **8.DPS.2e6** Compare actual results of multistage experiment with theoretical probabilities	~~**8.DPS.2e4** Determine the theoretical probability of multistage probability experiments (2 coins, 2 dice)~~ ~~**8.DPS.2e5** Collect data from multistage probability experiments (2 coins, 2 dice)~~ ~~**8.DPS.2e6** Compare actual results of multistage experiment with theoretical probabilities~~	

Grade 7: ECS without obvious Corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	**7.DPS.2a1** Conduct simple probability experiments	~~**7.DPS.2a1** Conduct simple probability experiments~~	Removing ECS as there is no grade level ICS to correlate with.
None	**7.DPS.2b1** Identify sample space for a single event (coin, spinner, die)	~~**7.DPS.2b1** Identify sample space for a single event (coin, spinner, die)~~	Removing ECS as there is no grade level ICS to correlate with.
None	**7.DPS.2d3** Using a tree diagram, represent all possible outcomes of a situation, with up to 3 compound events with 2 or 3 possibilities per category (selecting the color of shirt, pant, type of shoes)	~~**7.DPS.2d3** Using a tree diagram, represent all possible outcomes of a situation, with up to 3 compound events with 2 or 3 possibilities per category (selecting the color of shirt, pant, type of shoes)~~	Removing ECS as there is no grade level ICS to correlate with.

GRADE 8 MATHEMATICS EXTENDED CONTENT STANDARDS

GRADE 8 THE NUMBER SYSTEM – 8.NS

Grade 8: Know that there are numbers that are not rational, and approximate them by rational numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	**8.NO.1k1** Identify π as an irrational number **8.NO.1k2** Round irrational numbers to the hundredths place **8.NO.2i3** Solve one step addition, subtraction, multiplication, division problems with fractions, decimals, and positive/negative numbers **8.NO.2i4** Solve two step addition, subtraction, multiplication, and division problems with fractions, decimals, or positive/negative numbers	~~**8.NO.1k1** Identify π as an irrational number~~ ~~**8.NS.A.1.ECS** Round irrational numbers to the hundredths place.~~ ~~**8.NO.2i3** Solve one step addition, subtraction, multiplication, division problems with fractions, decimals, and positive/negative numbers~~ ~~**8.NO.2i4** Solve two step addition, subtraction, multiplication, and division problems with fractions, decimals, or positive/negative numbers~~ **8.NS.A.1.ECS** Identify or select examples of rational and/or irrational numbers.	Deleted for complexity Revised for alignment with ICS
8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line	**8.NO.1k3** Use approximations of irrational numbers to locate them on a number line	**8.NS.A.2.ECS** Use approximations of irrational numbers to locate them on a number line.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
diagram, and estimate the value of expressions. *Examples:* *1) Estimate the value of* $\sqrt{2}$. *2) By truncating the decimal expansion of* $\sqrt{2}$, *show that* $\sqrt{2}$ *is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*			

GRADE 8 EXPRESSIONS AND EQUATIONS – 8.EE

Grade 8: Work with radicals and integer exponents.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.EE.A.1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. Example: $3^2 \times 3^{-5} = 3^{-3} = (\frac{1}{3})^3 = \frac{1}{27}$	**8.SE.1f5** Use properties of integer exponents to produce equivalent expressions	**8.EE.A.1.ECS** Use properties of integer exponents to produce equivalent expressions.	
8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $xx2 = pp$ and $xx3 = pp$, where pp is a positive rational number. Evaluate square roots of small perfect squares and			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
cube roots of small perfect cubes. Know that √2 is irrational			
8.EE.A.3 Use numbers expressed in the form of a single digit multiplied by an integer power of ten (scientific notation) to estimate very large or very small quantities, and express how many times as much one is than the other. Example: Estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.	**8.NO.1i1** Convert a number expressed in scientific notation up to 10,000	**8.EE.A.3.ECS** Convert a number expressed in scientific notation to standard notation up to 10,000.	Edited for clarity.
8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology. Example: Millimeters per year for seafloor spreading	**8.NO.1j1** Perform operations with numbers expressed in scientific notation.	~~**8.NO.1j1** Perform operations with numbers expressed in scientific notation.~~	This Idaho Content Standard is not relevant for students with significant cognitive impairments.

Grade 8: Understand the connections between proportional relationships, lines, and linear equations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. Example: Compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	**8.PRF.1e2** Represent proportional relationships on a line graph	8.EE.B.5.ECS Represent proportional relationships on a line graph.	
8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane. Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.			

Grade 8: Analyze and solve linear equations and pairs of simultaneous linear equations

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.EE.C.7 Solve linear equations in one variable. Give examples of linear equations in one variable with one	**8.PRF.1g3** Solve linear equations with 1 variable	8.EE.C.7.ECS Solve linear equations with 1 variable.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ (1 solution), $a = a$ (infinitely many solutions), or $a = b$ (no solution) results (where a and b are different numbers). Example: $-3x - 2 = 7x + 2 - 10x$ has no solution because the equation simplifies to $-2 = 2$ which is false for any value of x. Solve linear equations in one variable. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.			
8.EE.C.8 Analyze and solve pairs of simultaneous linear equations. 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.	**8.PRG.1g5** Solve real world and mathematical problems leading to two linear equations in two variables. **8.PRF.1g4** Solve systems of two linear equations in two variables and graph the results.	**8.EE.C.8.ECS** Solve real world and mathematical problems leading to two linear equations in two variables. ~~**8.PRF.1g4** Solve systems of two linear equations in two variables and graph the results.~~	Deleted for complexity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Solve systems of two linear equations in two variables algebraically (including but not limited to using substitution and elimination strategies), and estimate solutions by graphing the equations; solve simple cases by inspection. Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6. Solve real-world and mathematical problems leading to two linear equations in two variables. Examples: 1) Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair. 2) Your family decided to rent a snowmobile at Island Park. Company A charges $125 for the first hour plus $37.50 for each additional hour. Company B charges a $50 one-time rental fee plus $45 per hour. Which company would cost less for you to rent for 3 hours? 5 hours? 8 hours?			

GRADE 8 FUNCTIONS – 8.F

Grade 8: Define, evaluate, and compare functions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output and that the graph of a function is the set of ordered pairs consisting of an input and the corresponding output.		**8.F.A.1.ECS** Identify or select a function given different representations (algebraically, graphically, numerically in tables, or by verbal descriptions).	Added new standard because it is essential to identify a function for success in later grade levels.
8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). Example: Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change	**8.PRF.2e5** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	~~**8.F.A.2.ECS** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, g Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine select which function has the greater rate of change.~~	Deleted for complexity. Unable to be reduced to a level that is attainable.
8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.	**8.PRF.2c1** Given two graphs, describe the function as linear and not linear	**8.F.A.3.ECS** Given two graphs, describe the function as linear or ~~and~~ not linear.	Edited for clarity in alignment

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: The function $A = s2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1, 1), (2, 4) and (3, 9), which are not on a straight line.			

Grade 8: Use functions to model relationships between quantities.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	**8.PRF.2e2** Identify the rate of change (slope) and initial value (y-intercept) from graphs	**8.F.B.4.ECS** Identify the rate of change (slope) and initial value (y-intercept) from graphs.	
8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing and sketching a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the	**8.PRF.2e3** Given a verbal description of a situation, create or identify a graph to model the situation **8.PRF.1f 2** Describe or select the relationship between the two quantities given a line graph of a situation	**8.F.B.5.ECS** Given a verbal description of a situation, create or identify a graph to model the situation. ~~**8.PRF.1f 2** Describe or select the relationship between the two~~	Deleted for complexity, depth and alignment.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
qualitative features of a function that has been described verbally.	**8.PRF.2c1** Given two graphs, describe the function as linear and not linear **8.PRF.2e4** Given a graph of a situation, generate a description of the situation	~~quantities given a line graph of a situation~~ ~~**8.PRF.2c1** Given two graphs, describe the function as linear and not linear~~ ~~**8.PRF.2e4** Given a graph of a situation, generate a description of the situation~~	

GRADE 8 GEOMETRY – 8.G

Grade 8: Understand congruence and similarity using physical models, transparencies, or geometry software.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations: Lines are transformed to lines, and line segments to line segments of the same length. Angles are transformed to angles of the same measure. Parallel lines are transformed to parallel lines	**8.GM.1f1** Recognize a rotation, reflection, or translation of a figure	**8.G.A.1.ECS** Recognize a rotation, reflection, or translation of a figure.	
8.G.A.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
rotations, reflections, and translations. Example: Given two congruent figures, describe a sequence that exhibits the congruence between them.			
8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. Example: The image of Triangle ABC with A = (−3, 0), B = (−3, −2), and C = (4, −2) would have coordinates A' = (−3 − 3, 0 + 2) = (−6, 2), B' = (−3 − 3, −2 + 2) = (−6,0), and C' = (4 − 3, −2 + 2) = (1,0) following a translation 3 units to the left and 2 units up.	**8.GM.1f2** Identify a rotation, reflection, or translation of a plane figure when given coordinates	**8.G.A.3.ECS** Identify a rotation, reflection, or translation of a ~~plane~~ figure ~~when given coordinates~~ on a coordinate plane.	Edited to reduce complexity. Revised to align with ICS.
8.G.A.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations. Example: Given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	**8.GM.1g1** Recognize congruent and similar figures **8.ME.1e1** Describe the changes in surface area, area, and volume when the figure is changed in some way (e.g., scale drawings) **8.ME.1e1** Compare area and volume of similar figures	**8.G.A.4.ECS** Recognize congruent and similar figures. ~~**8.ME.1e1** Describe the changes in surface area, area, and volume when the figure is changed in some way (e.g., scale drawings)~~ ~~**8.ME.1e1** Compare area and volume of similar figures~~	Deleted for depth and alignment

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.G.A.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. Example: Arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.	**8.GM.1i4** Use angle relationships to find the value of a missing angle **8.GM.1i1** Identify supplementary angles **8.GM.1i2** Identify complimentary angles **8.GM.1i3** Identify adjacent angles	**8.G.A.5.ECS** Use angle relationships to find the value of a missing angle. ~~**8.GM.1i1** Identify supplementary angles~~ ~~**8.GM.1i2** Identify complimentary angles~~ ~~**8.GM.1i3** Identify adjacent angles~~	Deleted because aligned with 7th grade

Grade 8: Understand and apply the Pythagorean Theorem.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.G.B.6. Analyze and justify the Pythagorean Theorem and its converse using pictures, diagrams, narratives, or models.			
8.G.B.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	**8.GM.1j2** Find the missing side lengths of a two-dimensional right triangle (Pythagorean Theorem) **8.GM.1j1** Find the hypotenuse of a two-dimensional right triangle (Pythagorean Theorem) **8.ME.2f1** Apply the Pythagorean Theorem to determine lengths/distances in real-world situations	**8.G.B.7.ECS** Find the missing side lengths of a two-dimensional right triangle (Pythagorean Theorem). ~~**8.GM.1j1** Find the hypotenuse of a two-dimensional right triangle (Pythagorean Theorem)~~ ~~**8.ME.2f1** Apply the Pythagorean Theorem to determine lengths/distances in real-world situations~~	Deleted for depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.G.B.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.			

Grade 8: Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.G.C.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	**8.ME.2d2** Apply the formula to find the volume of 3-dimensional shapes (i.e., cubes, spheres, and cylinders)	**8.G.C.9.ECS** Apply the formula to find the volume of 3-dimensional shapes (i.e., cubes, spheres, and cylinders).	

GRADE 8 STATISTICS AND PROBABILITY – 8.SP

Grade 8: Investigate patterns of association in bivariate data.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	**8.DPS.1i3** Using box plots and scatter plots, identify data points that appear to be outliers **8.DPS.1g2** Graph data using line graphs, histograms, or box plots **8.DPS.1h1** Graph bivariate data using scatter plots and identify possible associations between the variables	**8.SP.A.1.ECS** Using ~~box plots and~~ scatter plots, identify data points that appear to be outliers. ~~**8.DPS.1g2** Graph data using line graphs, histograms, or box plots~~ ~~**8.DPS.1h1** Graph bivariate data using scatter plots and identify possible associations between the variables~~	Deleted for depth and alignment. Box-plots are addressed in 6th grade standards.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	8.DPS.1i4 Identify outliers, range, mean, median, and mode **8.DPS.1j2** Make or select an appropriate statement based upon two unequal data .	~~**8.DPS.1i4** Identify outliers, range, mean, median, and mode~~ ~~**8.DPS.1j2** Make or select an appropriate statement based upon two unequal data.~~	
8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	**8.DPS.2g1** Distinguish between a linear and non-linear association when analyzing bivariate data on a scatter plot	**8.SP.A.2.ECS** Distinguish between a linear and non-linear association when analyzing bivariate data on a scatter plot.	
8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. Example: In a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.	**8.DPS.2g2** Interpret the slope and the y-intercept of a line in the context of a problem	~~**8.DPS.2g2** Interpret the slope and the y-intercept of a line in the context of a problem~~ **8.SP.A.3.ECS** Given a linear model (equation or graph), interpret the slope in the context of the problem.	Edited for depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
8.SP.A.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. Example: Collect data from students in your school on grade level (sixth, seventh, and eighth) and whether or not they have assigned chores at home (yes, no). Is there evidence that a particular grade level tends to have chores? (In this example the two variables are grade level and chores.)	**8.DPS.1k2** Analyze displays of bivariate data to develop or select appropriate claims about those data **8.DPS.1f3** Construct a two-way table summarizing data on two categorical variables collected from the same subjects; identify possible association between the two variables	**8.SP.A.4.ECS** Analyze displays of bivariate data to develop or select appropriate claims about ~~those~~ the data. ~~**8.DPS.1f3** Construct a two-way table summarizing data on two categorical variables collected from the same subjects; identify possible association between the two variables~~	Deleted for depth and edited for content alignment
	8.DPS.2e4 Determine the theoretical probability of multistage probability experiments (2 coins, 2 dice)	~~**8.DPS.2e4** Determine the theoretical probability of multistage probability experiments (2 coins, 2 dice)~~	Removing ECS as there is no grade level ICS to correlate with.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
	8.DPS.2e5 Collect data from multistage probability experiments (2 coins, 2 dice) **8.DPS.2e6** Compare actual results of multistage experiment with theoretical probabilities	~~**8.DPS.2e5** Collect data from multistage probability experiments (2 coins, 2 dice)~~ ~~**8.DPS.2e6** Compare actual results of multistage experiment with theoretical probabilities~~	

Grade 8: ECS without obvious Corresponding ICS

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
None	**8.DPS.1f1** Formulate a research question to study	~~**8.DPS.1f1** Formulate a research question to study~~	Removing ECS as there is no grade level ICS to correlate with.
None	**8.DPS.1f2** Identify two variables to study in a given a research question	~~**8.DPS.1f2** Identify two variables to study in a given a research question~~	Removing ECS as there is no grade level ICS to correlate with.

GRADES 9-12 NUMBER AND QUANTITY (N) EXTENDED CONTENT STANDARDS

GRADES 9-12 THE REAL NUMBER SYSTEM – N.RN

Grades 9-12: Extend the properties of exponents to rational exponents.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.RN.A.1 Explain how the definition of the meaning of rational exponents follows from			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *Example: We define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.*			
N.RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents. *Example: Solving the volume of a cube formula, $V = s^3$, for s would involve rewriting the solution as either $s = \sqrt[3]{V}$ or $s = V^{1/3}$.*	**H.NO.2c2** Rewrite expressions that include rational exponents **H.NO.1a1** Represent quantities and expressions that use exponents **H.NO.1a2** Explain the influence of an exponent on the location of a decimal point in a given number **H.NO1a3** Convert a number expressed in scientific notation	**N.RN.A.2.ECS** ~~Rewrite~~ Select equivalent expressions that include rational exponents. ~~**H.NO.1a1** Represent quantities and expressions that use exponents~~ ~~**H.NO.1a2** Explain the influence of an exponent on the location of a decimal point in a given number~~ ~~**H.NO1a3** Convert a number expressed in scientific notation~~	Removed for depth and reworded to reduce complexity.

Grades 9-12: Use properties of rational and irrational numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.RN.B.3 Explain why the sum or product of two rational numbers is rational; why the sum of a rational number and an irrational number is irrational; and why the product of a nonzero rational number and an irrational number is irrational.	**H.NO.2b1** Explain the pattern for the sum or product for combinations of rational and irrational numbers	~~**H.NO.2b1** Explain the pattern for the sum or product for combinations of rational and irrational numbers~~ **N.RN.B.3.ECS** Identify the sum or product of two rational or irrational numbers as rational or irrational.	Removed and replaced for depth.

GRADES 9-12 QUANTITIES – N.Q

Grades 9-12: Reason quantitatively and use units to solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	**H.ME.1a1** Determine the necessary unit(s) to use to solve real world problems **H.ME.1a2** Solve real world problems involving units of measurement	~~**H.ME.1a1** Determine the necessary unit(s) to use to solve real world problems~~ ~~**H.ME.1a2** Solve real world problems involving units of measurement~~ **N.Q.A.1.ECS** Select the appropriate unit of measure to solve real world problems.	Combined two sub standards to align.
N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities	**H.ME.2a1** Describe the accuracy of measurement when reporting quantity (you can lessen your limitations by measuring precisely)	~~**H.ME.2a1** Describe the accuracy of measurement when reporting quantity (you can lessen your limitations by measuring precisely)~~ **N.Q.A.3.ECS** Choose an appropriate level of accuracy when reporting quantities.	Rewrote existing for clarity and depth. Edited to align with ICS

GRADES 9-12 THE COMPLEX NUMBER SYSTEM – N.CN

Grades 9-12: Perform arithmetic operations with complex numbers.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.CN.A.1 Know there is a complex number i such that $i^2 = -1$, and show that every complex number has the form $a + bi$ where a and b are real. *Example: Express the radical* $\pm\sqrt{-24}$ *, using the imaginary unit, i, in simplified form. Expressing the radical using* i *in simplified form results in the expression* $\pm 2i\sqrt{6}$*.*			
N.CN.A.2 Use the relation $i2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.CN.A.3 Find the conjugate of a complex number; use conjugates to find absolute value and quotients of complex numbers.			

Grades 9-12: Represent complex numbers and their operations on the complex plane.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.CN.B.4 Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.			
N.CN.B.5 Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *Example:* $(1 + i\sqrt{3})^3 = 8$ *because* $(-1 + i\sqrt{3})$ *has a radius of 2 and argument 120°.*			
N.CN.B.6 Calculate the distance between numbers in the complex			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
plane as the absolute value of the difference, and the midpoint of a segment as the average of the numbers at its endpoints			

Grades 9-12: Use complex numbers in polynomial identities and equations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.CN.C.7 Solve quadratic equations with real coefficients that have complex solutions. *Example: Find the complex solutions of the quadratic equation* $5x^2 + 3x + 1 = 0$, *with the solutions of* $x = \frac{3}{10} + \frac{3}{5}i$ *and* $x = \frac{3}{10} - \frac{3}{5}i$.			
N.CN.C.8 Extend polynomial identities to the complex numbers. *Example: Rewrite* $x^2 + 4$ *as* $(x + 2i)(x - 2i)$.			
N.CN.C.9 Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.			

GRADES 9-12 VECTOR AND MATRIX QUANTITIES – N.VM

Grades 9-12: Represent and model with vector quantities.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.VM.A.1 Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., v, |v|, ||v||, v).			
N.VM.A.2 Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.			
N.VM.A.3 Solve problems involving velocity and other quantities that can be represented by vectors.			

Grades 9-12: Perform operations on vectors.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.VM.B.4 Add and subtract vectors.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes. **b.** Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum. **c.** Demonstrate understanding of vector subtraction **v** – **w** as **v** + (–**w**), where --**w** is the additive inverse of **w**, with the same magnitude as **w** and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.			
N.VM.B.5 Multiply a vector by a scalar. **a.** Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
component-wise, e.g., as $c(vx, vy) = (cvx, cvy)$. **b.** Compute the magnitude of a scalar multiple c**v** using ||c**v**|| = |c|**v**. Compute the direction of c**v**, knowing that when |c|v ≠ 0, the direction of c**v** is either along **v** (for $c > 0$) or against **v** (for $c < 0$).			

Grades 9-12: Perform operations on matrices and use matrices in applications.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
N.VM.C.6 Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.			
N.VM.C.7 Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.			
N.VM.C.8 Add, subtract, and multiply matrices of appropriate dimensions.			
N.VM.C.9 Demonstrate understanding that, unlike multiplication of numbers, matrix			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.			
N.VM.C.10 Demonstrate understanding that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.			
N.VM.C.11 Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.			
N.VM.C.12 Work with 2 × 2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.			

GRADES 9-12 ALGEBRA (A) EXTENDED CONTENT STANDARDS

GRADES 9-12 SEEING STRUCTURE IN EXPRESSIONS – A.SSE

Grades 9-12: Interpret the structure of linear, quadratic, exponential, polynomial, and rational expressions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context. **a.** Interpret parts of an expression, such as terms, factors, and coefficients. **b.** Interpret complicated expressions by viewing one or more of their parts as a single entity. *Example: Interpret* $P(1+r)^n$ *as the product of* P *and a factor not depending on* P.	**H.PRF.2a1** Translate an algebraic expression into a word problem	~~**H.PRF.2a1** Translate an algebraic expression into a word problem~~ **A.SSE.A.1.ECS** Match a linear algebraic expression to a real-world situation. **a.** Select the meaning of parts of a linear expression, such as terms, variables, or coefficients.	Rewrote existing for clarity and depth.
A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it. *Example: See* $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$ *, thus recognizing it as a difference of squares that can be factored as* $(x^2 - y^2)(x^2 + y^2)$.	**H.NO.2c1** Simplify expressions that include exponents **H.NO.2c2** Rewrite expressions that include rational exponents	**A.SSE.A.2.ECS** Simplify expressions that include exponents. ~~**H.NO.2c2** Rewrite expressions that include rational exponents~~	Deleted one extended content standard for appropriate complexity for students with significant cognitive impairments.

Grades 9-12: Write expressions in equivalent forms to solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.SSE.B.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. **a.** Factor a quadratic expression to reveal the zeros of the function it defines. **b.** Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. *Example: A high school player punts a football, and the function* $h(t)=-16t^2+64t+2$ *represents the height* h*, in feet, of the football at time* t *seconds after it is punted. Complete the square in the quadratic expression to find the maximum height of the football.* **c.** Use the properties of exponents to transform expressions for exponential functions. *Example: The expression* $1.15t$ *can be rewritten as* $(1.15^{1/12})^{12t}\approx 1.012^{12t}$ *to reveal the approximate equivalent*	**H.PRF.2a2** Factor a quadratic expression **H.NO.1a1** Represent quantities and expressions that use exponents **H.PRF.2a3** Given a quadratic expression, explain the meaning of the zeros graphically. That is for an expression (x – a) (x – c), a and c correspond to the x-intercepts (if a and c are real).	**A.SSE.B.3.ECS** Given physical or virtual manipulatives (such as area models or algebra tiles) f~~F~~actor a quadratic expression. ~~**H.NO.1a1** Represent quantities and expressions that use exponents~~ ~~**H.PRF.2a3** Given a quadratic expression, explain the meaning of the zeros graphically. That is for an expression (x – a) (x – c), a and c correspond to the x-intercepts (if a and c are real).~~	Edited for content, complexity and clarity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
monthly interest rate if the annual rate is 15%.			
A.SSE.B.4 Derive the formula for the sum of a finite geometric series (when the common ratio is not 1) and use the formula to solve problems. *Example: Calculate mortgage payments.*	**H.PRF.2a4** Use the formula to solve real world problems such as calculating the height of a tree after n years given the initial height of the tree and the rate the tree grows each year.	~~**H.PRF.2a4** Use the formula to solve real world problems such as calculating the height of a tree after n years given the initial height of the tree and the rate the tree grows each year.~~	Removed for breadth, covered in 8th grade standards

GRADES 9-12 ARITHMETIC WITH POLYNOMIALS AND RATIONAL EXPRESSIONS – A.APR

Grades 9-12: Perform arithmetic operations on polynomials.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.APR.A.1 Demonstrate understanding that polynomials form a system analogous to the integers; namely, they are closed under certain operations. **a.** Perform operations on polynomial expressions (addition, subtraction, multiplication, division) and compare the system of polynomials to the system of integers when performing operations.	**H.NO.2a2** Understand the definition of a polynomial. **H.NO.2a3** Understand the concepts of combining like terms and closure. **H.NO.2a4** Add, subtract, and multiply polynomials and understand how closure applies under these operations.	**A.APR.A.1.ECS** Understand the definition of a polynomial. ~~**H.NO.2a3** Understand the concepts of combining like terms and closure.~~ ~~**H.NO.2a4** Add, subtract, and multiply polynomials and understand how closure applies under these operations.~~ **b.** Simplify a polynomial. For example, combine like terms or distribute by a monomial using a visual model.	Rewrote for clarity and depth.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. Factor and/or expand polynomial expressions, identify and combine like terms, and apply the distributive property.			

Grades 9-12: Understand the relationship between zeros and factors of polynomials.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.APR.B.2 Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x-a$ is $p(a)$, so $p(a)=0$ if and only if $(x-a)$ is a factor of $p(x)$.	**H.NO.2.a5** Understand and apply the Remainder Theorem.	~~**H.NO.2.a5** Understand and apply the Remainder Theorem.~~	Deleted for complexity
A.APR.B.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	**H.NO.2a6** Find the zeros of a polynomial when the polynomial is factored.	~~**H.NO.2a6** Find the zeros of a polynomial when the polynomial is factored.~~	Deleted for complexity

Grades 9-12: Use polynomial identities to solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.APR.C.4 Prove polynomial identities and use them to describe numerical relationships.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: The polynomial identity $(x^2+y^2)2=(x^2-y^2)^2+(2xy)^2$ *can be used to generate Pythagorean triples.*			
A.APR.C.5 Know and apply the Binomial Theorem for the expansion of $(x+y)^n$ in powers of x and y for a positive integer n , where x and y are any numbers, with coefficients determined, for example, by Pascal's Triangle.			

Grades 9-12: Rewrite rational expressions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.APR.D.6 Rewrite simple rational expressions in different forms using inspection, long division, or, for the more complicated examples, a computer algebra system. Example: Write $\frac{a(x)}{b(x)}$ in the form $q(x)+\frac{r(x)}{b(x)}$ where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$.	**H.PRF.2a5** Rewrite rational expressions, a(x)/b(x), in the form q(x) + r(x)/b(x) by using factoring, long division, or synthetic division.	~~**H.PRF.2a5** Rewrite rational expressions, a(x)/b(x), in the form q(x) + r(x)/b(x) by using factoring, long division, or synthetic division.~~	Deleted for complexity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.APR.D.7 Demonstrate understanding that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.			

GRADES 9-12 CREATING EQUATIONS – A.CED

Grades 9-12: Create equations that describe numbers or relationships.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.CED.A.1 Create one-variable equations and inequalities to solve problems, including linear, quadratic, rational, and exponential functions. *Example: Four people may be seated at one rectangular table. If two rectangular tables are placed together end-to-end, six people may be seated at the table. If ten tables are placed together end-to-end, how many people can be seated? How many tables are needed for n people?*	**H.PRF.2b1** Translate a real-world problem into a one variable equation	~~**H.PRF.2b1** Translate a real-world problem into a one variable equation~~ **A.CED.A.1.ECS** Write or select a linear equation or inequality with one-variable to model a real-world problem.	Reworded for clarity and depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.CED.A.2 Interpret the relationship between two or more quantities. **a.** Define variables to represent the quantities and write equations to show the relationship. *Example: The cost of parking in the parking garage is $2.00 for the first hour and $1.00 for every hour after that. Write an equation in terms of x and y that shows the total cost for parking, y, for x hours. Use the equation to calculate the cost for parking in the garage for 5 hours.* **b.** Use graphs to show a visual representation of the relationship while adhering to appropriate labels and scales. *Example: Using the equation from **A.CED.A.2.a**, show how the graph of the equation can be used to predict the cost for a specified amount of time.*	**H.PRF.2b2** Solve equations with one or two variables using equations or graphs	~~**H.PRF.2b2** Solve equations with one or two variables using equations or graphs~~ **A.CED.A.2.ECS** Given graphic representation, select a statement about the relationship between the two variables.	Rewrote for complexity.
A.CED.A.3 Represent constraints using equations or inequalities and interpret solutions as viable or non-viable options in a modeling context.	**H.PRF.2a6** Write and use a system of equations and/or inequalities to solve a real-world problem.	~~**H.PRF.2a6** Write and use a system of equations and/or inequalities to solve a real-world problem.~~	Aligns with an 8th grade standard
A.CED.A.4 Represent constraints using systems of equations and/or			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
inequalities and interpret solutions as viable or non-viable options in a modeling context.			
A.CED.A.5 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *Example: Rearrange Ohm's law* $V=IR$ *to highlight resistance* R .			

GRADES 9-12 REASONING WITH EQUATIONS AND INEQUALITIES – A.REI

Grades 9-12: Understand solving equations as a process of reasoning and explain the reasoning.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify or refute a solution method.	**H.PRF.2b2** Solve equations with one or two variables using equations or graphs	**A.REI.A.1.ECS** Solve equations with one or two variables using ~~equations or graphs~~ an appropriate strategy.	Edited for alignment
A.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	**H.NO.2a1** Solve simple equations using rational numbers with one or more variables	**A.REI.A.2.ECS** Solve ~~simple~~ two-step equations using rational numbers with one or ~~more~~ two variables.	Edited for alignment and clarity

Grades 9-12: Solve equations and inequalities in one variable.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. **a.** Solve linear equations and inequalities in one variable involving absolute value.	**H.ME.1b2** Solve a linear equation to find a missing attribute given the area, surface area, or volume and the other attribute **H.PRF.2b2** Solve equations with one or two variables using equations or graphs	~~**H.ME.1b2** Solve a linear equation to find a missing attribute given the area, surface area, or volume and the other attribute~~ ~~**H.PRF.2b2** Solve equations with one or two variables using equations or graphs.~~ **A.REI.B.3.ECS** Use a formula equation to find a missing attribute when solving area, surface area, or volume problems.	Reworded for depth and clarity
A.REI.B.4 Solve quadratic equations in one variable. **a.** Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x–p)^2=q$ that has the same solutions. Derive the quadratic formula from this form. **b.** Solve quadratic equations by inspection (e.g., for $x^2=49$), 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	**H.PRF.2b3** Transform a quadratic equation written in standard form to an equation in vertex form (x - p) = q 2 by completing the square. **H.PRF.2b4** Derive the quadratic formula by completing the square on the standard form of a quadratic equation. **H.PRF.2b5** Solve quadratic equations in one variable by simple inspection, taking the square root, factoring, and completing the square.	~~**H.PRF.2b3** Transform a quadratic equation written in standard form to an equation in vertex form (x - p) = q 2 by completing the square.~~ ~~**H.PRF.2b4** Derive the quadratic formula by completing the square on the standard form of a quadratic equation.~~ ~~**H.PRF.2b5** Solve quadratic equations in one variable by simple inspection, taking the square root, factoring, and completing the square.~~	Deleted for complexity and this concept is not meaningful to students with significant cognitive impairments.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
and write them as $a \pm bi$ for real numbers a and b.			

Grades 9-12: Solve systems of equations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.REI.C.5 Verify that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	**H.PRF.2b6** Solve systems of equations using the elimination method (sometimes called linear combinations). **H.PRF.2b7** Solve a system of equations by substitution (solving for one variable in the first equation and substitution it into the second equation).	~~**H.PRF.2b6** Solve systems of equations using the elimination method (sometimes called linear combinations).~~ ~~**H.PRF.2b7** Solve a system of equations by substitution (solving for one variable in the first equation and substitution it into the second equation).~~	Deleted for breadth
A.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. *Example: A school club is selling hats and t-shirts for a fundraiser. The group expects to sell a total of 50 items. They make a profit of 15 dollars for each t-shirt sold and 5 dollars for each hat sold. How many hats and t-shirts will*	**H.PRF.2b8** Solve systems of equations using graphs.	~~**H.PRF.2b8** Solve systems of equations using graphs.~~ **A.REI.C.6.ECS** Solve systems of equations using graphs, elimination, or substitution.	Edited existing for clarity and alignment

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
the school club need to sell to make a profit of $300?			
A.REI.C.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *Example: Find the points of intersection between the line* $y=-3x$ *and the circle* $x^2+y^2=3$.	**H.PRF.2b9** Solve a system containing a linear equation and a quadratic equation in two variables graphically and symbolically.	~~**H.PRF.2b9** Solve a system containing a linear equation and a quadratic equation in two variables graphically and symbolically.~~	Deleted for complexity
A.REI.C.8 Represent a system of linear equations as a single matrix equation in a vector variable.			
A.REI.C.9 Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).			

Grades 9-12: Represent and solve equations and inequalities graphically.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
A.REI.D.10 Demonstrate understanding that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane.	**H.PRF.2b10** Understand that all solutions to an equation in two variables are contained on the graph of that equation.	~~**H.PRF.2b10** Understand that all solutions to an equation in two variables are contained on the graph of that equation.~~	Edited for depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Show that any point on the graph of an equation in two variables is a solution to the equation.		**A.REI.D.10.ECS** Given a graph of an equation in two variables modeling a real-world problem, select possible solutions.	
A.REI.D.11 Explain why the x-coordinates of the points where the graphs of the equations $y=f(x)$ and $y=g(x)$ intersect are the solutions of the equation $f(x)=g(x)$; find the solutions approximately. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. *Example: Use technology to graph the functions, make tables of values, or find successive approximations.*	**H.PRF. 2d1** Explain why the intersection of y = f(x) and y = g(x) is the solution of f(x) = g(x) for any combination of linear or exponential. Find the solution(s) by: Using technology to graph the equations and determine their point of intersection, using tables of values, or using successive approximations that become closer and closer to the actual value.	~~**H.PRF. 2d1** Explain why the intersection of y = f(x) and y = g(x) is the solution of f(x) = g(x) for any combination of linear or exponential. Find the solution(s) by: Using technology to graph the equations and determine their point of intersection, using tables of values, or using successive approximations that become closer and closer to the actual value.~~ **A.REI.D.11.ECS** Given technology to graph or create tables of a system of equations in two variables modeling a real-world problem, select the solution(s) to the system.	Edited for complexity
A.REI.D.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	**H.PRF.2b11** Graph the solutions to a linear inequality in two variables as a half-plane, excluding the boundary for non-inclusive inequalities. **H.PRF.2b12** Graph the solution set to a system of linear inequalities in two variables as the intersection of their corresponding half-planes.	~~**H.PRF.2b11** Graph the solutions to a linear inequality in two variables as a half-plane, excluding the boundary for non-inclusive inequalities.~~ ~~**H.PRF.2b12** Graph the solution set to a system of linear inequalities in two variables as the intersection of their corresponding half-planes.~~ **A.REI.D.12.ECS** With the assistance of technology, graph the solutions to	Merged two standards for breadth and clarity.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
		a linear inequality or system of linear inequalities in two variables.	

GRADES 9-12 FUNCTIONS (F) EXTENDED CONTENT STANDARDS

GRADES 9-12 INTERPRETING FUNCTIONS – F.IF

Grades 9-12: Understand the concept of a function and use function notation.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.IF.A.1 Demonstrate understanding that a function is a correspondence from one set (called the domain) to another set (called the range) that assigns to each element of the domain exactly one element of the range: If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y=f(x)$.			
F.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: Given a function representing a car loan, determine the balance of the loan at different points in time.			
F.IF.A.3 Demonstrate that a sequence is a functions, sometimes defined recursively, whose domain is a subset of the integers. *Example: The Fibonacci sequence is defined recursively by* $f(0)=f(1)=1$, $f(n+1)=f(n)+f(n-1)$ *for* $n \geq 1$.			

Grades 9-12: Interpret functions that arise in applications in terms of the context. Include linear, quadratic, exponential, rational, polynomial, square root and cube root, trigonometric, and logarithmic functions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive,			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
or negative; relative maxima and minima; symmetries; end behavior; and periodicity. *Example: Given a context or verbal description of a relationship, sketch a graph that models the context or description and shows its key features.*			
F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *Example: If the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*			
F.IF.B.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.			

Grades 9-12: Analyze functions using different representations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.IF.C.7 Graph functions expressed symbolically and show key features of the graphs, 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. **d.** Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. **e.** Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. **a.** Use the process of factoring and/or completing the square in quadratic and polynomial functions, where appropriate, to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. *Example: Suppose* $h(t)=-5t^2+10t+3$ *represents the height of a diver above the water (in meters),* t *seconds after the diver leaves the springboard. What is the maximum height above the water the diver reaches? After how many seconds,* t*, does the diver hit the water?* **b.** Use the properties of exponents to interpret expressions for exponential functions. Apply to financial situations such as identifying appreciation and depreciation rate for the value of a house or car sometime after its initial purchase. *Example: The equation for radioactive decay is* $A=A_0(\frac{1}{2})^{t/h}$.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
When A_0 *is the original amount of a radioactive substance,* A *is the final amount,* h *is the half-life of the substance, and* t *is time. Hagerman, Idaho is a hotbed of fossil hunting. The half-life of carbon-14 is about* 5730 *years. If a fossil that was found in Hagerman contains* 54 *grams of carbon-14 at time* t=0, *how much carbon-14 remains at time* t=17190 *years?*			
F.IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *Example: Given a graph of one polynomial function and an algebraic expression for another, say which has the larger/smaller relative maximum and/or minimum.*			
F.IF.C.10 Given algebraic, numeric and/or graphical representations of functions, recognize the function as polynomial, rational, logarithmic, exponential, or trigonometric.			

GRADES 9-12 BUILDING FUNCTIONS – F.BF

Grades 9-12: Build a function that models a relationship between two quantities.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.BF.A.1 Write a function that describes a relationship between two quantities. Functions could include linear, exponential, quadratic, simple rational, radical, logarithmic, and trigonometric. **a.** Determine an explicit expression, a recursive process, or steps for calculation from a context. **b.** Combine standard function types using arithmetic operations. *Example: Build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* **c.** Compose functions. *Example: If $T(y)$ is the temperature in the atmosphere as a function of height, and $h(t)$ is*			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
the height of a weather balloon as a function of time, then $T(h(t))$ *is the temperature at the location of the weather balloon as a function of time.*			
F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. *Example: If the U.S. Census Bureau wrote the following recursive equation to represent how they estimate Idaho's population will grow each year after 2019*: $P(n)=1.023 \cdot P(n-1)$, $P(0)=1{,}787{,}000$. $P(n)$ *represents Idaho's population at the end of the* n^{th} *year in terms of Idaho's population at the end of the* $(n-1)^{th}$ *year,* $P(n-1)$. *Predict Idaho's population in 2040.*			

Grades 9-12: Build new functions from existing functions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.BF.B.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. Include, linear, quadratic, exponential, absolute value, simple rational and radical, logarithmic, and trigonometric functions. Utilize technology to experiment with cases and illustrate an explanation of the effects on the graph. Include recognizing even and odd functions from their graphs and algebraic expressions for them.			
F.BF.B.4 Find inverse functions algebraically and graphically. **a.** Solve an equation of the form $f(x)=c$ for a simple function f that has an inverse and write an expression for the inverse. Include linear and simple polynomial, rational, and exponential functions. *Example*: $f(x)=2x^3$ *or* $f(x)=\frac{x+1}{x-1}$ *for* $x\neq 1$			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. Verify by composition that one function is the inverse of another. **c.** Read values of an inverse function from a graph or a table, given that the function has an inverse. **d.** Produce an invertible function from a non-invertible function by restricting the domain.			
F.BF.B.5 Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.			

GRADES 9-12 LINEAR, QUADRATIC, AND EXPONENTIAL MODELS – F.LE

Grades 9-12: Construct and compare linear, quadratic, and exponential models and solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. **a.** Demonstrate that linear functions grow by equal differences over equal intervals,	**H.PRF.1c1** Select the appropriate graphical representation of a linear model based on real world events **H.PRF.1b1** In a linear situation using graphs or numbers, predicts the change in rate based on a given change in one variable (e.g., If I have	**F.LE.A.1.ECS** Distinguish between situations that can be modeled with linear and nonlinear functions. Select the appropriate graphical representation of a linear model based on real world events.	Edited for depth, clarity and alignment to the ICS.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
and that exponential functions grow by equal factors over equal intervals. **b.** Identify situations in which one quantity changes at a constant rate per unit interval relative to another. **c.** Identify situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	been adding sugar at a rate of 1T per cup of water. What happens to my rate if I switch to 2T of sugar for every cup of water?)	**a.** In a linear situation using graphs ~~or numbers, predicts~~ describe the change in rate based on a given change in one variable (e.g., If I have been adding sugar at a rate of 1T per cup of water. What happens to my rate if I switch to 2T of sugar for every cup of water?).	
F.LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (including reading these from a table).			
F.LE.A.3 Use graphs and tables to demonstrate that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. *Example: Becca's parents are saving for her college education by putting $3,000/year in a safe*	**H.PRF. 2c1** Make predictions based on a given model (for example, a weather model, data for athletes over years)	**F.LE.A.3.ECS** Make predictions based on a given model (for example, a weather model, data for athletes over years).	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
deposit box. Becca's grandpa is also saving for her college education by putting $2,000/year in an IDeal (Idaho college savings) account with an APR of 6.17%. Build tables to show which account has the most money after ten years, and how much more? How many years will it take for the total in her grandpa's account to exceed the total in her parents' safe deposit box?			
F.LE.A.4 For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology. *Example: Mr. Rico has a savings account that has an interest rate of 7% compounded continuously. The amount in the account is calculated using $A=Pe^{rt}$. If Mr. Rico invested $30,000 on January 1, 2020, when will he have $100,000 in the account?*			

Grades 9-12: Interpret expressions for functions in terms of the situation they model.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
F.LE.B.5 Interpret the parameters in a linear or exponential function (of the form $f(x)=b^x+k$) in terms of a context.			

GRADES 9-12 TRIGONOMETRIC FUNCTIONS – F.TF

Grades 9-12: Extend the domain of trigonometric functions using the unit circle.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
T.TF.A.1 Demonstrate radian measure as the ratio of the arc length subtended by a central angle to the length of the radius of the unit circle. **a.** Use radian measure to solve problems. *Example: You live in New Meadows, Idaho, which is located on the 45th parallel (45° North latitude). Approximately how far will you drive, in miles, to attend the Calgary Stampede? Calgary is located at 51°N latitude, almost due North of New Meadows. (Use*			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
r=3960 miles for the radius of the Earth.)			
T.TF.A.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.			
T.TF.A.3 Use special triangles to determine geometrically the values of sine, cosine, tangent for $\frac{\pi}{3}$, $\frac{\pi}{4}$, and $\frac{\pi}{6}$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi-x$, $\pi+x$, and $2\pi-x$ in terms of their values for x, where x is any real number.			
T.TF.A.4 Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.			

Grades 9-12: Model periodic phenomena with trigonometric functions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
T.TF.B.5 Model periodic phenomena using trigonometric functions with specified amplitude, frequency, and midline. *Example: This past summer you and your friends decided to ride the Ferris wheel at the Idaho State Fair. You wondered how high the highest point on the Ferris wheel was. You asked the operator, and he didn't know, but he told you that the height of the chair was 5 ft off the ground when you got on and the center of the Ferris wheel is 30 ft above that. You checked your phone when you got on and figured out that it took you 12 mins to make one full revolution. Create a model to show your height from the platform at any given time on the Ferris wheel.*			
T.TF.B.6 Understand that restricting a trigonometric function to a domain on which it is always increasing or always			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
decreasing allows its inverse to be constructed.			
T.TF.B.7 Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.			

Grades 9-12: Prove and apply trigonometric identities.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
T.TF.C.8 Relate the Pythagorean Theorem to the unit circle to discover the Pythagorean identity $sin^2(\theta)+cos^2(\theta)=1$ and use the Pythagorean identity to find the value of a trigonometric function ($sin(\theta), cos(\theta), tan(\theta)$) given one trigonometric function ($sin(\theta)$, $cos(\theta)$, $tan(\theta)$) and the quadrant of the angle. *Example: Suppose that cos(*θ*)=*$\frac{2}{5}$ *and that* θ *is in the* 4^{th} *quadrant. Find the exact value of sin(*θ*) and tan(*θ*).*	**H.GM.1a1** Find the hypotenuse of a two-dimensional right triangle (Pythagorean Theorem) **H.GM.1a2** Find the missing side lengths of a two-dimensional right triangle (Pythagorean Theorem) **H.GM.1a3** Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	~~**H.GM.1a1** Find the hypotenuse of a two-dimensional right triangle (Pythagorean Theorem)~~ ~~**H.GM.1a2** Find the missing side lengths of a two-dimensional right triangle (Pythagorean Theorem)~~ ~~**H.GM.1a3** Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.~~	Deleted. Covered in prior grade

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
T.TF.C.9 Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.			

GRADES 9-12 GEOMETRY (G) EXTENDED CONTENT STANDARDS

GRADES 9-12 CONGRUENCE – G.CO

Grades 9-12: Experiment with transformations in the plane.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.CO.A.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.		**G.CO.A.1.ECS** Select real world objects that model common geometric figures such as angles, circles, parallel lines, or perpendicular lines.	Added Extended Content Standard because of real world relevance.
G.CO.A.2 Represent transformations in the plane and describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
distance and angle to those that do not. *Example: Translation versus horizontal stretch.*			
G.CO.A.3 Describe the rotations and reflections that carry a given figure (rectangle, parallelogram, trapezoid, or regular polygon) onto itself.	**H.GM.1c1** Construct, draw or recognize a figure after its rotation, reflection, or translation	**G.CO.A.3.ECS** With visual or physical representation c~~C~~onstruct, draw or recognize a figure after its rotation, reflection, or translation.	Rewrote for depth
G.CO.A.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.			
G.CO.A.5 Draw the transformation (rotation, reflection, or translation) for a given geometric figure. *Example: Given quadrilateral $TMEJ$ with vertices $T(0,-1)$, $M(3,-2)$, $E(-1,-5)$, and $J(-3,-2)$, reflect the shape across the x-axis.*	**H.GM.1c1** Construct, draw or recognize a figure after its rotation, reflection, or translation	~~**H.GM.1c1** Construct, draw or recognize a figure after its rotation, reflection, or translation~~	Addressed in prior standard, redundant.
G.CO.A.6 Specify a sequence of transformations that will carry a given figure onto another.			

Grades 9-12: Understand congruence in terms of rigid motions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.CO.B.7 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	**H.GM.1b1** Use definitions to demonstrate congruency and similarity in figures	~~**H.GM.1b1** Use definitions to demonstrate congruency and similarity in figures~~ **G.CO.B.7.ECS** Understand that rigid transformations create congruent figures.	Rewrote for alignment and to reduce complexity.
G.CO.B.8 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.			
G.CO.B.9 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. *Example: In* $\Delta\mathrm{ABC}$ *and* $\Delta\mathrm{ABD}$ *(with shared side length* AB*), we are given that* $\angle B\ \mathrm{AC} \cong \angle \mathrm{BAD}$ *and* $\angle A\ \mathrm{BC} \cong \angle \mathrm{ABD}$. *What pair(s) of corresponding parts is/ are needed to ensure the triangles are congruent by either ASA, SAS,*			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
or SSS? What rigid motion would show the triangles are congruent?			

Grades 9-12: Prove geometric theorems and, when appropriate, the converse of theorems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.CO.C.10 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, and conversely prove lines are parallel; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.			
G.CO.C.11 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent, and conversely prove a triangle is isosceles; the segment joining midpoints of two sides of a triangle is parallel to the third side and half			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
the length; the medians of a triangle meet at a point.			
G.CO.C.12 Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals. **a.** Prove theorems about polygons. Theorems include: the measures of interior and exterior angles; apply properties of polygons to the solutions of mathematical and contextual problems.			

Grades 9-12: Make geometric constructions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.CO.D.13 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.) Constructions include: copying a segment; copying an angle; bisecting a	**H.GM.1e1** Make formal geometric constructions with a variety of tools and methods	**G.CO.D.13.ECS** Make formal geometric constructions with a variety of tools and methods.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.			
G.CO.D.14 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.			

GRADES 9-12 SIMILARITY, RIGHT TRIANGLES, AND TRIGONOMETRY – G.SRT

Grades 9-12: Understand similarity in terms of similarity transformations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.SRT.A.1 Verify experimentally the properties of dilations given by a center and a scale factor. **a.** A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.	**H.ME.2b1** Determine the dimensions of a figure after dilation	**G.SRT.A.1.ECS** ~~Determine~~ Select the dimensions of a figure after dilation given the center of dilation.	Edited for depth and clarity

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.			
G.SRT.A.2 Use the definition of similarity to decide if two given figures are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	**H.ME.2b3** Describe or select why two figures are or are not similar **H.GM.1b1** Use definitions to demonstrate congruency and similarity in figures **H.GM.1d1** Use the reflections, rotations, or translations in the coordinate plane to solve problems with right angles **H.ME.2b2** Determine if 2 figures are similar	**G.SRT.A.2.ECS** ~~Describe~~ Select or describe ~~select~~ why two figures are or are not similar. ~~**H.GM.1b1** Use definitions to demonstrate congruency and similarity in figures~~ ~~**H.GM.1d1** Use the reflections, rotations, or translations in the coordinate plane to solve problems with right angles~~ ~~**H.ME.2b2** Determine if 2 figures are similar~~	Three deleted for depth and complexity. One edited for clarity.
G.SRT.A.3 Use the properties of similarity transformations to establish the Angle-Angle (AA) criterion for two triangles to be similar. *Example: Given* ΔABC *and* ΔDEF, $\angle A \cong \angle D$ *, and* $\angle B \cong \angle E$ *, show that* $\Delta ABC \sim \Delta DEF$ *using a sequence of translations, rotations, reflections, and/or dilations.*			

Grades 9-12: Prove theorems involving similarity.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.SRT.B.4 Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.			
G.SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. *Example: A high school student visits a giant cedar tree near the town of Elk River, Idaho and the end of his shadow lines up with the end of the tree's shadow. The student is 6 feet tall and his shadow is 8 feet long. The cedar tree's shadow is 228 feet long. How tall is the cedar tree?*			

Grades 9-12: Define trigonometric ratios and solve problems involving right triangles.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.SRT.C.6 Demonstrate understanding that by similarity,			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.			
G.SRT.C.7 Explain and use the relationship between the sine and cosine of complementary angles.			
G.SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. *Example: Mark and Ruth are rock climbing in the Snake River Canyon. Mark is anchoring the rope for Ruth. If the length of the rope from Mark to Ruth is 60 ft, with an angle of elevation of 23°, how far is Mark from the base of the cliff?*			

Grades 9-12: Apply trigonometry to general triangles.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.SRT.D.9 Derive the formula $A=\frac{1}{2}absin(C)$ for the area of a triangle by drawing an auxiliary			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
line from a vertex perpendicular to the opposite side.			
G.SRT.D.10 Prove the Laws of Sines and Cosines and use them to solve problems.			
G.SRT.D.11 Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems; resultant forces).			

GRADES 9-12 CIRCLES – G.C

Grades 9-12: Understand and apply theorems about circles.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.C.A.1 Prove that all circles are similar.			
G.C.A.2 Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
to the tangent where the radius intersects the circle.			
G.C.A.3 Prove properties of angles for a quadrilateral and other polygons inscribed in a circle, by constructing the inscribed and circumscribed circles of a triangle.			
G.C.A.4 Construct a tangent line to a circle from a point outside the given circle.			

Grades 9-12: Find arc lengths and areas of sectors of circles.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.C.B.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.	**H.ME.2b4** Apply the formula to the area of a sector (e.g., area of a slice of pie)	**G.C.B.5.ECS** Apply the formula to the area of a sector (e.g., area of a slice of pie).	

GRADES 9-12 EXPRESSING GEOMETRIC PROPERTIES WITH EQUATIONS – G.GPE

Grades 9-12: Translate between the geometric description and the equation for a conic section.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.GPE.A.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.			
G.GPE.A.2 Derive the equation of a parabola given a focus and directrix.			
G.GPE.A.3 Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant. **a.** Use equations and graphs of conic sections to model real-world problems.			

Grades 9-12: Use coordinates to prove simple geometric theorems algebraically.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.GPE.B.4 Use coordinates to prove simple geometric theorems algebraically, including the			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
distance formula and its relationship to the Pythagorean Theorem. *Example: Prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point* $(1, \sqrt{3})$ *lies on the circle centered at the origin and containing the point* $(0, 2)$.			
G.GPE.B.5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems. *Example: Find the equation of a line parallel or perpendicular to a given line that passes through a given point.*			
G.GPE.B.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.			
G.GPE.B.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles (e.g., using the distance formula).			

GRADES 9-12 GEOMETRIC MEASUREMENT AND DIMENSION – G.GMD

Grades 9-12: Explain volume formulas and use them to solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.GMD.A.1 Give an informal argument for the formulas for the circumference of a circle; area of a circle; volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.			
G.GMD.A.2 Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.			
G.GMD.A.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. *Example: The tank at the top of the Meridian Water Tower is roughly spherical. If the diameter of the sphere is 50.35 feet, approximately how much water can the tank hold?*			

Grades 9-12: Visualize relationships between two-dimensional and three-dimensional objects.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.GMD.B.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.			

GRADES 9-12 MODELING WITH GEOMETRY – G.MG

Grades 9-12: Apply geometric concepts in modeling situations.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
G.MG.A.1 Use geometric shapes, their measures, and their properties to describe objects. *Example: Modeling a tree trunk or a human torso as a cylinder.*	**H.ME.1b1** Describe the relationship between the attributes of a figure and the changes in the area or volume when 1 attribute is changed	~~**H.ME.1b1** Describe the relationship between the attributes of a figure and the changes in the area or volume when 1 attribute is changed~~ **G.MG.A.1.ECS** Use geometric shapes to model a real-world object. *Example: Modeling a tree trunk or a human torso as a cylinder*	Replaced with the Idaho Content Standard because the Extended Content Standard was too complex.
G.MG.A.2 Apply concepts of density based on area and volume in modeling situations.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: Persons per square mile, BTUs per cubic foot			
G.MG.A.3 Apply geometric methods to solve design problems. *Example: Designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios.*	**H.ME.2b5** Apply the formula of geometric figures to solve design problems (e.g., designing an object or structure to satisfy physical restraints or minimize cost)	**G.MG.A.3.ECS** Apply the formula of geometric figures to solve ~~design~~ real-world problems (e.g., ~~designing an object or structure to satisfy physical restraints or minimize cost~~ Does your couch fit through your door? Does the amount of drink fit in the container?).	Edited for depth and clarity.
G.MG.A.4 Use dimensional analysis for unit conversions to confirm that expressions and equations make sense.			

GRADES 9-12 STATISTICS AND PROBABILITY (S) EXTENDED CONTENT STANDARDS

GRADES 9-12 INTERPRETING CATEGORICAL AND QUANTITATIVE DATA – S.ID

Grades 9-12: Summarize, represent, and interpret data on a single count or measurement variable. Use calculators, spreadsheets, and other technology as appropriate.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.ID.A.1 Differentiate between count data and measurement variable.	**H.DPS.1b1** Complete a graph given the data, using dot plots, histograms, or box plots	~~**H.DPS.1b1** Complete a graph given the data, using dot plots, histograms, or box plots~~	Rewrote for depth.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
		S.ID.A.1.ECS Select the appropriate model given data.	
S.ID.A.2 Represent measurement data with plots on the real number line (dot plots, histograms, and box plots). *Example: Construct a histogram of the current population size in each of Idaho's counties.*	**H.DPS.1c1** Use descriptive stats; range, median, mode, mean, outliers/gaps to describe the data set	~~**H.DPS.1c1** Use descriptive stats; range, median, mode, mean, outliers/gaps to describe the data set~~	Deleted for redundancy to prior standard
S.ID.A.3 Compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different variables, using statistics appropriate to the shape of the distribution for each measurement variable. *Example: Compare the histograms of the annual potato yields over the last 25 years for Idaho and Maine using the correct measures of center and spread for the shape of the histograms.*	**H.DPS.1c2** Compare means, median, and range of 2 sets of data	**S.ID.A.3.ECS** Select a statement that c~~C~~ompares means, medians, or ranges of 2 sets of data.	Edited for depth
S.ID.A.4 Interpret differences in shape, center, and spread in the context of the variables accounting for possible effects			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
of extreme data points (outliers) for measurement variables. *Example: Describe differences in distributions of annual precipitation over the last 100 years between Boise and Seattle using shape, center, spread, and outliers.*			
S.ID.A.5 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. *Example: Estimate the percentage of all Idaho elk hunters who successfully filled their tag last year, using the results from Washington County hunters.*	**H.DPS.1c1** Use descriptive stats; range, median, mode, mean, outliers/gaps to describe the data set	~~**H.DPS.1c1** Use descriptive stats; range, median, mode, mean, outliers/gaps to describe the data set~~ **S.ID.A.5.ECS** Given graphs, select those that represent a normal distribution.	Replaced for alignment.

Grades 9-12: Summarize, represent, and interpret data on two categorical and quantitative variables.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.ID.B.6 Represent data on two categorical variables on a clustered bar chart and describe how the variables are related. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. *Example: Represent the relationship between student effort (on a scale of 1 – 5) and letter grade in a math class with a clustered bar chart and describe the relationship using a relative frequency table.*	**H.DPS.1a1** Design study using categorical and continuous data, including creating a question, identifying a sample, and making a plan for data collection **H.DPS.1c1** Use descriptive stats; range, median, mode, mean, outliers/gaps to describe the data set	~~**H.DPS.1a1** Design study using categorical and continuous data, including creating a question, identifying a sample, and making a plan for data collection~~ ~~**H.DPS.1c1** Use descriptive stats; range, median, mode, mean, outliers/gaps to describe the data set~~ **S.ID.B.6.ECS** Given a visual model of two-way categorical data, select statements that describe associations or trends in the data.	Deleted for complexity and added for alignment
S.ID.B.7 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. **a.** Fit a linear function to data where a scatter plot suggests a linear relationship and use the	**H.DPS.1d2** Select an appropriate statement that describes the relationship between variables **H.DPS.1d1** Represent data on a scatter plot to describe and predict	**S.ID.B.7.ECS** Select an appropriate statement that describes the relationship between two variables on a scatterplot. ~~**H.DPS.1d1** Represent data on a scatter plot to describe and predict~~	Combined and edited for complexity.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
fitted function to solve problems in the context of the data. **b.** Use functions fitted to data, focusing on quadratic and exponential models, or choose a function suggested by the context. Utilize technology where appropriate. *Example: Use technology to fit a function of the relationship between the board-feet (measured in volume) of trees and the diameter of the trunks of the trees.* **c.** Informally assess the fit of a function by plotting and analyzing residuals.			

Grades 9-12: Interpret linear models.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.ID.C.8 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. *Example: Explain why the y-intercept of a linear model relating the volume production of sugar beets to size of farm has no*	**H.PRF.1a1** Interpret the rate of change using graphical representations	~~**H.PRF.1a1** Interpret the rate of change using graphical representations~~ **S.ID.C.8.ECS** Select a statement interpreting the rate of change or starting value given a graphical representation.	Replaced for depth.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
meaning, whereas the y-intercept of a linear model relating the volume production of sugar beets related to minimum temperature does have meaning.			
S.ID.C.9 Compute (using technology) and interpret the linear correlation coefficient. *Example: Find the correlation coefficient between the number of hours firefighters sleep each night and the length of fireline they construct each day. Use the correlation coefficient to explain whether sleep is important.*			
S.ID.C.10 Distinguish between (linear) correlation and causation.			

GRADES 9-12 MAKING INFERENCES AND JUSTIFYING CONCLUSIONS – S.IC

Grades 9-12: Understand and evaluate random processes underlying statistical studies. Use calculators, spreadsheets, and other technology as appropriate.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.IC.A.1 Understand statistics as a process for making inferences about population parameters	**H.DPS.1c3** Determine what inferences can be made from statistics	~~**H.DPS.1c3** Determine what inferences can be made from statistics~~	Replaced for depth

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
based on a random sample from that population.		**S.IC.A.1.ECS** Select an inferential statement supported by real-world data.	
S.IC.A.2 Decide if a specified model is consistent with results from a given data-generating process (e.g., using simulation or validation with given data). *Example: A model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*			

Grades 9-12: Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.IC.B.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.			
S.IC.B.4 Use data from a sample survey to estimate a population mean or proportion and a margin of error.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.IC.B.5 Use data from a randomized and controlled experiment to compare two treatments; use margins of error to decide if differences between treatments are significant.			
S.IC.B.6 Evaluate reports of statistical information based on data. *Example: Students may analyze and critique different reports from media, business, and government sources.*	**H.DPS.1d3** Make or select an appropriate statement(s) about findings **H.DPS.1d4** Apply the results of the data to a real-world situation	**S.IC.B.6.ECS** Make or select an appropriate statement(s) about findings. ~~**H.DPS.1d4** Apply the results of the data to a real-world situation~~	Deleted one for complexity.

GRADES 9-12 CONDITIONAL PROBABILITY AND THE RULES OF PROBABILITY – S.CP

Grades 9-12: Understand independence and conditional probability and use them to interpret data from simulations or experiments.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.CP.A.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.CP.A.2 Demonstrate understanding that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.			
S.CP.A.3 Understand the conditional probability of A given B as $\frac{P(A \cap B)}{P(B)}$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.			
S.CP.A.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *Example: Collect data from a random sample of students in*	**H.DPS.2d1** Select or make an appropriate statement based on a two-way frequency table	**S.CP.A.4.ECS** Select or make an appropriate statement based on a two-way frequency table.	

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.			
S.CP.A.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *Example: Compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*	**H.DPS.2e1** Select or make an appropriate statement based on real world examples of conditional probability	**S.CP.A.5.ECS** Select or make an appropriate statement based on real world examples of conditional probability. *Example: Compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*	Added example for clarity.

Grades 9-12: Use the rules of probability to compute probabilities of compound events in a uniform probability model.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.CP.B.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.CP.B.7 Apply the Addition Rule, $P(A \cup B)=P(A)+P(B)-P(A \cap B)$, and interpret the answer in terms of the model.			
S.CP.B.8 Apply the general Multiplication Rule in a uniform probability model $P(A \cap B)=P(A)P(B\|A)=P(B)P(A\|B)$, and interpret the answer in terms of the model.			
S.CP.B.9 Use permutations and combinations to compute probabilities of compound events and solve problems.			

GRADES 9-12 USING PROBABILITY TO MAKE DECISIONS – S.MD

Grades 9-12: Calculate expected values and use them to solve problems.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.MD.A.1 Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
same graphical displays as for data distributions.			
S.MD.A.2 Calculate the expected value of a random variable; interpret it as the mean of the probability distribution of the variable.			
S.MD.A.3 Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *Example: Find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*	**H.DPS.2c1** Determine the theoretical probability of multistage probability experiments **H.DPS.2c2** Collect data from multistage probability experiments **H.DPS.2c3** Compare actual results of multistage experiment with theoretical probabilities	~~**H.DPS.2c1** Determine the theoretical probability of multistage probability experiments~~ ~~**H.DPS.2c2** Collect data from multistage probability experiments~~ ~~**H.DPS.2c3** Compare actual results of multistage experiment with theoretical probabilities~~ **S.MD.A.3.ECS** Select a statement that compares actual results of multistage experiments with theoretical probabilities.	Combined to reduce complexity and depth.
S.MD.A.4 Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value.			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
Example: Find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?			

Grades 9-12: Use probability to evaluate outcomes of decisions.

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.MD.B.5 Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. **a.** Find the expected payoff for a game of chance. *Example: Find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.* **b.** Evaluate and compare strategies on the basis of expected values. *Example: Compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*			

Idaho Content Standards (ICS)	Extended Content Standards (ECS)	Proposed Alignment Revisions	Rationale for Revisions
S.MD.B.6 Use probabilities to make objective decisions. *Example: The Idaho Department of Transportation classifies highways for overweight loads based on the probability of bridges on a highway failing under given vehicle weights.*			
S.MD.B.7 Analyze decisions and strategies using probability concepts. *Example: Product testing, medical testing, or pulling a hockey or soccer goalie at the end of a game and replacing the goalie with an extra player.*	**H.DPS.2b1** Identify and describe the degree to which something is rated "good" or "bad"/desirable or undesirable based on numerical information	~~**H.DPS.2b1** Identify and describe the degree to which something is rated "good" or "bad"/desirable or undesirable based on numerical information~~ **S.MD.B.7.ECS** Select a statement that describes the degree to which an event is desirable or undesirable given the probabilities. *Example: Product testing, medical testing, or pulling a hockey or soccer goalie at the end of a game and replacing the goalie with an extra player.*	Replaced for clarity and depth and added an example