



**2013–2014  
Grade 5**

This three part document serves as a guide for the transition from the Nevada State Standards (NSS) to the Common Core State Standards (CCSS). Users of this document should also refer to the Grade 5 Introduction and Narrative, and the Glossary of the CCSS.

Part I: The tables below list the Common Core State Standards introduced or maintained in Grade 5 in school year 2013–2014. Corresponding Nevada State Standards are listed where the content matches in whole or in part. Teachers are expected to maintain the NSS as well as teach the CCSS. In many cases, the expectations of the CCSS exceed the NSS. Teachers must move their instruction, and therefore their students’ mathematical knowledge, from the level of the NSS to these CCSS. Teachers must also incorporate the *Standards for Mathematical Practice* into instruction to complete students’ educational experiences. Additional clarification is provided in the comments for some CCSS. Cells shaded gray indicate CCSS introduced in school years 2011–2012 and 2012–2013 that must be maintained.

<b>Operations and Algebraic Thinking</b>			
<b>Write and interpret numerical expressions.</b>			
<b>Common Core State Standard (CCSS)</b>	<b>Nevada State Standard (NSS)</b>	<b>Change<sup>1</sup></b>	<b>Comments</b>
5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	1.5.7 Add and subtract decimals.  Multiply and divide decimals by whole numbers in problems representing practical situations.  Use order of operations to evaluate expressions with whole numbers.	0	Extend order of operations in the NSS to multiple forms of grouping symbols.  While operations with decimals in the NSS is still expected, it is not explicitly stated in this CCSS.
5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2 as $2 \times (8 + 7)$ . Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$ , without having to calculate the indicated sum or product.			

<sup>1</sup> Grade Level Change from current NSS to CCSS. (i.e., –1 indicates that the NSS was previously taught in the grade above.)



<b>Operations and Algebraic Thinking</b>			
<b>Analyze patterns and relationships.</b>			
<b>Common Core State Standard (CCSS)</b>	<b>Nevada State Standard (NSS)</b>	<b>Change<sup>1</sup></b>	<b>Comments</b>
<b>5.OA.3</b> Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i>	<b>2.6.4</b> When given a rule relating two variables, create a table and represent the ordered pairs on a coordinate plane.	-1	Extend creating tables and graphs of numerical patterns in the NSS to comparing those patterns from two rules.

<b>Number and Operations in Base Ten</b>			
<b>Understand the place value system.</b>			
<b>Common Core State Standard (CCSS)</b>	<b>Nevada State Standard (NSS)</b>	<b>Change<sup>1</sup></b>	<b>Comments</b>
<b>5.NBT.1</b> Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	<b>1.5.1</b> Identify and use place value positions of whole numbers and decimals to hundredths.	0	Extend place value in the NSS to <u>understanding</u> the relationship between adjacent places.
<b>5.NBT.2</b> Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	<b>1.7.1</b> Identify and use place value in mathematical and practical situations.  Write, identify, and use powers of 10 from $10^{-3}$ through $10^6$ .	-2	Extend using powers of 10 in the NSS to <u>understanding</u> why decimal points “move” when multiplying or dividing by powers of 10.
<b>5.NBT.3</b> Read, write, and compare decimals to thousandths.  a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ .	<b>1.6.1</b> Identify and use place value positions to thousandths.	-1	Extend using place value in the NSS to include expanded forms incorporating unit fractions (powers of 10) and decimals.
	<b>1.6.3</b> Read, write, compare, and order groups of fractions, groups of decimals, and groups of percents.	-1	
<b>5.NBT.3</b> Read, write, and compare decimals to thousandths.  b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	<b>1.6.3</b> Read, write, compare, and order groups of fractions, groups of decimals, and groups of percents.	-1	

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<b>Number and Operations in Base Ten</b> <b>Perform operations with multi-digit whole numbers and with decimals to hundredths.</b>			
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.NBT.4 Use place value understanding to round decimals to any place.			
5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.	1.5.8 Generate and solve addition, subtraction, multiplication, and division problems using whole numbers and decimals in practical situations.	0	This CCSS focuses on fluency with multiplication of whole numbers.
5.NBT.6 Find whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	1.5.8 Generate and solve addition, subtraction, multiplication, and division problems using whole numbers and decimals in practical situations.	0	Extend division of whole numbers in the NSS to modeling division as described in this CCSS.  Extend the operations with decimals in the NSS to using multiple strategies.
5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	1.5.7 Add and subtract decimals.  Multiply and divide decimals by whole numbers in problems representing practical situations.  Use order of operations to evaluate expressions with whole numbers.	0	Extend operations with decimals in the NSS to include the relationship between addition and subtraction.  Extend the operations with decimals in the NSS to using multiple strategies and having students explain their strategy and reasoning.

<b>Number and Operations—Fractions</b> <b>Use equivalent fractions as a strategy to add and subtract fractions.</b>			
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, <math>\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}</math>.</i> <i>(In general, <math>\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}</math>.)</i>	1.6.2 Add and subtract fractions with unlike denominators.  Multiply and divide with fractions using models, drawings, and numbers.  Use models to translate among fractions, decimals, and percents.	-1	

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**Number and Operations—Fractions**

**Use equivalent fractions as a strategy to add and subtract fractions.**

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result <math>2/5 + 1/2 = 3/7</math>, by observing that <math>3/7 &lt; 1/2</math>.</i>	1.6.2 Add and subtract fractions with unlike denominators.  Multiply and divide with fractions using models, drawings, and numbers.  Use models to translate among fractions, decimals, and percents.	-1	
	1.6.6 Estimate using fractions, decimals, and percents.  Use estimation strategies in mathematical and practical situations.	-1	

**Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.NF.3 Interpret a fraction as division of the numerator by the denominator ( $a/b = a \div b$ ). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret <math>3/4</math> as the result of dividing 3 by 4, noting that <math>3/4</math> multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size <math>3/4</math>. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i>			
5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.  a. Interpret the product $(a/b) \times q$ as a parts of a partition of $q$ into $b$ equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$ . <i>For example, use a visual fraction model to show <math>(2/3) \times 4 = 8/3</math>, and create a story context for this equation. Do the same with <math>(2/3) \times (4/5) = 8/15</math>. (In general, <math>(a/b) \times (c/d) = ac/bd</math>.)</i>			

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<b>Number and Operations—Fractions</b> <b>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</b>			
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.  b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	1.6.2 Add and subtract fractions with unlike denominators.  Multiply and divide with fractions using models, drawings, and numbers.  Use models to translate among fractions, decimals, and percents.	-1	Extend modeling of fractions in the NSS to include modeling of multiplication of fractions with area.
5.NF.5 Interpret multiplication as scaling (resizing), by:  a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.			
5.NF.5 Interpret multiplication as scaling (resizing), by:  b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying $a/b$ by 1.			
5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	1.6.2 Add and subtract fractions with unlike denominators.  Multiply and divide with fractions using models, drawings, and numbers.  Use models to translate among fractions, decimals, and percents.	-1	Extend multiplying and dividing with fractions in the NSS to word problems.

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**Number and Operations—Fractions**

**Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
<p>5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p>a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for <math>(7/3) \div 4</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>(7/3) \div 4 = 7/12</math> because <math>(7/12) \times 4 = 7/3</math>.</i></p> <p><i>Note: 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.</i></p>			
<p>5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p>b. Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for <math>4 \div (7/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (7/5) = 20</math> because <math>20 \times (7/5) = 4</math>.</i></p> <p><i>Note: 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.</i></p>			

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**Number and Operations—Fractions**  
**Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
<p>5.NF.7            Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p>c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.  <i>For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?</i></p> <p><i>Note: 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.</i></p>	<p>1.6.2            Add and subtract fractions with unlike denominators.</p> <p>Multiply and divide with fractions using models, drawings, and numbers.</p> <p>Use models to translate among fractions, decimals, and percents.</p>	-1	<p>Extend modeling of fractions in the NSS to interpreting the quotients of a fraction and a whole number as described in this CCSS.</p> <p>Extend dividing with fractions in the NSS to word problems.</p>

**Measurement and Data**  
**Convert like measurement units within a given measurement system.**

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
<p>5.MD.1            Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.</p>	<p>3.5.1            Estimate and convert units of measure for weight and volume/capacity within the same measurement system (customary and metric).</p>	0	<p>Extend conversion of units in the NSS to include units of length, mass, time, etc.</p>

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**Measurement and Data**  
**Represent and interpret data.**

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i>	1.6.2 Add and subtract fractions with unlike denominators.  Multiply and divide with fractions using models, drawings, and numbers.  Use models to translate among fractions, decimals, and percents.	-1	This CCSS focuses on adding and subtracting fractions on a line plot.
	5.4.1 Pose questions that can be used to guide the collection of categorical and numerical data.  Organize and represent data using a variety of graphical representations including frequency tables and line plots.	+1	While collecting categorical data and making frequency tables in the NSS is still expected, it is not explicitly stated in this CCSS.
	5.4.3 Interpret data and make predictions using frequency tables and line plots.	+1	Extend interpreting data in the NSS to include adding and subtracting fractions using information from a line plot.

**Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.**

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.  a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.	3.7.3 Select, model, and apply formulas to find the volume and surface area of solid figures.	-2	Extend modeling of volume in the NSS to the concept of “packing,” using unit cubes.
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.  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.	3.7.3 Select, model, and apply formulas to find the volume and surface area of solid figures.	-2	Extend modeling of volume in the NSS to the concept of “packing,” using unit cubes.
5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	3.7.3 Select, model, and apply formulas to find the volume and surface area of solid figures.	-2	Extend modeling of volume in the NSS to the concept of counting packed unit cubes.

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<b>Measurement and Data</b> <b>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</b>			
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.  a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the Associative property of multiplication.	3.7.3 Select, model, and apply formulas to find the volume and surface area of solid figures.	-2	
5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.  b. Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.	3.7.3 Select, model, and apply formulas to find the volume and surface area of solid figures.	-2	
5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.  c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	3.7.3 Select, model, and apply formulas to find the volume and surface area of solid figures.	-2	

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<b>Geometry</b>			
<b>Graph points on the coordinate plane to solve real-world and mathematical problems.</b>			
<b>Common Core State Standard (CCSS)</b>	<b>Nevada State Standard (NSS)</b>	<b>Change<sup>1</sup></b>	<b>Comments</b>
5.G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) 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. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., <i>x</i> -axis and <i>x</i> -coordinate, <i>y</i> -axis and <i>y</i> -coordinate).			
5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	4.5.3 Graph coordinates representing geometric shapes in the first quadrant.	0	Extend graphing coordinates in the NSS to real world problems.
<b>Classify two-dimensional figures into categories based on their properties.</b>			
<b>Common Core State Standard (CCSS)</b>	<b>Nevada State Standard (NSS)</b>	<b>Change<sup>1</sup></b>	<b>Comments</b>
5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</i>	4.5.1 Identify, classify, compare, and draw triangles and quadrilaterals based on their properties.  Identify and draw circles and parts of circles, describing the relationships between the various parts.	0	While circles and parts of circles in the NSS are still expected, it is not explicitly stated in this CCSS.
	4.5.7 Describe characteristics of right, acute, obtuse, scalene, equilateral, and isosceles triangles.	0	
5.G.4 Classify two-dimensional figures in a hierarchy based on properties.	4.5.1 Identify, classify, compare, and draw triangles and quadrilaterals based on their properties.  Identify and draw circles and parts of circles, describing the relationships between the various parts.	0	Extend classifying of figures in the NSS to sorting through a hierarchical process.  While circles and parts of circles in the NSS are still expected, it is not explicitly stated in this CCSS.

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Parts II and III: All Nevada State Standards are now obsolete. All Common Core State Standards will be now assessed.

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