

## 2012-2013 Grade 3

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 3 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 3 in school year 2012–2013. 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 year 2011–2012 that must be maintained.

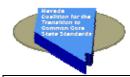
Operations and Algebraic Thinking				
Represent and solve problems involving multiplication and division.				
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments	
3.OA.1 Interpret products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as $5 \times 7$ .	1.3.8 Generate and solve two-step addition and subtraction problems and one-step multiplication problems based on practical situations.  Model addition, subtraction, multiplication, and division in a variety of ways.  Use mathematical vocabulary and symbols to describe multiplication and division.	0	While addition and subtraction problems in the NSS are still expected, it is not explicitly stated in this CCSS.	
3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when $56$ objects are partitioned equally into $8$ shares, or as a number of shares when $56$ objects are partitioned into equal shares of $8$ objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$ .	1.3.8 Generate and solve two-step addition and subtraction problems and one-step multiplication problems based on practical situations.  Model addition, subtraction, multiplication, and division in a variety of ways.  Use mathematical vocabulary and symbols to describe multiplication and division.	0	While addition and subtraction problems in the NSS are still expected, it is not explicitly stated in this CCSS.	

<sup>&</sup>lt;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.)



Operations and Algebraic Thinking Represent and solve problems involving multiplication and division.			
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
3.OA.3  Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.  Note: See CCSS Glossary, Table 2.	1.3.8 Generate and solve two-step addition and subtraction problems and one-step multiplication problems based on practical situations.  Model addition, subtraction, multiplication, and division in a variety of ways.  Use mathematical vocabulary and symbols to describe multiplication and division.	0	While addition and subtraction problems in the NSS are still expected, it is not explicitly stated in this CCSS.
	2.3.2  Model, explain, and solve open number sentences involving addition, subtraction, and multiplication facts.  Use variables and open sentences to express relationships.	0	
3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$ , $5 = \square \div 3$ , $6 \times 6 = ?$ .	2.4.2 Model, explain, and solve open number sentences involving addition, subtraction, multiplication, and division. Select the solution to an equation from a given set of numbers.	-1	
Understand properties of multiplication and the re	lationship between multiplication and division.		
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
Apply properties of operations as strategies to multiply and divide. <i>Examples:</i> If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$ , then $15 \times 2 = 30$ , or by $5 \times 2 = 10$ , then $3 \times 10 = 30$ . (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$ , one can find $8 \times 7$ as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$ . (Distributive property.)			This CCSS does not require students to use formal terms for properties.
Note: Students need not use formal terms for these properties.			
3.OA.6 Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes $32$ when multiplied by $8$ .	2.4.2 Model, explain, and solve open number sentences involving addition, subtraction, multiplication, and division. Select the solution to an equation from a given set of numbers.	-1	Extend modeling of division in the NSS to include inverse operations as described in this CCSS.

<sup>&</sup>lt;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.)



Operations and Algebraic Thinking
Understand properties of multiplication and the relationship between multiplication and division.

Students need not use formal terms for these properties.

Multiply a	nd Divide	within 100.
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Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
3.OA.7	1.4.5	-1	This CCSS focuses on fluency
Fluently multiply and divide within 100, using strategies such	Immediately recall and use multiplication and corresponding		with multiplication/division
as the relationship between multiplication and division (e.g.,	division facts (products to 144).		within 100.
knowing that $8 \times 5 = 40$ , one knows $40 \div 5 = 8$ ) or properties of			
operations. By the end of Grade 3, know from memory all			
products of two one-digit numbers.			

products of two one digit numbers.			
Solve problems involving the four operations, and	identify and explain patterns in arithmetic.		
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing	1.4.6 Estimate to determine the reasonableness of an answer in mathematical and practical situations.	-1	This CCSS includes the use of mental computation.
for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	1.4.8 Generate and solve addition, subtraction, multiplication, and division problems using whole numbers in practical situations.	-1	
Note: This standard is limited to problems posed with whole numbers and having whole number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).	2.3.2 Model, explain, and solve open number sentences involving addition, subtraction, and multiplication facts. Use variables and open sentences to express relationships.	0	
3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.	1.3.4 Model and explain multiplication and division as skip counting patterns.  Model and explain multiplication and division as repeated addition or subtraction.	0	Extend modeling multiplication and division as repeated addition and subtraction, respectively, in the NSS to using properties of operations. Include use of the addition table to identify patterns.
	2.3.1 Recognize, describe, and create patterns using objects and numbers found in tables, number charts, and charts.	0	Extend patterns found in tables and charts in the NSS to using properties of operations.
	Record results of patterns created using manipulatives, pictures, and numeric representations and describe how they are extended.		

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# **Number and Operations—Base Ten**

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

A range of algorithms may be used.

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
3.NBT.1	1.3.1	0	Extend identifying place value in
Use place value understanding to round whole numbers to the	Identify, use, and model place value positions of 1's, 10's,		the NSS to rounding whole
nearest 10 or 100.	100's, and 1,000's.		numbers to the nearest 10 or
	Identify the value of a given digit in the 1's, 10's, 100's, and		100.
	1,000's place.		
3.NBT.2	1.3.7	0	Addition and subtraction of
Fluently add and subtract within 1000 using strategies and	Add and subtract two- and three-digit numbers with and		decimals as money in the NSS is
algorithms based on place value, properties of operations,	without regrouping.		no longer expected.
and/or the relationship between addition and subtraction.	Add and subtract decimals using money as a model.		
3.NBT.3	1.5.5	-2	
Multiply one-digit whole numbers by multiples of 10 in the	Use multiples of 10 to expand knowledge of basic		
range 10–90 (e.g., $9 \times 80$ , $5 \times 60$ ) using strategies based on	multiplication and division facts.		
place value and properties of operations.			

# **Number and Operations—Fractions**

# Develop understanding of fractions as numbers.

Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8,

Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
3.NF.1	1.3.2	0	
Understand a fraction $1/b$ as the quantity formed by 1 part	Identify and model the unit fractions 1/2, 1/3, 1/4, 1/6, and 1/8		
when a whole is partitioned into b equal parts; understand a	as equal parts of a whole or sets of objects.		
fraction $a/b$ as the quantity formed by a parts of size $1/b$ .	Read and write unit fractions with numbers and words.		
3.NF.2			
Understand a fraction as a number on the number line; represent fractions on a number line diagram.			
a. Represent a fraction $1/b$ on a number line diagram by			
defining the interval from 0 to 1 as the whole and			
partitioning it into b equal parts. Recognize that each part			
has size $1/b$ and that the endpoint of the part based at 0			
locates the number $1/b$ on the number line.			

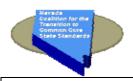
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# Number and Operations—Fractions Develop understanding of fractions as numbers.

Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.				
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments	
3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.				
b. Represent a fraction $a/b$ on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size $a/b$ and that its endpoint locates the number $a/b$ on the number line.				
3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	1.4.2 Identify fractions and compare fractions with like denominators using models, drawings, and numbers.	-1	The CCSS focuses on equivalent fractions on a number line.	
a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.				
3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	1.4.2 Identify fractions and compare fractions with like denominators using models, drawings, and numbers.	-1	The CCSS focuses on equivalent fractions and fraction models.	
b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$ , $4/6 = 2/3$ . Explain why the fractions are equivalent, e.g., by using a visual fraction model.				
3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.				
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = 3/1$ ; recognize that $6/1 = 6$ ; locate $4/4$ and 1 at the same point of a number line diagram.				
3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.				
d. Compare two fractions with the same numerator or the same denominator by reasoning about their size.  Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.				

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

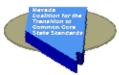
Represent and interpret data:			
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments
3MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.	<ul><li>5.3.1</li><li>Pose questions that can be used to guide data collection, organization, and representation.</li><li>Use graphical representations, including number lines, frequency tables, and pictographs to represent data.</li></ul>	0	Extend graphical representations in the NSS to include drawing scaled pictographs and bar graphs, and solving problems using the information presented.
3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in	3.3.2 Select and use appropriate units of measure.  Measure to a required degree of accuracy (to the nearest 1/2 unit).	0	Extend identifying place value in the NSS to include fourths.
appropriate units—whole numbers, halves, or quarters.	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	

Geometry

Reason with shapes and their attributes.

Reason with shapes and then attributes.				
Common Core State Standard (CCSS)	Nevada State Standard (NSS)	Change <sup>1</sup>	Comments	
3.G.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	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.	-2	While work with triangles and circles in the NSS is still expected, it is not explicitly stated in this CCSS.	
3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.	1.3.2 Identify and model the unit fractions 1/2, 1/3, 1/4, 1/6, and 1/8 as equal parts of a whole or sets of objects. Read and write unit fractions with numbers and words.	0	Extend modeling of fractions in the NSS to include partitioning shapes, recognizing that partitions of equal area may not be the same shape.	

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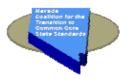
Part II: The table below lists the Nevada State Standards (NSS) teachers are expected to continue to teach in Grade 3 in school year 2012–2013. In some cases, only part of the standard is to be maintained. These standards are still eligible to be assessed. Standards in **bold** indicate those found in Part I that link to the CCSS. Standards underlined indicate those that cannot be assessed on the state Criterion Reference Test (CRT). Additional clarification is provided in the comments.

Nevada State Standard (NSS)	Comments
<b>1.3.1</b> , <b>1.3.2</b> , 1.3.3, <b>1.3.4</b> , 1.3.5, <b>1.3.8</b>	Continue to teach the entire standard.
<b>2.3.1</b> , <b>2.3.2</b> , 2.3.3	
3.3.2, 3.3.6	
4.3.1	
5.3.1	
1.3.7 (partial)	Continue to teach this portion of the
Add and subtract two- and three-digit numbers with and without regrouping.	standard.

Part III: The table below lists the Nevada State Standards (NSS) teachers are no longer expected to teach in Grade 3 in school year 2012–2013. In some cases, only part of a standard is to be deleted. Additional clarification is provided in the comments. Cells shaded gray indicate NSS eliminated in school year 2011-2012.

Nevada State Standard (NSS)	Comments
1.3.6	While this is not a <i>content</i> standard
Estimate the number of objects in a set using various techniques.	under the CCSS, students <u>must</u> continue
	to use estimation as part of the
	Standards for Mathematical Practice.
1.3.7 (partial)	Formal operations with decimals first
Add and subtract decimals using money as a model.	appear in the CCSS in Grade 5.
3.3.1	
Compare, order, and describe objects by various measurable attributes for area and volume/capacity.	
3.3.4	This standard is in the CCSS in Grade 2.
Determine possible combinations of coins and bills to equal given amounts.	
Read, write, and use money notation.	
Recognize equivalent relationships between and among bills and coins.	
4.3.2	This standard is in the CCSS in Grade 8.
Demonstrate and describe the transformational motions of geometric figures (translation/slide, reflection/flip, and rotation/turn).	
4.3.3	This standard is in the CCSS in Grade 4.
Create two-dimensional designs that contain a line of symmetry.	
4.3.4	This standard is in the CCSS in Grades
Compare, contrast, sketch, model, and build two- and three-dimensional geometric figures and objects.	K and 1.

<sup>&</sup>lt;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.)



### Part III continued:

Nevada State Standard (NSS)	Comments
4.3.6	
Identify, draw, and describe horizontal, vertical, and oblique lines.	
4.3.9	
Use the quantifiers all, some, and none to describe the characteristics of a set.	
5.3.5	This standard is in the CCSS in Grade 7.
Use informal concepts of probability (certain, likely, unlikely, impossible) to make predictions about future events.	

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