Common Core State Standards for Mathematics
Correlated to Learning WRAP-UPS® Basic Math and Learning Palette® Mathematics
January 2011

Leaning WRAP-UPS® Basic Math supports these Common Core State Standards:

GRADE K
Operations & Algebraic Thinking
1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).
4. 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 the answer with a drawing or equation.
5. Fluently add and subtract within 5.
Number & Operations in Base Ten
1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

GRADE 1
Operations & Algebraic Thinking
3. Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*
6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).
8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ – 3, 6 + 6 = _.*
Number & Operations in Base Ten
4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

GRADE 2
Operations & Algebraic Thinking
2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
Number & Operations in Base Ten
5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
6. Add up to four two-digit numbers using strategies based on place value and properties of operations.

7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

GRADE 3

Operations & Algebraic Thinking

1. Interpret products of whole numbers, e.g., interpret 5 × 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 × 7*

2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 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 ÷ 8.*

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 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*

6. Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers

Number & Operations in Base Ten

2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

Number & Operations—Fractions

1. Understand a fraction 1/*b* as the quantity formed by 1 part when *a* whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by a parts of size 1/*b*.

3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

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.

GRADE 4

Number & Operations in Base Ten

4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.

5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations—Fractions

1. Explain why a fraction *a*/*b* is equivalent to a fraction (*n* × *a*)/(*n* × *b*) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

3. Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.

Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*
Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
6. Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

GRADE 5
Number & Operations in Base Ten
5. Fluently multiply multi-digit whole numbers using the standard algorithm.
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
Number & Operations—Fractions
1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*

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Learning Palette® Mathematics Correlation

(Standards also met using Learning WRAP-UPS® Basic Math are highlighted in yellow).

GRADE K	***Set:* Matching & Early Numbers *Card(s):***	***Set:* Numbers, Coins, & Fractions *Card(s):***	***Set:* Intro to Algebra *Card(s):***	***Set:* Intro to Geometry and Measurement *Card(s):***	***Set:* Intro to Data *Card(s):***	**Level**
Counting & Cardinality						
1. Count to 100 by ones and by tens.	6, 10, 11	1, 2, 12	2, 4, 5, 8, 11, 12			K
		Numeration Step 2: 3, 7				1
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	5		4, 5, 12			K
		Numeration Step 2: 4, 5, 7, 8, 9	1 – 4			1
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a	6, 10, 11	1, 2, 12				K

GRADE K	***Set:* Matching & Early Numbers *Card(s):***	***Set:* Numbers, Coins, & Fractions *Card(s):***	***Set:* Intro to Algebra *Card(s):***	***Set:* Intro to Geometry and Measurement *Card(s):***	***Set:* Intro to Data *Card(s):***	**Level**
count of no objects).	Numeration Step 1: 1					1
4. Understand the relationship between numbers and quantities; connect counting to cardinality. 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. 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. Understand that each successive number name refers to a quantity that is one larger.	6, 10, 11, 12	1, 2, 3, 5, 8, 11, 12				K
	Numeration Step 1: 1, 3					1
5. Count to answer "how many?" questions	6, 10, 11, 12	1, 2, 3, 5, 8, 11, 12				K

GRADE K	***Set:* Matching & Early Numbers *Card(s):***	***Set:* Numbers, Coins, & Fractions *Card(s):***	***Set:* Intro to Algebra *Card(s):***	***Set:* Intro to Geometry and Measurement *Card(s):***	***Set:* Intro to Data *Card(s):***	**Level**
about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.	Numeration Step 1: 1, 3					1
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, e.g., by using matching and counting strategies.	4	6				K
						1
7. Compare two numbers between 1 and 10 presented as written numerals.	7					K
	Numeration Step 1: 2	Numeration Step 2: 6				1
Operations & Algebraic Thinking						

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1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.	12	11, 12				K
	Numeration Step 1: 3 – 12	Numeration Step 3: 6 – 12	Algebra Concepts: 1 – 4, 7 – 12			1
2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.	12	11, 12				K
	Numeration Step 1: 3 – 12	Numeration Step 3: 6 – 12	Algebra Concepts: 1 – 4, 7 – 12			1
3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).						K
	Numeration Step 1: 7, 8, 11, 12					1
4. 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						K

GRADE K	***Set:* Matching & Early Numbers *Card(s):***	***Set:* Numbers, Coins, & Fractions *Card(s):***	***Set:* Intro to Algebra *Card(s):***	***Set:* Intro to Geometry and Measurement *Card(s):***	***Set:* Intro to Data *Card(s):***	**Level**
the answer with a drawing or equation.	Numeration Step 1: 12					1
5. Fluently add and subtract within 5.	12	12				K
	Numeration Step 1: 3 – 12	Numeration Step 3: 6 – 10				1
Number & Operations in Base Ten						
1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three,						K
		Numeration Step 2: 1, 2				1

GRADE K	***Set:* Matching & Early Numbers *Card(s):***	***Set:* Numbers, Coins, & Fractions *Card(s):***	***Set:* Intro to Algebra *Card(s):***	***Set:* Intro to Geometry and Measurement *Card(s):***	***Set:* Intro to Data *Card(s):***	**Level**
four, five, six, seven, eight, or nine ones.						
Measurement & Data						
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. *For example, directly compare the heights of two children and describe one child as taller/shorter.*				6, 7, 8, 9, 10	1 – 11	K
				Geometry and Measurement: 3, 4, 6	Probability & Statistics: 2	1
3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.				1 – 5		K
				Geometry and Measurement: 1, 2		1
Geometry						

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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*.				2, 4, 5, 11		K
				2		1
2. Correctly name shapes regardless of their orientations or overall size.				1 – 4		K
				Geometry and Measurement: 1, 2		1

GRADE 1	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
Operations & Algebraic Thinking							
3. Apply properties of operations as strategies to add and subtract.[2] *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*							K
	11		6, 10				1
							2

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GRADE 1	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
4. Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8. Add and subtract within 20.*							K
	6 – 11		6, 10, 12				1
	1, 2						2
6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	Matching & Early Numbers: 12						K
	3 – 12		6 – 12				1
	1, 2			7 – 10			2
8. Determine the unknown whole number in an addition	Matching & Early Numbers: 12						K
	3 – 12		6 – 12				1

GRADE 1	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ – 3, 6 + 6 = _.*	1, 2, 6 – 12	6 – 12		7 – 10			2
Number & Operations in Base Ten							
1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	Matching & Early Numbers: 6, 10, 11	Numbers, Coins, and Fractions: 1, 2, 4, 12		Intro to Algebra: 2, 4, 5, 8, 11, 12			K
		3, 4, 5, 7, 8, 9		1 – 4			1
			6, 8	1, 2, 3			2
2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 10 can be thought of as a bundle of ten ones — called a “ten.” The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six,							K
		1, 2					1
	3	1, 2, 3, 4					2

GRADE 1	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
seven, eight, or nine ones. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones)							
3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.							K
		6					1
	4						2
4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and	Matching & Early Numbers: 12						K
	3, 4, 7, 8, 11, 12		6, 8, 10, 11				1
	1, 6 – 9			7 – 10			2

GRADE 1	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
sometimes it is necessary to compose a ten.							
5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.		Numbers, Coins, and Fractions: 5		Intro to Algebra: 12			K
		7					1
				3			2
Measurement & Data							
1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.							K
					3		1
							2
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)							K
					5		1

GRADE 1	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
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. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*					11		2
3. Tell and write time in hours and half-hours using analog and digital clocks.							K
					7, 8		1
					6, 7, 8		2
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.						Intro to Data: 1 – 12	K
						1 – 12	1
						1 – 12	2
Geometry							
3. Partition circles and rectangles into two and four equal shares, describe the shares		Numbers, Coins, & Fractions: 7, 10					K
			4				1

GRADE 1	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.			4				2

GRADE 2	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
Operations & Algebraic Thinking							
2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	3 – 12		6 – 12	7 – 9			1
	1, 2, 7 – 12			1 – 3, 7 – 10			2
				1, 2, 3, 4, 6, 9, 10			3
3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.		10, 11					1
							2
				1			3

GRADE 2	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
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.							1
							2
			1				3
Number & Operations in Base Ten							
1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: 100 can be thought of as a bundle of ten tens — called a "hundred." The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).		1, 2					1
	3	1, 2, 5, 6, 8, 10, 11					2
	1						3
2. Count within 1000; skip-count by 5s, 10s, and 100s.		3, 7 – 9		1 – 4			1
			6	1, 3			2
				1, 2, 3, 4, 9			3

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3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.		1, 2					1
		5, 6					2
	1						3
4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.		6					1
		4					2
	2, 11						3
5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	3 – 12		6 – 12				1
	1, 2, 7 – 12		7 – 9				2
				1 – 5, 9, 10			3
6. Add up to four two-digit numbers using strategies based on place value and properties of operations.			11				1
	7 – 9						2
	4, 5						3
7. Add and subtract within 1000, using	3 - 12		6 – 12				1

GRADE 2	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	1, 2, 7 – 12	8 – 12					2
	5, 6, 7, 8, 12						3
Measurement & Data							
1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.					5		1
					11		2
					7		3

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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.					5		1
					11		2
					7		3
7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.					7, 8		1
					6, 7, 8		2
					10		3
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?			1, 2, 3				1
			1	11, 12			2
		9 – 12					3
9. Generate							1

GRADE 2	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.					11		2
					7		3
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[1] using information presented in a bar graph.						7 – 10	1
						10 – 12	2
						10, 11	3
Geometry							
1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.					1, 2		1
					2 – 5		2
					5, 6		3
2. Partition a rectangle			4				1

GRADE 2	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
into rows and columns of same-size squares and count to find the total number of them.			4				2
		1					3
3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.			4				1
			4				2
		1					3

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
Operations & Algebraic Thinking							
1. Interpret products of whole numbers, e.g., interpret 5 × 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 × 7.*			7, 9, 10				2
			1, 9				3

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
	12						4
2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 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 ÷ 8.*			11, 12				2
			2				3
	12						4
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.			7, 9, 10				2
			1, 9				3
	12						4

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
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 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*							2
			1 – 12	7, 8			3
	5 – 12			4, 5, 7, 9– 11			4
5. Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*							2
			7				3
							4
6. Understand division as an unknown-factor problem. *For example,*			11, 12				2

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.			7				3
							4
7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.			7, 9 – 12				2
			1 – 12				3
	5 – 12						4
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.*			6, 8	1 – 3			2
				1 – 4, 9 – 12			3
				1 – 7			4
Number & Operations in Base Ten							

Common Core State Standards for Mathematics
Correlated to Learning WRAP-UPS® Basic Math and Learning Palette® Mathematics
January 2011

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
1. Use place value understanding to round whole numbers to the nearest 10 or 100.							2
	3, 4, 6						3
	2						4
2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	1, 2, 7 – 12	8 – 12	7, 9				2
	5 – 8, 12						3
	3, 4						4
3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.							2
			10				3
	5						4
Number & Operations—Fractions							
1. Understand a fraction 1/*b* as the quantity formed by 1			4				2

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
part when *a* whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by a parts of size 1/*b*.		1					3
		1					4
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram. 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. 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.							2
							3
		3					4

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. 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. 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.* Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid							2
		3, 4					3
		5 – 7					4

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
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.							
Measurement & Data							
1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.					6 – 8		2
					9, 10		3
							4
2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems							2
					3		3

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.					10		4
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.*						10 – 12	2
						10, 11	3
						12	4
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					11		2
					7		3

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
appropriate units—whole numbers, halves, or quarters.					4		4
6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).							2
					2		3
					8		4
7. Relate area to the operations of multiplication and addition. 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. Multiply side lengths to find areas of rectangles with whole-number side lengths in							2
					2		3
					9		4

GRADE 3	***Set:* Numeration Step 1** ***Card(s):***	***Set:* Numeration Step 2** ***Card(s):***	***Set:* Numeration Step 3** ***Card(s):***	***Set:* Algebra Concepts** ***Card(s):***	***Set:* Geometry & Measurement** ***Card(s):***	***Set:* Probability & Statistics** ***Card(s):***	**Level**
the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths *a* and *b* + *c* is the sum of *a* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.							
8. Solve real world and mathematical problems involving perimeters of polygons, including							2

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
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.					1		3
					6, 7		4
Geometry							
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.					2, 3		2
					5, 6		3
					1, 2		4
2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.			4				2

GRADE 3	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
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
							4

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
Operations & Algebraic Thinking							
1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.			1				3
							4
							5
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a			9				3

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	12						4
							5
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.			9				3
	12						4
							5
4. Find all factor pairs for a whole number in the range 1–100. Recognize that a							3
							4

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	12						5
5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For 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.*				1 – 5, 9 – 12			3
				1 – 7			4
				1 – 4			5
Number & Operations in Base Ten							
1. Recognize that in a multi-digit whole number, a digit in one place represents ten	1, 9		10				3

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	1						4
	1						5
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	1, 9 – 12						3
	1						4
	1						5
3. Use place value understanding to round multi-digit whole numbers to any place.	3						3
	2						4
							5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.	5 – 8, 12						3
	3, 4						4
	2						5
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.			1, 3, 5, 7 – 11				3
	5 – 9, 12						4
	3 – 6						5
6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and			2, 4, 6, 7, 9, 12				3
	10 – 12						4
	7 – 9						5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.							
Number and Operations--Fractions							
1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.		4					3
		5					4
		1 – 11					5
2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with		3					3
		6 – 8					4
		3					5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.							
3. Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the							3
		9 – 12					4
		4 – 7					5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
relationship between addition and subtraction. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.							
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).* Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6*							3
							4
		8					5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
× (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.) Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*							
6. Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*		6					3
			2, 12				4
			2, 11				5
7. Compare two decimals to hundredths by reasoning about their		8					3

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.			5, 6				4
							5
Measurement & Data							
1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For 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),*					7		3
					3 – 5		4
					6, 8		5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.		9 – 12			3, 9, 10		3
					10		4
					11		5
3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For 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.*					1, 2		3
					6 – 9		4
					9, 10		5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.							3
					2		4
					2 – 5		5
6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.							3
							4
					3, 4		5

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.							3
							4
					4		5
Geometry							
1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.							3
					1, 2		4
					1 – 5		5
2. Classify two-dimensional figures based on the presence or absence of parallel					5, 6		3

GRADE 4	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.					1, 2		4
					1, 2, 3, 5		5
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.					8		3
					11		4
					12		5

GRADE 5	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
Operations & Algebraic Thinking							
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 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as*							4
				5			5

GRADE 5	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
18932 + 921, without having to calculate the indicated sum or product.							
3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms.				1 – 7			4
Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *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.*				1 – 4			5
Number & Operations in Base Ten							
1. Recognize that in a multi-digit number, a digit in one place represents 10 times as	1						4

GRADE 5	***Set:* Numeration Step 1** ***Card(s):***	***Set:* Numeration Step 2** ***Card(s):***	***Set:* Numeration Step 3** ***Card(s):***	***Set:* Algebra Concepts** ***Card(s):***	***Set:* Geometry & Measurement** ***Card(s):***	***Set:* Probability & Statistics** ***Card(s):***	**Level**
much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	1						5
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	5						4
			7, 9				5
3. Read, write, and compare decimals to thousandths. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.			1 – 8				4
			1, 2				5

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4. Use place value understanding to round decimals to any place.			9				4
			3, 4				5
5. Fluently multiply multi-digit whole numbers using the standard algorithm.	5 – 9, 12						4
	3 – 6, 10, 11						5
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.	10 – 12						4
	7 – 9						5
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			10, 11				4
			5 – 10				5

GRADE 5	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
subtraction; relate the strategy to a written method and explain the reasoning used.							
Number & Operations—Fractions							
1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*		9 – 12					4
		4 – 7					5
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example,*		9 – 12					4
		4 – 11					5

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recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.							
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Interpret the product (*a*/*b*) × *q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a* × *q* ÷ *b*. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)* Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the							4
		8, 9					5

GRADE 5	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
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.							
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.							4
		8, 9					5
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show*							4
		10, 11					5

GRADE 5	***Set:* Numeration Step 1 *Card(s):***	***Set:* Numeration Step 2 *Card(s):***	***Set:* Numeration Step 3 *Card(s):***	***Set:* Algebra Concepts *Card(s):***	***Set:* Geometry & Measurement *Card(s):***	***Set:* Probability & Statistics *Card(s):***	**Level**
the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.* Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups*							

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of raisins?							
Measurement & Data							
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.					3 – 5		4
					6, 8		5
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.					10		4
							5
5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. Find the volume of a right rectangular prism with whole-number					10		4
					11		5

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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. 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. 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.							
Geometry							

Common Core State Standards for Mathematics
Correlated to Learning WRAP-UPS® Basic Math and Learning Palette® Mathematics
January 2011

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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., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).					12		4
							5
2. Represent real world and mathematical problems by graphing					12		4

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points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.							5
3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.					1, 2		4
					1, 2, 3, 5		5
4. Classify two-dimensional figures in a hierarchy based on properties.					1, 2		4
					1, 2, 3, 5		5