Green Township School District Grade 4 Marking Period Mathematics Benchmarks

Report Card Indicators			
	MP #1 (1-3)	MP #2(5-6)	MP #3(7-4)
Domain: Operations & Algebra	ic Thinking		
A. Use the four operations with	n whole numbers to solve proble	ems.	
	iplication equation as a comparison, e.g., ents of multiplicative comparisons as mul		35 is 5 times as many as 7 and 7 times
	Interpret a multiplication equation as a comparison. (M3 L2)		
	Represent verbal/written statements of multiplicative comparisons as multiplication equations.(M3 L13)		Represent verbal/written statements of multiplicative comparisons as multiplication equations.(M7 L4)
	e to solve word problems involving multiplem, distinguishing multiplicative comparis		gs and equations with a symbol for the
	Multiply to solve word problems involving multiplicative comparison. (M3 L13)		Multiply to solve word problems involving multiplicative comparison. (M7 L4)
	Divide to solve word problems involving multiplicative comparison. (M3)		
	Represent problems with drawings and equations, using a symbol for the unknown number.(M3 L13)		
	Distinguish between and use multiplication, addition, or subtraction to solve multi-step word problems. (M3 L13)		

Standard: 4.OA.A.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.

reasonableness of answers using men	reasonableness of answers using mental computation and estimation strategies including rounding.				
	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. (Addition algorithm) (M1 L12,19)	Reinforce	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. (Addition algorithm) (M7 Topic B&C)		
	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. (Subtraction algorithm) (M1 L16,19)	Reinforce	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. (Subtraction algorithm) (M7 Topic B&C)		
	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. (Multiplication) (M3 L13)	Reinforce	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. (Multiplication) (M7 Topic B&C)		
	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. (Division) (M3 Topic E & G)	Reinforce	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. (Division) (M7 Topic B&C)		

	Represent multi-step word problems using equations with a letter standing for the unknown quantity. (M1 L19)		Represent multi-step word problems using equations with a letter standing for the unknown quantity. (M7 Topic B&C)
	Assess the reasonableness of answers using mental computation. (M1 L18)		Assess the reasonableness of answers using mental computation. (M7 Topic B&C)
	Assess the reasonableness of answers using estimation strategies, including rounding. (M1 L18)		Assess the reasonableness of answers using estimation strategies, including rounding. (M7 Topic B&C)
	Solve multi-step word problems involving a remainder. (M3)		Solve multi-step word problems involving a remainder. (M7 Topic B&C)
Standard 4.OA.B. Gain familiar	ity with factors and multiples		
		00. Recognize that a whole number is a n iven one-digit number. Determine whether	
	Find all factor pairs for any whole number (between 1 and 100) (M3 L22)		
	Recognize that a whole number is a multiple of each of its factors. (M3 L22)		
	Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. (M3 L22)		
	Given a whole number in the range 1-100, determine whether it is prime or composite. (M3 L25)		

C. Generate and analyze patterns.			
For example, given the rule "Add 3" and		e. Identify apparent features of the pattern the resulting sequence and observe that mate in this way.	
		Generate a number or shape pattern that follows a given rule. (M5 L41)	
		Identify apparent features of the pattern that were not explicit in the rule itself. (M5 L41)	
		Explain informally why the numbers will continue to alternate in this way. (M5 L41)	
Domain: Number and Operatio	ns in Base Ten		
	t in a multi-digit whole number, a digit in c by applying concepts of place value and	one place represents ten times what it rep division.	presents in the place to its right. For
	Up to a million, identify the digit in one place represents ten times what is would represent to the place to the right. (M1 Topic A)	Reinforce	
	e multi-digit whole numbers using base-te its in each place, using >, =, and < symbo	n numerals, number names, and expandents to record the results of comparisons.	ed form. Compare two multi-digit
	Read multi-digit whole numbers using base-ten numerals. (M1 L4)		
	Read multi-digit whole numbers using number names. (M1 L4)		
	Read multi-digit whole numbers using expanded form. (M1 L4)		
	Compare two multi-digit whole numbers based on the meanings of the digits in each place. (M1 L6)		

	T		
	Record comparisons using the symbols <,>, and =. (M1 L6)		
Standard: 4.NBT.A.3 Use place value	ue understanding to round multi-digit who	le numbers to any place.	
	Use place value understanding to round multi-digit whole numbers to any place. (M1 L10)	Reinforce	
Standard: 4.NBT.B.4 Fluently add ar	nd subtract multi-digit whole numbers usi	ng the standard algorithm.	
	Fluently add multi-digit whole numbers using the standard algorithm. (M1 L11)	Fluently add multi-digit whole numbers using the standard algorithm.	Fluently add multi-digit whole numbers using the standard algorithm.
	Fluently subtract multi-digit whole numbers using the standard algorithm. (M1 L15)	Fluently subtract multi-digit whole numbers using the standard algorithm.	Fluently subtract multi-digit whole numbers using the standard algorithm.
		git whole number, and multiply two two-d n by using equations, rectangular arrays,	
Multiply a whole number of up to four digits by a one-digit whole number.	Multiply a whole number of up to four digits by a one-digit whole number. (M3 L11)	Reinforce	
Multiply a whole number of two digits by a one-digit whole number.	Multiply a whole number of two digits by a one-digit whole number.(M3 L11)	Reinforce	
Multiply a whole number of three digits by a one-digit whole number.	Multiply a whole number of three digits by a one-digit whole number. (M3 L11)	Reinforce	
Multiply a whole number of four digits by a one-digit whole number.	Multiply a whole number of four digits by a one-digit whole number. (M3 L11)	Reinforce	
Multiply two-digit numbers.	Multiply two-digit by two digit numbers using partial products (place value understanding). (M3 L36)	Reinforce	

	Multiply two-digit by two digit numbers using the standard algorithm.(M3 L37)	Reinforce	
Use strategies based on place value.	Use strategies based on place value. (M3 L11,36)	Reinforce	
Use strategies based on properties of operations.	Use strategies based on properties of operations. (M3 L11,36)	Reinforce	
Illustrate the calculation using equations.	Illustrate the calculation using equations. (M3 L11,36)	Reinforce	
Explain a calculation using equations.	Explain a calculation using equations. (M3 L11,38)	Reinforce	
Illustrate the calculation using rectangular arrays.	Illustrate the calculation using rectangular arrays. (M3 L11)	Reinforce	
Explain a calculation using rectangular arrays.	Explain a calculation using rectangular arrays. (M3 L11)	Reinforce	
Illustrate the calculation using area models.	Illustrate the calculation using area models. (M3 L11,36)	Reinforce	
Explain a calculation using area models.	Explain a calculation using area models. (M3 L11,36)	Reinforce	
	or the relationship between multiplication	o four-digit dividends and one-digit divison n and division. Illustrate and explain the c	
	Find whole-number quotients with one-digit dividends and one-digit divisors. (M3 L33)	Reinforce	
	Find whole-number quotients with two-digit dividends and one-digit divisors.(M3 L33)	Reinforce	
	Find whole-number quotients with three-digit dividends and one-digit divisors.(M3 L33)	Reinforce	

Find whole-number quotients with four-digit dividends and one-digit divisors.(M3 L33)	Reinforce	
Find whole-number quotients with a remainder with one-digit dividends and one-digit divisors.(M3 L33)	Reinforce	
Find whole-number quotients with a remainder with two-digit dividends and one-digit divisors.(M3 L33)	Reinforce	
Find whole-number quotients with a remainder with three-digit dividends and one-digit divisors.(M3 L33)	Reinforce	
Find whole-number quotients with a remainder with four-digit dividends and one-digit divisors.(M3 L33)	Reinforce	
Use strategies based on place value.(M3 L33)	Reinforce	
Use strategies based on properties of operations.(M3 L33)	Reinforce	
Use strategies based on the relationship between multiplication and division.(M3 L33)	Reinforce	
Illustrate the calculation using equations. (M3 L33)	Reinforce	
Explain a calculation using equations. (M3 L33)	Reinforce	
Illustrate the calculation using rectangular arrays. (M3 L20,L33)	Reinforce	
Explain a calculation using rectangular arrays. (M3 L20, L33)	Reinforce	

	Illustrate the calculation using area models. (M3 L33)	Reinforce	
	Explain a calculation using area models. (M3 L33)	Reinforce	
Domain: Measurement and Da	ta		
A. Solve problems involving m	easurement and conversion of	measurements from a larger uni	t to a smaller unit.
		stem of units including km, m, cm, mm; k of a smaller unit. Record measurement e	
Know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; l, ml; hr, min, sec.	Know relative sizes of measurement units within one system of units including km, m, cm. mm. (M2 L5)	Reinforce	Know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; l, ml; hr, min, sec. (M7 L14)
Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. (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.)	Express metric length, mass and capacity in a larger unit in terms of a smaller unit. (M2 L3)	Reinforce	Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. (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.) (M7 L14)
Record measurement equivalents in a two column table.	Record measurement equivalents in a two column table. (M2 L5)	Reinforce	Record measurement equivalents in a two column table. (M7 L5)

Standard: 4.MD.A.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.				
Use the four operations to solve word problems involving distance.				

Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Distance/length problems)	Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Distance problems) (M2 L1)	Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Distance/length problems) (M5 Topic F, M6 Topic B)	Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Distance/length problems) (M7 Topic B&C)
Use the four operations to solve word problems involving intervals of time.			Use the four operations to solve word problems involving intervals of time. (M7 Topic B&C)
Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Intervals of time problems)			Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Intervals of time problems) (M7 Topic B&C)
Use the four operations to solve word problems involving liquid volumes.	Use the four operations to solve word problems involving liquid volumes. (M2 L3)	Reinforce	Use the four operations to solve word problems involving liquid volumes. (M7 Topic B&C)
Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Liquid volume problems)	Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Liquid volume problems) (M2 L3)	Reinforce	Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Liquid volume problems) (M7 Topic B&C)
Use the four operations to solve word problems involving masses of objects.	Use the four operations to solve word problems involving masses of objects. (M2 L2)	Reinforce	Use the four operations to solve word problems involving masses of objects. (M7 Topic B&C)
Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Masses of objects problems)	Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Masses of objects problems) (M2 L2)	Reinforce	Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Masses of objects problems) (M7 Topic B&C)
Use the four operations to solve word problems involving money.		Use the four operations to solve word problems involving money. (M6 Topic E)	

Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Money problems)		Solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit. (Money problems) (M6 Topic E)			
Solve word problems involving simple fractions.	Solve word problems involving simple fractions. (M2 L5)	Solve word problems involving simple fractions. (M5)	Reinforc		
Solve word problems involving decimals.	Solve word problems involving decimals. (M2 L5)	Solve word problems involving decimals. (M6 Topic A)	Reinforce		
Represent measurement quantities using diagrams, e.g. number line diagrams, that feature a measurement scale.	Represent measurement quantities using diagrams, e.g. number line diagrams, that feature a measurement scale. (M2 L4)	Represent measurement quantities using diagrams, e.g. number line diagrams, that feature a measurement scale.(M5 Topic F)	Reinforce		
		eal world and mathematical problems. For ea formula as a multiplication equation wi			
	Apply the area formula for rectangles in real world problems. (M3 L3)		Reinforce		
	Apply the perimeter formula for rectangles in real world problems. (M3 L3)		Reinforce		
	Apply the area formula for rectangles in mathematical problems.(M3 L3)		Reinforce		
	Apply the perimeter formula for rectangles in mathematical problems.(M3 L3)		Reinforce		
·	Standard: 4.MD.B.4.Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.				
		Make a line plot to display a data set in measurements in fractions of a unit (½, ¼, ⅓) (M5 L28)			
		Use a line plot to solve problems			

		involving addition with like denominators. (M5 L28)	
		Use a line plot to solve problems involving subtraction with like denominators. (M5 L28)	
C. Geometric measurement: ur	nderstand concepts of angle and	d measure angles.	
Standard: 4.MD.B.5. Recognize angles measurement.	s as geometric shapes that are formed wh	nerever two rays share a common endpo	int, and understand concepts of angle
		Introduce: 5.a. Understand 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. (M4 Topic B)	5.a. Understand 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. (M4 Topic B)
		Introduce: 5.b. Understand an angle that turns through <i>n</i> one-degree angles is said to have an angle measure of n degrees. (M4 Topic B)	5.b. Understand an angle that turns through <i>n</i> one-degree angles is said to have an angle measure of n degrees. (M4 Topic B)
Standard: 4.MD.B.6. Measure angles in	n whole-number degrees using a protract	tor. Sketch angles of specified measure.	
		Introduce: Measure angles in whole-number degrees using a protractor. (M4 Topic B)	Measure angles in whole-number degrees using a protractor. (M4 Topic B)
		Introduce: Sketch angles of specified measure. (M4 Topic B)	Sketch angles of specified measure. (M4 Topic B)
Standard: 4.MD.B.7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the			

	arts. Solve addition and subtraction prolumbol for the unknown angle measure.	blems to find unknown angles on a diagram in	real world and mathematical problems,
			Recognize angle measure as additive.
Addition			Solve addition problems to find unknown angles on a diagram in real world problems,e.g., by using an equation with a symbol for the unknown angle measure. (M4 Topic C)
			Solve addition problems to find unknown angles on a diagram in mathematical problems,e.g., by using an equation with a symbol for the unknown angle measure. (M4 Topic C)
Subtraction			Solve subtraction problems to find unknown angles on a diagram in real world problems, e.g., by using an equation with a symbol for the unknown angle measure. (M4 Topic C)
			Solve subtraction problems to find unknown angles on a diagram in mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure. (M4 Topic C)
Daniel Nankara d Ocean			
Domain: Number and Opera	itions - Fractions		
4.NF.A. Extend understandi	ng of fraction equivalence and	ordering.	
		$(n \times a)/(n \times b)$ by using visual fraction models me size. Use this principle to recognize and go	

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. (M5 L11)	
		Use this principle to recognize and generate equivalent fractions. (M5 L11)	
by comparing to a benchmark fraction s	actions with different numerators and different as 1/2. Recognize that comparisons are, or <, and justify the conclusions, e.g., b	are valid only when the two fractions refe	
		Create common denominators in order to compare two fractions. (M5 L15)	
		Create common numerators in order to compare two fractions. (M5 L15)	
		Compare two fractions with different numerators and different denominators by comparing to a benchmark fraction on the number line.(M5 L13, 27)	
		Compare two fractions with different numerators and different denominators, recording comparison with <, >, or =. (M5 L15, 27)	
		Justify the conclusions, e.g., by using a visual fraction model. (M5 L15, 27)	
AND D. Duild freetiens from	it fractions by applying and syte		of aparations on whole

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

Standard: 4.NF.B.3 Understand a fraction <i>a/b</i> with <i>a</i> > 1 as a sum of fractions 1/ <i>b</i> .			
Addition		3.a. Understand addition of fractions as joining and separating parts referring to the same whole.(M5 L18)	
Subtraction		3.a. Understand subtraction of fractions as joining and separating parts referring to the same whole. (M5 L18)	
		3.b. Decompose a fraction into a sum of fractions with the same denominator in more than one way. 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. (M5 L6)	
		3.b. Recording various decompositions by an equation. (M5 L6)	
		3.b Justify decompositions, e.g., by using a visual fraction model. (M5 L6)	
Addition		3.c. Add 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. (M5 L31)	
		d. Solve word problems involving addition of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. (M5 L21)	

Subtraction		3.c. 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. (M5 L34)	
		d. Solve word problems involving 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. (M5 L21)	
Standard: 4.NF.B.4. Apply and exter	nd previous understandings of multiplication	on to multiply a fraction by a whole numb	er.
		4.a. 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). (M5 L3)	
		4.b. Understand a multiple of a/b as a multiple of 1/b. (M5 L3)	
		4.b. 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 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.) (M5 L40)	
		c. 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? (M5 L40)	
4.NF.C. Understand decimal no	otation for fractions, and compa	e decimal fractions.	
	on with denominator 10 as an equivalent For example, express 3/10 as 30/100, and		nis technique to add two fractions with
		5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100. For example, express 3/10 as 30/100. (M6 Topic D)	
		5. Use this technique to add two fractions with respective denominators 10 and 100 For example, add 3/10 + 4/100 = 34/100. (M6 Topic D)	
Standard: 4.NF.C.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			
		Use decimal notation for fractions with denominators 10 or 100. (M6 Topic D)	
Standard: 4.NF.C.7. Compare two decimals to hundredths by reasoning about their 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.			
		Compare two decimals to hundredths by reasoning about their size. (M6 Topic C)	
		Recognize that comparisons are valid only when the two decimals refer to the same whole.(M6 Topic C)	

		Record the results of comparisons with the symbols >, =, or <.(M6 Topic C)	
		Justify the conclusions, e.g., by using a visual model.(M6 Topic C)	
Geometry			
A. Draw and identify lines and	angles, and classify shapes by p	properties of their lines and ang	les.
Standard 4.G.A.1 Draw points, lines, lines, lines.	ne segments, rays, angles (right, acute, o	btuse), and perpendicular and parallel lin	es. Identify these in two-dimensional
			Draw points.(M4 Topic A)
			Draw lines.(M4 Topic A)
			Draw line segments.(M4 Topic A)
			Draw rays.(M4 Topic A)
			Draw right angles.(M4 Topic A)
			Draw acute angles.(M4 Topic A)
			Draw obtuse angles.(M4 Topic A)
			Draw perpendicular lines.(M4 Topic A)
			Draw parallel lines.(M4 Topic A)
			Identify above in two-dimensional figures. (M4 Topic A)

Standard 4.G.A.2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.			
			Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines (M4 Topic C)
			Classify two-dimensional figures based on the presence or absence of angles of a specified size. (M4 Topic C)
			Recognize right triangles as a category.(M4 Topic C)
			Identify right triangles. (m4 Topic C)
Standard 4.G.A.3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.			
			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.(M4 Topic C)
			Identify line-symmetric figures. (M4 Topic C)
			Draw lines of symmetry. (M4 Topic C)