Grade 3 Performance Rubrics: Math

Academic Standards Indicators

EX= Exceeds: Exceeding grade-level standard for trimester

MS= Meets: Meeting grade-level standard for trimester

PR= Progressing: Progressing toward grade-level standard for trimester

NI= Needs Improvement: Demonstrating minimal or no progress and at risk for not meeting grade-level standard for trimester

OPERATIONS AND ALGEBRAIC THINKING (3.OA.A 1-4)

➤ *Represents and solves problems involving multiplication and division*

Trimester	NI	PR	MS	EX
1	Unable to interpret products of whole numbers or is inconsistent with use strategies (arrays, fact families, and repeat addition); unable to solve one-step word problems involving multiplication within 50	Able to interpret products of whole numbers **but inconsistent with use of strategies** (arrays, fact families, and repeat addition); able to solve one-step word problems involving multiplication within 50 **with some accuracy**	Able to interpret products of whole numbers **with few errors,** using a variety of strategies (arrays, fact families, and repeated addition); able to solve **one-step** word problems involving multiplication within 50	Able to interpret products of whole numbers **with no errors** using a variety of strategies (arrays, fact families, and repeated addition); able to solve **two-step** word problems involving multiplication within 50
2	Unable to interpret products and quotients of whole numbers with few errors using a variety of strategies; unable to solve one-step	Able to interpret products and quotients of whole numbers **with some accuracy** using a variety of strategies; able to solve one-step	Able to interpret products and quotients of whole numbers **with few errors** using a variety of strategies; able to solve one-step	Able to interpret products and quotients of whole numbers **with no errors** using a variety of strategies; able to solve two-step

12.11.17

	word problems involving multiplication and division within 50	word problems involving multiplication and division within 100 **with some accuracy**	word problems involving multiplication and division within 100 **with few errors**	word problems involving multiplication and division within 100 **with accuracy**
3				

Operations and Algebraic Thinking (3.OA.B.5-6)

➢ *Understands properties of multiplication and division and the relationship between multiplication and division.*

Trimester	NI	PR	MS	EX
1	Unable to apply the commutative, associative, and distributive properties to solve multiplication problems	Able to apply the commutative, associative, and distributive properties to solve multiplication problems **with some accuracy**	Able to apply the commutative, associative and distributive of multiplication **with some accuracy**	Able to apply the commutative, associative, and distributive properties to solve multiplication problems with accuracy; **able to explain** reasoning of why properties are applicable
2	Unable to apply the commutative, associative, and distributive properties to solve multiplication and division problems; unable to understand division as an unknown-factor problem	Able to apply the commutative, associative, and distributive properties to solve multiplication and division problems **with some accuracy; able to understand division as an unknown-factor problem with some accuracy**	Able to apply the commutative, associative and distributive of multiplication and division **with accuracy; able to understand division as an unknown-factor problem with accuracy**	Able to apply the commutative, associative, and distributive properties to solve multiplication and division problems; able to understand division as an unknown-factor problem; **able to explain** reasoning of why properties are applicable
3				

Operations and Algebraic Thinking (3.OA.C.7)

➤ *Multiplies and divides fluently within 100.*

Trimester	NI	PR	MS	EX
1	Unable to demonstrate accuracy with multiplication facts for 0, 1, 2, and 5	Able to demonstrate **some accuracy** with multiplication facts for 0, 1, 2, and 5	Able to demonstrate **accuracy and fluency** with multiplication facts for 0, 1, 2, and 5	Able to demonstrate accuracy and fluency with multiplication facts **beyond** 0, 1, 2, and 5
2	Unable to demonstrate accuracy with multiplication facts for 0-7 and 10; unable to demonstrate accuracy with division facts	Unable to demonstrate **some accuracy** with multiplication facts for 0-7 and 10; able to demonstrate **some accuracy** with division facts	Able to demonstrate **accuracy and fluency** with multiplication facts for 0-7 and 10; able to demonstrate **accuracy** with division facts	Able to demonstrate accuracy and fluency with multiplication facts **beyond** 0-7 and 10; able to demonstrate accuracy with division facts
3	Unable to multiply and divide fluently within 100	Able to multiply and divide within 100 **with some fluency**	Able to multiply and divide **fluently** within 100	Able to divide fluently within 100; able to multiply fluently **within 144**

Operations and Algebraic Thinking (3.OA.D.8)

➤ *Solves two-step word problems involving the four operations.*

Trimester	NI	PR	MS	EX
1	Unable to solve two-step addition and subtraction word problems using numbers and/or equations	Able to solve two-step addition and subtraction word problems using numbers and/or equations **with some accuracy**	Able to solve two-step addition and subtraction word problems using numbers and/or equations **with accuracy**	Able to solve and explain reasoning of two-step addition and subtraction word problems using numbers and/or equations; able to solve two-step word problems **using all four operations**
2	Unable to solve two-step word problems involving all four operations using numbers and or equations	Able to solve two-step word problems involving all four operations using numbers and/or equations **with some accuracy**	Able to solve two-step word problems involving all four operations using numbers and or equations **with accuracy**	Able to solve and **explain multiple step** word problems using all four operations with accuracy
3	Unable to solve two-step word problems involving all four operations, using numbers and/or equations **and** unable to assess reasonableness of answers	Able to solve two-step word problems involving all four operations, using numbers and/or equations **or** able to assess reasonableness of answers	Able to solve two-step word problems involving all four operations, using numbers and/or equations **and** able to assess reasonableness of answers	Able to solve and **explain multiple step** word problems involving all four operations, using numbers and/or equations and able to assess reasonableness of answers

Operations and Algebraic Thinking (3.OA.D.9)

➤ *Identifies the patterns within multiplication and addition.*

Trimester	NI	PR	MS	EX
1	Unable to identify arithmetic patterns	Able to identify arithmetic patterns **with some accuracy**	Able to identify arithmetic patterns **with accuracy**	Able to identify arithmetic patterns with accuracy; able to **create and extend** arithmetic patterns or explains them, using properties of operations
2	Unable to identify or explain arithmetic patterns	Able to identify and explain arithmetic patterns **with some accuracy**	Able to identify and explain arithmetic patterns, **using properties of operations, with accuracy**	Able to identify arithmetic patterns with accuracy; able to create and extend arithmetic patterns **and** explains them, using properties of operations
3				

NUMBER AND OPERATIONS IN BASE TEN (3.NBT.A.1)

➢ *Rounds whole numbers to the nearest 10 or 100*

Trimester	NI	PR	MS	EX
1	Unable to round numbers to nearest 10 and 100	Able to round numbers to nearest 10 and 100 **with some accuracy**	Able to use place value to round numbers to nearest 10 and 100 **with accuracy**	Able to use place value to round numbers to nearest 10 and 100 with accuracy **and explain** reasoning and/or round to nearest **1,000**
2				
3				

Number and Operations in Base Ten (3.NBT.A.2)

➤ *Demonstrates understanding of place value to add and subtract within 1,000.*

Trimester	NI	PR	MS	EX
1	Unable to add or subtract within 1000 with regrouping	Able to add and subtract within 1000 with regrouping	Able to add and subtract within 1000 with regrouping; **able to use the relationship between addition and subtraction, algorithms based on place value, and/or properties of operations to solve problems**	Able to add and subtract within 1000 with regrouping **and communicate how the problem is solved**; able to use the relationship between addition and subtraction, algorithms based on place value, and/or properties of operations to solve problems
2				
3				

Number and Operations in Base Ten (3.NBT.A.3)

➤ *Multiplies one-digit whole numbers by multiples of 10.*

Trimester	NI	PR	MS	EX
1				
2	Unable to multiply one-digit whole numbers by multiples of ten (eg., 9 x 80)	Able to multiply one-digit whole numbers by multiples of ten (eg., 9 x 80) **with some accuracy**	Able to multiply one-digit whole numbers by multiples of ten (eg., 9 x 80) with little error **with accuracy**	Able to multiply one-digit whole numbers by multiples of ten (eg., 9 x 80) with little error with accuracy **and communicates** justification for answers and/or extend understanding to multiply one-digit numbers by 100 or 1,000
3				

Number and Operations - Fractions (3.NF.A.1)

➤ *Understands numerators and denominators and how they relate to parts and wholes.*

Trimester	NI	PR	MS	EX
1				
2	Unable to label and identify fractions as parts of a whole	Able to label and identify fractions as parts of a whole	Able to label and identify fractions as parts of a whole	Able to label and identify fractions as parts of a whole on a number line
3	Unable to label and identify fractions as parts of a whole on a number line	Able to label and identify fractions as parts of a whole on a number line **with some accuracy**	Able to label and identify fractions as parts of a whole on a number line **with accuracy**	Able to label and identify fractions as parts of a whole on a number line with accuracy **and able to create and extend models that represent parts of a whole**

Number and Operations - Fractions (3.NF.A.2)

➤ *Interprets and plots fractions on a number line.*

Trimester	NI	PR	MS	EX
1				
2	Unable to identify and plot a fractional amount on a number line between 0 and 1	Able to identify and plot a fractional amount on a numberline between 0 and 1	Able to identify and plot a fractional amount on a numberline between 0 and 1 **with accuracy**	Able to identify and plot a fractional amount on a numberline between 0 and 1 **and communicate the reasoning for each fraction's location**
3	Unable to identify and plot a fractional amount on a number line between 0 and numbers beyond 1 with little error	Able to identify and plot a fractional amount on a number line between 0 and numbers beyond 1 **with little error**	Able to identify and plot a fractional amount on a numberline between 0 and numbers beyond 1 **with accuracy**	Able to identify and plot a fractional amount on a numberline between 0 and numbers beyond 1 with accuracy **and communicate the reasoning for each fraction's location**

Number and Operations - Fractions (3.NF.A.3)

➤ *Compares fractions based on their size.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to compare fractions with same numerator or same denominator using visual models	Able to compare fractions with same numerator or same denominator using visual models **with some accuracy**	Able to compare fractions with same numerator or same denominator with accuracy **and explain** using visual models	Able to compare fractions **with different numerators and different denominators** and explain using visual models

Number and Operations - Fractions (3.NF.A.3)

➤ *Creates and understands equivalent fractions.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to generate equivalent fractions to benchmark fractions using visual models and explain why fractions are equivalent; unable to express whole numbers as fractions, recognizing fractions that are equivalent to whole numbers	Able to generate equivalent fractions to benchmark fractions using visual models and explain why fractions are equivalent **with some accuracy, and/or** express whole numbers as fractions, recognizing fractions that are equivalent to whole numbers **with some accuracy**	Able to generate equivalent fractions to benchmark fractions using visual models and explain why fractions are equivalent with accuracy, **and** express whole numbers as fractions, recognizing fractions that are equivalent to whole numbers with accuracy	Able to generate equivalent fractions to benchmark fractions **and beyond benchmark fractions** using visual models and explain why fractions are equivalent with accuracy; able to express whole numbers as fractions, recognizing fractions that are equivalent to whole numbers with accuracy

12.11.17

MEASUREMENT AND DATA (3.MD.A.1)

➤ *Tells and manipulates intervals of time to the nearest minute.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to tell and write time to the nearest minute and solve word problems that measure time intervals in minutes (within 60 minutes)	Able to tell and write time to the nearest minute and solve word problems that measure time intervals in minutes (within 60 minutes) **with some accuracy**	Able to tell and write time to the nearest minute and solve word problems that measure time intervals in minutes (**within** 60 minutes) **with accuracy**	Able to tell and write time to the nearest minute and solve word problems that measure time in intervals **beyond** 60 minutes

*add and subtract

Measurement and Data (3.MD.A.2)

➤ *Measures, estimates, and solves problems using volume and mass.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to measure and estimate liquid volumes and masses of objects using standard units; unable to solve one-step word problems involving volume and mass that are given in the same units	Able to measure and estimate liquid volumes and masses of objects using standard units **with some accuracy**; able to solves one-step word problems involving volume and mass that are given in the same units **with some accuracy**	Able to measure and estimate liquid volumes and masses of objects using standard units **with accuracy**; able to solves one-step word problems involving volume and mass that are given in the same units **with accuracy**	Able to measure and estimate liquid volumes and masses of objects using standard units with accuracy; able to solves **multi-step** word problems involving volume and mass that are given in the same units with accuracy

Measurement and Data (3.MD.B.3)

➤ *Draws, solves, and interprets picture and bar graphs.*

Trimester	NI	PR	MS	EX
1	Unable to draw a picture or bar graph to represent data with several categories	Able to draw a picture graph and a bar graph to represent a data set with several categories **with some accuracy;** able to use the information within graphs to solve one and two step word problems about "how many more" or "how many less" **with some accuracy**	Able to draw a picture graph and a bar graph to represent a data set with several categories **with accuracy;** able to use the information within graphs to solve one and two step word problems about "how many more" or "how many less" **with accuracy**	Able to draw a picture graph and a bar graph to represent a data set with several categories with accuracy; able to use the information within graphs to solve one and two step word problems about "how many more" or "how many less" with accuracy **and able to construct their own questions about information within graphs**
2				
3				

Measurement and Data (3.MD.B.4)

➤ *Applies measurement data to create line plots.*

Trimester	NI	PR	MS	EX
1	Unable to draw a line plot to represent data with several categories	Able to draw a line plot to represent a data set with several categories **with some accuracy;** able to use the information within graphs to solve one and two step word problems about "how many more" or "how many less" **with some accuracy**	Able to draw a line plot to represent a data set with several categories **with accuracy;** able to use the information within graphs to solve one and two step word problems about "how many more" or "how many less" **with accuracy**	Able to draw a line plot to represent a data set with several categories with accuracy; able to use the information within graphs to solve one and two step word problems about "how many more" or "how many less" with accuracy **and able to construct their own questions about information within graphs**
2				
3	Unable to identify halves and fourths of an inch and use that data to make a line plot represent whole numbers.	Able to identify halves and fourths of an inch and use that data to make a line plot represent whole numbers, **with some accuracy**	Able to identify halves and fourths of an inch and use that data to make a line plot represent whole numbers, **with accuracy**	Able to identify halves and fourths of an inch and use that data to make a line plot represent whole numbers, **and eighths** with accuracy

Measurement and Data (3.MD.C.5-6)

➤ *Recognizes and determines area using multiple strategies.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to do the following: ● Measure area by counting squares ● Recognize area as an attribute of plane figures ● Understand concepts of area and measurement	Able to do one or two of the following: ● Measure area by counting squares ● Recognize area as an attribute of plane figures ● Understand concepts of area and measurement	Able to do the following: ● Measure area by counting squares ● Recognize area as an attribute of plane figures ● Understand concepts of area and measurement	Able to do the following: ● Measure area by counting squares ● Recognize area as an attribute of plane figures ● Understand concepts of area and measurement ● **Explain attributes of area** ● **Explain area concepts**

Measurement and Data (3.MD.C.7)

➢ *Uses multiplication to find area of regular and irregular shapes.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to find area using multiplication and addition strategies	Able to find area using multiplication and addition strategies **with some accuracy**	Able to find area using multiplication and addition strategies **with accuracy**	Able to find area using multiplication and addition strategies with accuracy **and explain reasoning**

12.11.17

Measurement and Data (3.MD.C.8)

➤ *Solves word problems involving area and perimeter.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to solve one-step word problems involving perimeters of polygons, including: ● Finding perimeter given side lengths ● Finding an unknown side length ● Finding area when given known or unknown sides	Able to solve one-step word problems **with some accuracy** involving perimeters of polygons, including: ● Finding perimeter given side lengths ● Finding an unknown side length ● Finding area when given known or unknown sides	Able to solve one-step word problems **with accuracy** involving perimeters of polygons, including: ● Finding perimeter given side lengths ● Finding an unknown side length ● Finding area when given known or unknown sides	Able to solve **multi-step** word problems with accuracy involving perimeters of polygons, including: ● Finding perimeter given side lengths ● Finding an unknown side length ● Finding area when given known or unknown sides

12.11.17

GEOMETRY (3.G.A.1)

➢ *Classifies shapes by properties and attributes.*

Trimester	NI	PR	MS	EX
1				
2				
3	Unable to demonstrate understanding that shapes have different categories and shared attributes **and** unable to partition shapes into parts with equal areas and express area of each part as a unit fraction	Able to demonstrate understanding that shapes have different categories and shared attributes **or** able to partition shapes into parts with equal areas and express area of each part as a unit fraction	Able to demonstrate understanding that shapes have different categories and shared attributes **and** able to partition shapes into parts with equal areas and express area of each part as a unit fraction	Able to demonstrate understanding that shapes have different categories, able to partition shapes into parts with equal areas and express each part as a unit fraction **and able to explain the hierarchy of quadrilaterals**