



Grade 3 Math Rubric

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Operations and Algebraic Thinking

Trimesters	Needs Support (NS)	Approaching Standards (AS)	Meets Standards (MS)
	With significant teacher support	With prompting and support	Consistently and independently
Represents and solves problems involving multiplication (3.OA.A.1) Unit 1, Unit 5			
1, 2, 3	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> understand the meaning of multiplication 	<ul style="list-style-type: none"> understands multiplication as combining equal groups uses concrete materials to model various multiplication situations identifies the number of groups and the number of items in each group determines the total number of items (products) writes expressions or equations for multiplication models or drawings 	<ul style="list-style-type: none"> understands multiplication as combining equal groups uses concrete materials and drawings to model various multiplication situations identifies the number of groups and the number of items in each group explains how the total number of items (product) is determined using grade level appropriate math vocabulary (factor, product, times, groups of) writes expressions and equations for multiplication models and drawings
Represents and solves problems involving division (3.OA.A.2) Unit 1, Unit 5, Unit 8			
1, 2, 3	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> Understand the meaning of division 	<ul style="list-style-type: none"> understands division as the splitting of equal groups uses concrete materials and drawings to model various division situations determines the missing factor writes expressions or equations for division models or drawings 	<ul style="list-style-type: none"> understands division as the splitting of equal groups uses concrete materials and drawings to model various division situations explains how the missing factor is determined using grade level appropriate math vocabulary (quotient, divisor) writes expressions and equations for division models and drawings
Understands properties of multiplication and division and the relationship between multiplication and division (3.OA.B.5, 3.OA.B.6) Unit 1, Unit 5, Unit 8			
1, 2, 3	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> apply properties of operations as strategies to 	<ul style="list-style-type: none"> applies properties of operations as strategies to multiply and divide 	<ul style="list-style-type: none"> applies properties of operations as strategies to multiply and divide

	multiply and divide • understand division as an unknown factor	<ul style="list-style-type: none"> ○ Commutative: If $6 \times 4 = 24$, then $4 \times 6 = 24$ ○ Associative: $3 \times 5 \times 2$ is $3 \times 5 = 15$, $15 \times 2 = 30$ ○ Distributive: 8×7 is $(8 \times 5) + (8 \times 2) = 48$ • understands division as an unknown factor (ex: $32/8 = \underline{\quad}$ can be solved as $\underline{\quad} \times 8 = 32$)	<ul style="list-style-type: none"> ○ Commutative: If $6 \times 4 = 24$, then $4 \times 6 = 24$ ○ Associative: $3 \times 5 \times 2$ is $3 \times 5 = 15$, $15 \times 2 = 30$ ○ Distributive: 8×7 is $(8 \times 5) + (8 \times 2) = 48$ • understands division as an unknown factor (ex: $32/8 = \underline{\quad}$ can be solved as $\underline{\quad} \times 8 = 32$)
Multiplies efficiently and accurately within 100 (3.OA.C) Unit 1, Unit 5, Unit 8			
1, 2, 3	shows limited progress or is unable to • multiply accurately and efficiently within 100	• uses visuals or manipulatives to multiply numbers within 100	• uses strategies to accurately and efficiently multiply within 100 (ex: properties of operation)
Divides efficiently and accurately within 100 (3.OA.C) Unit 1, Unit 5, Unit 8			
1, 2, 3	shows limited progress or is unable to • divide accurately and efficiently within 100	• uses visuals or manipulatives to divide numbers within 100	• uses strategies to accurately and efficiently divide within 100 (ex: unknown factor)
Solves problems using the four operations (addition, subtraction, multiplication, division) (3.OA.D.8, 3.OA.D.9) Unit 1, Unit 5, Unit 7, Unit 8			
1	shows limited progress or is unable to • identify arithmetic patterns	• identifies arithmetic patterns using an addition or multiplication table	• identifies arithmetic patterns using an addition or multiplication table and explains them using properties of operations
2,3	shows limited progress or is unable to • identify arithmetic patterns • solve multi step word problems	• identifies arithmetic patterns using an addition or multiplication table • solves multi step word problems	• identifies arithmetic patterns using an addition or multiplication table and explains them using properties of operations • solves multi step word problems and assesses the reasonableness of their answer

Numbers and Operations in Base Ten

Trimesters	Needs Support (NS)	Approaching Standards (AS)	Meets Standards (MS)
	With significant teacher support	With prompting and support	Consistently and independently
Uses place value understanding to round whole numbers to the nearest 10 and 100 (3.NBT.A.1) Unit 3			
1, 2, 3	shows limited progress or is unable to <ul style="list-style-type: none"> read, write and sequence numbers up to 1,000 round numbers up to 1,000 	<ul style="list-style-type: none"> uses knowledge of place value to read, write and sequence numbers up to 1,000 using manipulatives begins to use knowledge of place value to round numbers to the nearest 10 and 100 up to 1,000 using manipulatives 	<ul style="list-style-type: none"> uses knowledge of place value to read, write, sequence and round numbers to the nearest 10 and 100 up to 1,000
Uses place value understanding to accurately, efficiently add within 1,000 (3.NBT.A.2) Unit 3, Unit 7			
1, 2	shows limited progress or is unable to <ul style="list-style-type: none"> solve addition problems with 3 digit numbers 	<ul style="list-style-type: none"> solves addition problems with 3 digit numbers up to 400 using manipulatives 	<ul style="list-style-type: none"> solves addition problems with 3 digit numbers accurately and efficiently up to 400 using strategies (ex: breaking each number apart by place, adding one number in parts)
3	shows limited progress or is unable to <ul style="list-style-type: none"> solve addition problems within 1,000 	<ul style="list-style-type: none"> solves addition problems within 1,000 using manipulatives 	<ul style="list-style-type: none"> solves addition problems within 1,000 using strategies (ex: breaking each number apart by place, adding one number in parts)
Uses place value understanding to accurately, efficiently subtract within 1,000 (3.NBT.A.2) Unit 3, Unit 7			
1, 2	shows limited progress or is unable to <ul style="list-style-type: none"> solve subtraction problems with 3 digit numbers 	<ul style="list-style-type: none"> solves subtraction problems with 3 digit numbers up to 400 using manipulatives 	<ul style="list-style-type: none"> solves subtraction problems with 2 and 3 digit numbers accurately and efficiently up to 300 using strategies (ex: subtracting one number in parts, adding up, or subtracting back)
3	shows limited progress or is unable to <ul style="list-style-type: none"> solve subtraction problems within 1,000 	<ul style="list-style-type: none"> solves subtraction problems within 1,000 using manipulatives 	<ul style="list-style-type: none"> solves subtraction problems accurately and efficiently within 1,000 using strategies (ex: subtracting one number in parts, adding up, or subtracting back)

Uses place value understanding to multiply one-digit numbers by multiples of 10 (3.NBT.A.3) Unit 5

1,2			
3	shows limited progress or is unable to <ul style="list-style-type: none"> multiply a single-digit number by a multiple of 10 	<ul style="list-style-type: none"> multiplies a single-digit number by a multiple of 10, up to 90 using manipulatives 	<ul style="list-style-type: none"> multiplies a single-digit number by a multiple of 10, up to 90 using place value strategies.

Fractions

Trimesters	Needs Support (NS)	Approaching Standards (AS)	Meets Standards (MS)
	With significant teacher support	With prompting and support	Consistently and independently

Understands a fraction as the quantity formed by one part when a whole is partitioned into equal parts (3.NF.A.1) Unit 6

1			
2,3	shows limited progress or is unable to <ul style="list-style-type: none"> partition a quantity into equal parts name the equal parts as fractions 	<ul style="list-style-type: none"> partitions a quantity into equal parts names the equal parts as fractions 	<ul style="list-style-type: none"> partitions a quantity into equal parts names the equal parts as fractions

Understands a fraction as a number on a number line (2.NF.A.2) Unit 6

1			
2,3	shows limited progress or is unable to <ul style="list-style-type: none"> represent fractions as numbers on a number line 	<ul style="list-style-type: none"> represents fractions as numbers on a number line 	<ul style="list-style-type: none"> represents fractions as numbers on a number line demonstrates how they label the number line and explains their thinking

Explains equivalence and compares fractions (2.NF.A.3) Unit 6

1			
2,3	shows limited progress or is unable to <ul style="list-style-type: none"> identify equivalent fractions compare fractions 	<ul style="list-style-type: none"> identifies equivalent fractions using visual representations compares fraction with the same numerator or same denominator by reasoning about their 	<ul style="list-style-type: none"> identifies and creates equivalent fractions using visual representations and is able to explain and justify their thinking compares fractions with the same numerator

		size	or same denominator by reasoning about their size and is able to explain and justify their thinking
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Measurement and Data

Trimesters	Needs Support (NS)	Approaching Standards (AS)	Meets Standards (MS)
	With significant teacher support	With prompting and support	Consistently and independently
Solves problems involving measurement and estimation of intervals of time, liquid volumes and masses of objects (3.MD.A.2) Unit 7			
1			
2			
3	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> understand and choose appropriate units of measure (gram, kilogram, liters) solve word problems involving mass or volumes 	<ul style="list-style-type: none"> Understands and chooses appropriate units of measure (gram, kilogram, liters) solves one-step addition and subtraction problems involving masses or volumes solves one-step multiplication and division problems involving masses or volumes estimates and measures liquid volume and mass using standard units 	<ul style="list-style-type: none"> understands and chooses appropriate units of measure (gram, kilogram, liters) solves one-step addition and subtraction problems involving masses or volumes solves one-step multiplication and division problems involving masses or volumes estimates and measures liquid volume and mass using standard units uses appropriate math vocabulary terms as they communicate their understanding (liquid volume, mass, standard units, metric, gram, kilogram, liter)
Represents and interprets data (3.MD.B.3, 3.MD.B.4) Unit 2 , Unit 6			

1,2	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> analyze or interpret data on a bar graph or pictograph collect, organize, represent or describe data on a bar graph, pictograph or line plot 	<ul style="list-style-type: none"> analyzes and interprets data on a bar graph, or pictograph collects, organizes, represents or describes data on a bar graph, pictograph or line plot solves one step word problems using information presented in scaled bar graphs 	<ul style="list-style-type: none"> analyzes and interprets data on various forms (bar graph, pictograph,) collects, organizes, represents and describes various forms of data (bar graph, pictograph,) solves one and two step word problems using information presented in scaled bar graphs
3	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> analyze or interpret data on a bar graph, pictograph or line plot collect, organize, represent or describe data on a bar graph, pictograph or line plot 	<ul style="list-style-type: none"> analyzes and interprets data on a bar graph, pictograph or line plot collects, organizes, represents or describes data on a bar graph, pictograph or line plot solves one step word problems using information presented in scaled bar graphs 	<ul style="list-style-type: none"> analyzes and interprets data on various forms (bar graph, pictograph, line plots) collects, organizes, represents and describes various forms of data (bar graph, pictograph, line plots) solves one and two step word problems using information presented in scaled bar graphs
Understands concepts of area and relates area to multiplication and addition (3.MD.C.5, 3.MD.C.6, 3.MD.C.7)Unit 4			
1			
2, 3	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> demonstrate an understanding of area 	<ul style="list-style-type: none"> finds the area of 2-dimensional figures using U.S. standard and metric unit understands the connection between the area of a rectangle and the area model used to represent multiplication 	<ul style="list-style-type: none"> finds the area of 2-dimensional figures using U.S. standard and metric unit while using appropriate measurement vocabulary understands the connection between the area of a rectangle and the area model used to represent multiplication
Recognizes perimeter and distinguishes between area and perimeter (3.MD.D)Unit 4			
1			
2, 3	<p>shows limited progress or is unable to</p> <ul style="list-style-type: none"> demonstrate an understanding of perimeter 	<ul style="list-style-type: none"> measures and finds the perimeter of 2-dimensional figures using U.S standard metric units while using appropriate measurement vocabulary understands how to find the perimeter of an unknown side understands the difference between area and perimeter 	<ul style="list-style-type: none"> measures and finds the perimeter of 2-dimensional figures using U.S standard metric units while using appropriate measurement vocabulary understands and explains how to find the perimeter of an unknown side understands the difference between area and perimeter

Geometry

Trimesters	Needs Support (NS)	Approaching Standards (AS)	Meets Standards (MS)
	With significant teacher support	With prompting and support	Consistently and independently
Understands that shapes in different categories may share attributes (3.G.A.1) Unit 4			
1			
2, 3	shows limited progress or is unable to <ul style="list-style-type: none"> • categorize or describe geometric shapes 	<ul style="list-style-type: none"> • categorizes or describes geometric shapes including quadrilaterals (squares, rhombuses and rectangles) based on their attributes (sides, angles) 	<ul style="list-style-type: none"> • categorizes and describes geometric shapes including quadrilaterals (squares, rhombuses and rectangles) based on their attributes (sides, angle)
Partitions shapes into parts with equal areas (3.G.A.2) Unit 6			
1			
2,3	shows limited progress or is unable to <ul style="list-style-type: none"> • partition shapes into equal parts • name the equal parts as fractions of a whole (ex: If a rectangle is divided into four equal parts-one part is $\frac{1}{4}$ of the total area of the rectangle) 	<ul style="list-style-type: none"> • partitions shapes into equal parts and understands that each part has the same area • names the equal parts as fractions of a whole (ex: If a rectangle is divided into four equal parts-one part is $\frac{1}{4}$ of the total area of the rectangle) 	<ul style="list-style-type: none"> • partitions shapes into equal parts and understands that each part has the same area • names the equal parts as fractions of a whole (ex: If a rectangle is divided into four equal parts-one part is $\frac{1}{4}$ of the total area of the rectangle)