



# QUINCY PUBLIC SCHOOLS

## Grade Four

### Mathematics Grading Rubric

#### Mathematics- Numbers and Operations in Base Ten

**Generalizes place value understanding for multi-digit whole numbers (read, write, compare, and round whole numbers) (4.NBT.3)**

1	2	3	4
Student rarely demonstrates an understanding of multi-digit whole numbers. (read, write, compare, and round whole numbers)	Student demonstrates a partial understanding of multi-digit whole numbers (read, write, compare, and round whole numbers)	Student is consistently and independently able to read, write, compare, and round whole numbers to any place.	Student exceeds the standard by demonstrating a higher level understanding of place value for multi-digit whole numbers.

**Fluently adds and subtracts multi-digit whole numbers using the standard algorithm. (4.NBT.4)**

1	2	3	4
Student rarely demonstrates an understanding of adding and subtracting multi-digit whole numbers.	Student demonstrates a partial understanding of adding and subtracting multi-digit whole numbers.	Student is consistently and independently able to add and subtract multi-digit whole numbers.	Student exceeds the standard by demonstrating a higher level understanding of adding and subtracting multi-digit whole numbers.

**Multiplies whole numbers up to four digits by one digit and two digits by two digits. (4.NBT.5)**

1	2	3	4
Student rarely demonstrates an understanding of multiplying whole numbers.	Student demonstrates a partial understanding of multiplying whole numbers.	Student is consistently and independently able to multiply whole numbers.	Student exceeds the standard by demonstrating a higher level understanding of multiplying whole numbers.

**Solves whole number quotients with remainders with up to four-digit dividends and one-digit divisors. (4.NBT.6)**

1	2	3	4
Student rarely demonstrates an understanding of solving whole number quotients with remainders.	Student demonstrates a partial understanding of solving whole number quotients with remainders.	Student is consistently and independently able to solve whole number quotients with remainders.	Student exceeds the standard by demonstrating a higher level understanding of solving whole number quotients with remainders.

**Operations and Algebraic Thinking**

**Solves multi-step word problems using the four operations and interprets remainders. (4.OA1.3)**

1	2	3	4
Student rarely solves a multi-step word problem using the four operations and interpreting remainders.	Student demonstrates a partial understanding of multi-step word problems using the four operations and interpreting remainders.	Student is consistently and independently able to solve multi-step word problems using the four operations and interpreting remainders.	Student exceeds the standard by demonstrating a higher level understanding when solving multi-step word problems using the four operations and interpreting remainder.

**Identifies factor pairs, prime and composite numbers in the 1-100 range. (4.OA1.4)**

1	2	3	4
Student rarely demonstrates an understanding of factor pairs, prime and composite numbers in the 1-100 range.	Student demonstrates a partial understanding of factor pairs, prime and composite numbers in the 1-100 range.	Student is consistently and independently able to identify factor pairs, prime and composite numbers in the 1-100 range.	Student exceeds the standard by demonstrating a higher level understanding of identifying factor pairs, prime and composite numbers in the 1-100 range.

## Numbers and Operations – Fractions

**Uses models and drawings to compare fractions with different numerators and different denominators. (4.NF.1 / 4.NF.2)**

1	2	3	4
Student rarely demonstrates an understanding of models and drawings to compare fractions with unlike numerators and unlike denominators.	Student demonstrates a partial understanding of models and drawings to compare fractions with unlike numerators and unlike denominators.	Student is consistently and independently able to use models and drawings to compare fractions with unlike numerators and unlike denominators.	Student exceeds the standard by demonstrating a higher level understanding of models and drawings to compare fractions with unlike numerators and unlike denominators.

**Solves problems using addition & subtraction of fractions and mixed numbers with like denominators. (4.NF.3)**

1	2	3	4
Student rarely demonstrates an understanding of solving problems using addition and subtraction of fractions and mixed numbers with like denominators.	Student demonstrates a partial understanding of solving problems using addition and subtraction of fractions and mixed numbers with like denominators.	Student is consistently and independently able to solve problems using addition and subtraction of fractions and mixed numbers with like denominators.	Student exceeds the standard by demonstrating a higher level understanding of solving problems using addition and subtraction of fractions and mixed numbers with like denominators.

**Solves problems involving multiplication of a fraction by a whole number. (4.NF.4)**

1	2	3	4
Student rarely demonstrates an understanding of solving problems involving multiplication of a fraction by a whole number.	Student demonstrates a partial understanding of solving problems involving multiplication of a fraction by a whole number.	Student is consistently and independently able to solve problems involving multiplication of a fraction by a whole number.	Student exceeds the standard by demonstrating a higher level understanding of solving problems involving multiplication of a fraction by a whole number.

**Understands decimal notation for fractions and compares decimal fractions to the hundredths.**

1	2	3	4
Student rarely demonstrates an understanding of notation for fractions and is unable or rarely able to compare decimal fractions to the hundredths.	Student demonstrates a partial understanding of notation for fractions and is inconsistently able to compare decimal fractions to the hundredths.	Student is consistently and independently able to demonstrate an understanding of notation for fractions and is able to compare decimal fractions to the hundredths.	Student exceeds the standard by demonstrating a higher level understanding of notation for fractions and is able to compare decimal fractions above the expectation of the standard.

**Measurement and Data**

**Solves problems using the four operations involving units of measurement and conversion of measurements. (4.MD.2)**

1	2	3	4
Student rarely demonstrates an understanding of how to use the four operations involving measurement and conversion of measurements.	Student demonstrates a partial understanding of how to use the four operations involving measurement and conversion of measurements.	Student is consistently and independently able to use the four operations involving measurement and conversion of measurements.	Student exceeds the standard by demonstrating a higher level understanding of how to use the four operations involving measurement and conversion of measurements.

**Applies the area and perimeter formulas for rectangles in real world and mathematical problems. (4.MD.3)**

1	2	3	4
Student rarely demonstrates an understanding of how to apply the area and perimeter formula for rectangles in the real world and mathematical problems.	Student demonstrates a partial understanding of how to apply the area and perimeter formula for rectangles in the real world and mathematical problems.	Student consistently and independently is able to apply the area and perimeter formula for rectangles in the real world and mathematical problems.	Student exceeds the standard by demonstrating a higher level understanding of how to apply the area and perimeter formula for rectangles in the real world and mathematical problems.

**Understands the concepts of angle and measure angles. (4.MD.6 / 4.MD.7)**

1	2	3	4
Student rarely demonstrates an understanding of what properties angles are made of and how to measure different types of angles.	Student demonstrates a partial understanding of what properties angles are made of and how to measure different types of angles.	Student is consistently and independently able identify properties that angles are made of and how to measure different types of angles.	Student exceeds the standard by demonstrating a higher level understanding the properties that create different angles and how to measure different types of angles.

**Geometry**

**1. Identifies and draws points, lines, and angles. (4.G.1)**

1	2	3	4
Student rarely demonstrates an understanding of how to identify and draw points, lines, line segments, rays, angles and perpendicular and parallel lines.	Student demonstrates a partial understanding of how to identify and draw points, lines, line segments, rays, angles and perpendicular and parallel lines.	Student is consistently and independently able to identify and draw points, lines, line segments, rays, angles and perpendicular and parallel lines.	Student exceeds the standard by demonstrating a higher level understanding of how to identify and draw points, lines, line segments, rays, angles and perpendicular and parallel lines.

**2. Classifies shapes by the properties of their lines and angles. (4.G.2)**

1	2	3	4
Student rarely demonstrates an understanding of classifying shapes by the properties of their lines and angles.	Student demonstrates a partial understanding of classifying shapes by the properties of their lines and angles.	Student is consistently and independently able to classify shapes by the properties of their lines and angles.	Student exceeds the standard by demonstrating a higher level understanding of classifying shapes by the properties of their lines and angles.

**Math Practices**

**Constructs viable arguments and critiques reasoning of others. (Mathematical Practice Standard 3)**

1	2	3	4
Student is rarely able to construct viable arguments and critique reasoning.	Student demonstrates a partial ability to construct viable arguments and critique reasoning.	Student is consistently and independently able to construct viable arguments and critique reasoning.	Student exceeds the standard by demonstrating a higher level ability to construct viable arguments and

			critique reasoning.
--	--	--	---------------------

**Models with mathematics. (Mathematical Practice Standard 4)**

1	2	3	4
Student is rarely able to model with mathematics.	Student demonstrates a partial ability to model with mathematics.	Student is consistently and independently able to model with mathematics.	Student exceeds the standard by demonstrating a higher level ability to model with mathematics.

**Attends to precision. (Mathematical Practice Standard 6)**

1	2	3	4
Student is rarely able to focus on clarity and accuracy of process and outcome in problem solving.	Student demonstrates a partial ability to focus on clarity and accuracy of process and outcome in problem solving.	Student is consistently and independently able to focus on clarity and accuracy of process and outcome in problem solving.	Student exceeds the standard by demonstrating a higher level ability to focus on clarity and accuracy of process and outcome in problem solving.