Hasbrouck Heights School District

3rd Grade-Benchmarks

MATHEMATICS

1) Recalls math facts with speed and accuracy.

Trimester	1	2	3	4
1st	Student is unable or rarely able to add and subtract 1-digit numbers up to or from 20.	Student can sometimes add and subtract 1-digit numbers up to or from 20.	Student can consistently multiply numbers between 0 and 12.	Student demonstrates mastery in multiplying numbers between 0 and 12.
2nd	• Student can sometimes multiply numbers between 0 and 12. • Student has difficulty recognizing the relationship between multiplication and division.	• Student can sometimes multiply numbers between 0 and 12. • Student is beginning to understand the relationship between multiplication and division.	• Student can consistently multiply numbers between 0 and 12. • Student can divide numbers between 0 and 6.	• Student demonstrates mastery in multiplying numbers between 0 and 12. • Student can divide numbers between 0 and 12.
3rd	• Student can sometimes multiply numbers between 0 and 12. • Student is beginning to understand the relationship between multiplication and division.	• Student can consistently multiply numbers between 0 and 12. • Student can divide numbers between 0 and 6.	• Student demonstrates mastery in multiplying numbers between 0 and 12. • Student can divide numbers between 0 and 12.	Student can consistently multiply and divide 2 digits by 1 digit.

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2) Clearly expresses mathematical thinking in written and oral form.

Trimester	1	2	3	4
ALL	Student is unable or rarely able to incorporate problem solving strategies learned to explain mathematical thinking.	Student sometimes incorporates problem solving strategies learned to explain mathematical thinking.	Student incorporates problem solving strategies learned to explain mathematical thinking.	• Student communicates all mathematical thinking precisely and with accurate vocabulary. • Student communicates logical arguments clearly in oral, written, and/or graphic form to show why a result makes sense.

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Operations and Algebraic Thinking

1) Represent and solve problems involving multiplication and division.

Trimester	1	2	3	4
1st	• Student is unable or rarely able to interpret products of whole numbers. • Student is unable or rarely able to use multiplication within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student is unable or rarely able to determine the unknown whole number in a multiplication equation relating three whole numbers.	• Student is beginning to interpret products of whole numbers. • Student sometimes uses multiplication within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student is beginning to determine the unknown whole number in a multiplication equation relating three whole numbers.	• Student interprets products of whole numbers. • Student uses multiplication within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student determines the unknown whole number in a multiplication equation relating three whole numbers.	• Student consistently interprets products of whole numbers. • Student consistently uses multiplication within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student consistently to determine the unknown whole number in a multiplication equation relating three whole numbers.

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2nd	• Student is unable or rarely able to interpret products of whole numbers. • Student is unable or rarely able to interpret whole-number quotients of whole numbers. • Student is unable or rarely able to use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student is unable or rarely able to determine the unknown whole number in a multiplication or division equation relating three whole numbers.	• Student sometimes interprets products of whole numbers. • Student sometimes interprets whole-number quotients of whole numbers. • Student sometimes uses multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student sometimes determines the unknown whole number in a multiplication or division equation relating three whole numbers.	• Student interprets products of whole numbers. • Student interprets whole-number quotients of whole numbers. • Student uses multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student determines the unknown whole number in a multiplication or division equation relating three whole numbers.	• Student consistently interprets products of whole numbers. • Student consistently interprets whole-number quotients of whole numbers. • Student consistently uses multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student consistently determines the unknown whole number in a multiplication or division equation relating three whole numbers.

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3rd	• Student sometimes interprets products of whole numbers. • Student sometimes interprets whole-number quotients of whole numbers. • Student sometimes uses multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student sometimes determines the unknown whole number in a multiplication or division equation relating three whole numbers.	• Student interprets products of whole numbers. • Student interprets whole-number quotients of whole numbers. • Student uses multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student determines the unknown whole number in a multiplication or division equation relating three whole numbers.	• Student consistently interprets products of whole numbers. • Student consistently interprets whole-number quotients of whole numbers. • Student consistently uses multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. • Student consistently determines the unknown whole number in a multiplication or division equation relating three whole numbers.	• Student uses multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities in multi-step problems. • Student uses multiple methods of problem solving strategies to determine and unknown whole number.

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2) Understand properties of multiplication and the relationship between multiplication and division.

Trimester	1	2	3	4
2nd	• Student is unable or rarely able to apply the properties of operations as strategies to multiply. • Student is unable or rarely able to understand division as an unknown-factor problem.	• Student sometimes applies properties of operations as strategies to multiply. • Student sometimes understands division as an unknown-factor problem.	• Student applies properties of operations as strategies to multiply. • Student understands division as an unknown-factor problem.	• Student consistently applies properties of operations as strategies to multiply. • Student consistently understands division as an unknown-factor problem.
3rd	• Student is unable or rarely able to apply the properties of operations as strategies to multiply and divide. • Student is unable or rarely able to understand division as an unknown-factor problem.	• Student sometimes applies properties of operations as strategies to multiply and divide. • Student sometimes understands division as an unknown-factor problem.	• Student applies properties of operations as strategies to multiply and divide. • Student understands division as an unknown-factor problem.	• Student consistently applies properties of operations as strategies to multiply and divide. • Student consistently understands division as an unknown-factor problem.

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3) Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Trimester	1	2	3	4
ALL	• Student is unable or rarely able to solve two-step word problems using equations with a letter standing for the unknown quantity. • Student is unable or rarely able to assess the reasonableness of his/her answers using mental computation and estimation strategies including rounding. • Student is unable or rarely able to identify arithmetic patterns and explains them using properties of operations.	• Student is beginning to be able to solve two-step word problems using equations with a letter standing for the unknown quantity. • Student is beginning to be able to assess the reasonableness of his/her answers using mental computation and estimation strategies including rounding. • Student is beginning to identify arithmetic patterns and explains them using properties of operations.	• Student can solve two-step word problems using equations with a letter standing for the unknown quantity. • Student assesses the reasonableness of his/her answers using mental computation and estimation strategies including rounding. • Student identifies arithmetic patterns and explains them using properties of operations.	• Student is consistently able to solve two-step word problems using equations with a letter standing for the unknown quantity. • Student is consistently able to assess the reasonableness of his/her answers using mental computation and estimation strategies including rounding. • Student is consistently able to identify arithmetic patterns and explains them using properties of operations.

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3rd Grade Benchmarks

Numbers and Operations in Base Ten

1) Use place value understanding and properties of operations to perform multi-digit arithmetic.

Trimester	1	2	3	4
ALL	• Student is unable or rarely able to use place value understanding to round whole numbers to the nearest 10 or 100. • Student has difficulty adding and subtracting within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. • Student is unable or rarely able to multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.	• Student is beginning to use place value understanding to round whole numbers to the nearest 10 or 100. • Student adds and subtracts within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. • Student is beginning to multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.	• Student uses place value understanding to round whole numbers to the nearest 10 or 100. • Student fluently adds and subtracts within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. • Student multiplies one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.	• Student consistently uses place value understanding to round whole numbers to the nearest 10 or 100. • Student fluently adds and subtracts within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. • Student consistently multiplies one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.

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3rd Grade-Benchmarks

Numbers and Operations-Fractions

1) Develop understanding of fractions as numbers.

Trimester	1	2	3	4
3rd	• Student is unable or rarely able to understand a fraction as the 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts. • Student is unable or rarely able to understand a fraction as a number on the number line and represents fractions on a number line diagram. • Student is unable or rarely able to explain equivalent fractions in special cases, and compare fractions by reasoning about their size.	• Student is beginning to understand a fraction as the 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts. • Student is beginning to understand a fraction as a number on the number line and represents fractions on a number line diagram. • Student is beginning to explain equivalent fractions in special cases, and compare fractions by reasoning about their size.	• Student understands a fraction as the 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts. • Student understands a fraction as a number on the number line and represents fractions on a number line diagram. • Student explains equivalent fractions in special cases, and compares fractions by reasoning about their size.	• Student consistently understands a fraction as the 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts. • Student consistently understands a fraction as a number on the number line and represents fractions on a number line diagram. • Student consistently explain equivalent fractions in special cases, and compare fractions by reasoning about their size.

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3rd Grade Benchmarks

Measurement and Data

1) Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

Trimester	1	2	3	4
3rd	• Student is unable or rarely able to tell and write time to the nearest minute and measure time intervals in minutes. • Student is unable or rarely able to solve word problems involving addition and subtraction of time intervals in minutes. • Student is unable or rarely able to measure and estimate liquid volumes and masses of objects using standard units of grams.	• Student is beginning to tell and write time to the nearest minute and measure time intervals in minutes. • Student is beginning to solve word problems involving addition and subtraction of time intervals in minutes. • Student is beginning to measure and estimate liquid volumes and masses of objects using standard units of grams.	• Student tells and writes time to the nearest minute and measures time intervals in minutes. • Student solves word problems involving addition and subtraction of time intervals in minutes. • Student measures and estimates liquid volumes and masses of objects using standard units of grams.	• Student consistently tell and write time to the nearest minute and measure time intervals in minutes. • Student consistently solves word problems involving addition and subtraction of time intervals in minutes. • Student consistently measures and estimates liquid volumes and masses of objects using standard units of grams.

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2) Represent and interpret data.

Trimester	1	2	3	4
ALL	• Student is unable or rarely able to draw a scaled picture graph and a scaled bar graph to represent a data • Student is unable or rarely able to solve one and two step problems using information presented in scaled bar graphs. • Student is unable or rarely able to generate measurement data by measuring lengths using rules marked with halves and fourths of an inch. • Students in unable or rarely able to show data by making a line plot, where the horizontal scale is marked off in appropriate units-whole numbers, halves, or quarters.	• Student is sometimes able to draw a scaled picture graph and a scaled bar graph to represent a data • Student sometimes solves one and two step problems using information presented in scaled bar graphs. • Student sometimes generates measurement data by measuring lengths using rules marked with halves and fourths of an inch. • Students can sometimes show data by making a line plot, where the horizontal scale is marked off in appropriate units-whole numbers, halves, or quarters.	• Student draws a scaled picture graph and a scaled bar graph to represent a data set with several categories. • Student solves one and two step problems using information presented in scaled bar graphs. • Student generates measurement data by measuring lengths using rules marked with halves and fourths of an inch. • Students show data by making a line plot, where the horizontal scale is marked off in appropriate units-whole numbers, halves, or quarters.	• Student consistently draws a scaled picture graph and a scaled bar graph to represent a data set with several categories. • Student consistently solves one and two step problems using information presented in scaled bar graphs. • Student consistently generates measurement data by measuring lengths using rules marked with halves and fourths of an inch. • Students consistently shows data by making a line plot, where the horizontal scale is marked off in appropriate units-whole numbers, halves, or quarters.

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3) Geometric Measurement: understand concepts of area and relate area to multiplication and to addition.

Trimester	1	2	3	4
3rd	• Student is unable or rarely able to recognize area as an attribute of plane figures and understand concepts of area measurement. • Student is unable or rarely able measures area by counting unit squares. • Student is unable or rarely able to relate area to the operations of multiplication and addition.	• Student sometimes recognizes area as an attribute of plane figures and understands concepts of area measurement. • Student can sometimes measure area by counting unit squares. • Student sometimes relates area to the operations of multiplication and addition.	• Student recognizes area as an attribute of plane figures and understands concepts of area measurement. • Student measures area by counting unit squares. • Student relates area to the operations of multiplication and addition.	• Student consistenly recognizes area as an attribute of plane figures and understands concepts of area measurement. • Student consistently measures area by counting unit squares. • Student consistently relates area to the operations of multiplication and addition.

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4) Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Trimester	1	2	3	4
3rd	Student is unable or rarely able to solve real world and mathematical problems involving perimeters of polygons, including 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.	Student sometimes solves real world and mathematical problems involving perimeters of polygons, including 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.	Student solves real world and mathematical problems involving perimeters of polygons, including 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.	Student consistently solves real world and mathematical problems involving perimeters of polygons, including 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.

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3rd Grade Benchmarks

Geometry

1) Reason with shapes and their attributes.

Trimester	1	2	3	4
3rd	• Student is unable or rarely able to understand that shapes in different categories may share attributes, and that the shared attributes can define a larger category. • Student is unable or rarely able to recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draws examples of quadrilaterals that do not belong to any of these subcategories. • Student is unable or rarely able to partition shapes into parts with equal areas. • Students is unable or rarely able to expresse the area of each part as a unit fraction of the whole.	• Student sometimes understands that shapes in different categories may share attributes, and that the shared attributes can define a larger category. • Student can sometimes recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. • Student can sometimes partition shapes into parts with equal areas. • Students can sometimes express the area of each part as a unit fraction of the whole.	• Student understands that shapes in different categories may share attributes, and that the shared attributes can define a larger category. • Student recognizes rhombuses, rectangles, and squares as examples of quadrilaterals, and draws examples of quadrilaterals that do not belong to any of these subcategories. • Student partitions shapes into parts with equal areas. • Students expresses the area of each part as a unit fraction of the whole.	• Student consistently understands that shapes in different categories may share attributes, and that the shared attributes can define a larger category. • Student consistently recognizes rhombuses, rectangles, and squares as examples of quadrilaterals, and draws examples of quadrilaterals that do not belong to any of these subcategories. • Student consistently partitions shapes into parts with equal areas. • Students consistently expresses the area of each part as a unit fraction of the whole.