

# HAZLETON AREA SCHOOL DISTRICT



**GRADE 1**

**Math Curriculum**

Hazleton Area School District

Math Curriculum

Grade 1

<b>Topic:</b>	Operations and Algebraic Thinking Addition and Subtraction
<b>Weeks:</b>	4 ½ weeks (Quarter 1) 4 ½ weeks (Quarter 1)
<b>PA Standards:</b>	<b>CC.2.2.1.A.1</b> Represent and solve problems involving addition and subtraction within 10. <b>CC.2.2.1.A.2</b> Understand and apply properties of operations and the relationship between addition and subtraction.
<b>Math Practice Standards:</b>	<ul style="list-style-type: none"><li>• Make sense of problems and persevere in solving them.</li><li>• Reason abstractly and quantitatively.</li><li>• Construct viable arguments and critique the reasoning of others.</li><li>• Model with mathematics.</li><li>• Use appropriate tools strategically.</li><li>• Attend to precision.</li><li>• Look for and make use of structure.</li><li>• Look for and make sense of regularity in repeated reasoning.</li></ul>

Weeks	Topic	PA Standard	<b>Concepts and Competencies</b> <b>The learner will:</b>	<b>Tier 2 &amp; 3 Vocabulary</b>
4 ½ weeks	Operations and Algebraic Thinking	CC.2.2.1.A.1 Represent and solve problems involving addition and subtraction within 20.	<ul style="list-style-type: none"> <li>• Use addition and subtraction within 10 to solve word problems by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</li> <li>• Add and subtract within 10. (e.g., use strategies such as counting on, making 10, decomposing a number leading to a 10, using the relationship between addition and subtraction and creating equivalent but easier or known sums)</li> <li>• Solve word problems that call for addition of two whole numbers whose sum is less than or equal to 10.</li> <li>• Construct viable arguments and critique the reasoning of others.</li> </ul>	<ul style="list-style-type: none"> <li>• Add</li> <li>• Addend</li> <li>• Addition</li> <li>• Compose</li> <li>• Count back</li> <li>• Count on</li> <li>• Decompose</li> <li>• Difference</li> <li>• Equal to =</li> <li>• Equation</li> <li>• Less than</li> <li>• Manipulatives</li> <li>• Math sentence</li> <li>• Minus –</li> <li>• Number sense</li> <li>• One-digit number</li> <li>• Plus +</li> <li>• Quantity</li> <li>• Solve</li> <li>• Subtract</li> <li>• Subtraction</li> <li>• Sum</li> <li>• Two-digit numbers</li> <li>• Unknown number</li> <li>• Whole number</li> </ul>

Weeks	Topic	PA Standard	Concepts and Competencies <b>The learner will:</b>	Tier 2 & 3 Vocabulary
4 ½ weeks	Operations and Algebraic Thinking	CC.2.2.1.A.2 Understand and apply properties of operations and the relationship between addition and subtraction.	<ul style="list-style-type: none"> <li>• Apply properties of operations as strategies to add and subtract. (e.g., commutative property of addition, associative property of addition)</li> <li>• Understand subtraction as an unknown addend problem. (e.g., subtract 10 – 8 by finding the number that makes 10 when added to 8)</li> </ul>	<ul style="list-style-type: none"> <li>• Add</li> <li>• Addend</li> <li>• Addition</li> <li>• Associative property</li> <li>• Commutative property</li> <li>• Compose</li> <li>• Decompose</li> <li>• Difference</li> <li>• Equal to =</li> <li>• Equation</li> <li>• Identity property</li> <li>• Less than</li> <li>• Manipulatives</li> <li>• Math sentence</li> <li>• Minus –</li> <li>• Number sense</li> <li>• One-digit number</li> <li>• Operation</li> <li>• Plus +</li> <li>• Quantity</li> <li>• Solve</li> <li>• Subtract</li> <li>• Subtraction</li> <li>• Sum</li> <li>• Two-digit numbers</li> <li>• Unknown number</li> <li>• Whole number</li> </ul>

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Grade 1

<b>Topic:</b>	Numbers & Operations in Base Ten Operations and Algebraic Thinking
<b>Weeks:</b>	5 weeks (Quarter 2) 1 week (Quarter 2) 3 weeks (Quarter 2)
<b>PA Standards:</b>	<b>CC.2.2.1.A.1</b> Represent and solve problems involving addition and subtraction within 20. <b>CC.2.1.1.B.1</b> Extend the counting sequence to read and write numerals to represent objects. <b>CC.2.1.1.B.2</b> Use place value concepts to represent amounts of tens and ones and to compare two-digit numbers.
<b>Math Practice Standards:</b>	<ul style="list-style-type: none"><li>• Make sense of problems and persevere in solving them.</li><li>• Reason abstractly and quantitatively.</li><li>• Construct viable arguments and critique the reasoning of others.</li><li>• Model with mathematics.</li><li>• Use appropriate tools strategically.</li><li>• Attend to precision.</li><li>• Look for and make use of structure.</li><li>• Look for and make sense of regularity in repeated reasoning.</li></ul>

Weeks	Topic	PA Standard	Concepts and Competencies <b>The learner will:</b>	Tier 2 & 3 Vocabulary
5 weeks	Operations and Algebraic Thinking	CC.2.2.1.A.1 Represent and solve problems involving addition and subtraction within 20.	<ul style="list-style-type: none"> <li>• Use addition and subtraction within 20 to solve word problems by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</li> <li>• Add and subtract within 20. (e.g., use strategies such as counting on, making 10, decomposing a number leading to 10, using the relationship between addition and subtraction and creating equivalent but easier or known sums).</li> <li>• Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.</li> <li>• Construct viable arguments and critique the reasoning of others.</li> </ul>	<ul style="list-style-type: none"> <li>• Add</li> <li>• Addend</li> <li>• Addition</li> <li>• Compose</li> <li>• Count back</li> <li>• Count on</li> <li>• Decompose</li> <li>• Difference</li> <li>• Equal to =</li> <li>• Equation</li> <li>• Less than</li> <li>• Manipulatives</li> <li>• Math sentence</li> <li>• Minus –</li> <li>• Number sense</li> <li>• One-digit number</li> <li>• Plus +</li> <li>• Quantity</li> <li>• Solve</li> <li>• Subtract</li> <li>• Subtraction</li> <li>• Sum</li> <li>• Two-digit numbers</li> <li>• Unknown number</li> <li>• Whole number</li> </ul>

Weeks	Topic	PA Standard	Concepts and Competencies <b>The learner will:</b>	Tier 2 & 3 Vocabulary
1 Week	Numbers & Operations in Base Ten	CC.2.1.1.B.1 Extend the counting sequence to read and write numerals to represent objects.	<ul style="list-style-type: none"> <li>• Count to 120, starting at any number less than 120.               <ul style="list-style-type: none"> <li>✓ Count to 120 by 1s, 2s, 5s, and 10s.</li> <li>✓ Identify numbers to 120 as odd or even.</li> </ul> </li> <li>• Read and write numerals up to 120 and represent a number of objects with a written numeral by 1s.</li> </ul>	<ul style="list-style-type: none"> <li>• Base ten</li> <li>• Count</li> <li>• Count backward</li> <li>• Count forward</li> <li>• Even</li> <li>• Manipulatives</li> <li>• Number</li> <li>• Number sense</li> <li>• Numeral</li> <li>• Odd</li> </ul>
3 Weeks	Numbers & Operations in Base Ten	CC.2.1.1.B.2 Use place value concepts to represent amounts of tens and ones and to compare two-digit numbers.	<ul style="list-style-type: none"> <li>• Understand that the two digits of a two digit number represent amounts of tens and ones.</li> <li>• Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, and <math>&lt;</math>.</li> </ul>	<ul style="list-style-type: none"> <li>• Compare</li> <li>• Equal to <math>=</math></li> <li>• Greater than <math>&gt;</math></li> <li>• Less than <math>&lt;</math></li> <li>• Number sense</li> <li>• Ones</li> <li>• Place value</li> <li>• Symbols (<math>&gt;</math>, <math>=</math>, and <math>&lt;</math>)</li> <li>• Tens</li> <li>• Two-digit numbers</li> </ul>

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Grade 1

<b>Topic:</b>	Numbers and Operations Measurement and Data
<b>Weeks:</b>	5 weeks (Quarter 3) 4 weeks (Quarter 3)
<b>PA Standards:</b>	<b>CC.2.1.1.B.3</b> Use place-value concepts and properties of operations to add and subtract within 100. <b>CC.2.4.1.A.4</b> Represent and interpret data using tables/charts.
<b>Math Practice Standards:</b>	<ul style="list-style-type: none"><li>• Make sense of problems and persevere in solving them.</li><li>• Reason abstractly and quantitatively.</li><li>• Construct viable arguments and critique the reasoning of others.</li><li>• Model with mathematics.</li><li>• Use appropriate tools strategically.</li><li>• Attend to precision.</li><li>• Look for and make use of structure.</li><li>• Look for and make sense of regularity in repeated reasoning.</li></ul>



Weeks	Topic	PA Standard	<b>Concepts and Competencies</b> <b>The learner will:</b>	<b>Tier 2 &amp; 3</b> <b>Vocabulary</b>
5 weeks	Numbers & Operations in Base Ten	CC.2.1.1.B.3 Use place-value concepts and properties of operations to add and subtract within 100.	<ul style="list-style-type: none"> <li>• Add within 100, including adding a two digit number and a one-digit number, and adding a two digit number and a multiple of 10 using concrete models or drawings.</li> <li>• Relate the strategy to a written method and explain the reasoning used.</li> <li>• Subtract multiples of 10 in the range 10–90, using concrete models or drawings. Relate the strategy to a written method and explain the reasoning used.</li> </ul>	<ul style="list-style-type: none"> <li>• Add</li> <li>• Addend</li> <li>• Addition</li> <li>• Compose</li> <li>• Concrete objects</li> <li>• Decompose</li> <li>• Difference</li> <li>• Equal to</li> <li>• Equation</li> <li>• Manipulatives</li> <li>• Number sense</li> <li>• One-digit number</li> <li>• Subtract</li> <li>• Subtraction</li> <li>• Sum</li> <li>• Two-digit numbers</li> </ul>

Weeks	Topic	PA Standard	Concepts and Competencies <b>The learner will:</b>	Tier 2 & 3 Vocabulary
4 weeks	Measurement and Data – (Data)	CC.2.4.1.A.4 Represent and interpret data using tables/charts.	<ul style="list-style-type: none"> <li>• Organize, represent, and interpret data with up to three categories.</li> <li>• Ask and answer questions about the data.</li> </ul>	<ul style="list-style-type: none"> <li>• Analyze</li> <li>• Bar graph</li> <li>• Categorize</li> <li>• Chart</li> <li>• Data</li> <li>• Graph</li> <li>• Information</li> <li>• Interpret</li> <li>• Number sense</li> <li>• Organize</li> <li>• Pictograph</li> <li>• Represent</li> <li>• Table</li> </ul>

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Math Curriculum

Grade 1

<b>Topic:</b>	Measurement and Data Geometry
<b>Weeks:</b>	3 weeks (Quarter 4) 2 weeks (Quarter 4) 2 weeks (Quarter 4) 2 weeks (Quarter 4)
<b>PA Standards:</b>	<b>CC.2.4.1.A.1</b> Order lengths and measure them both indirectly and by repeating length units. <b>CC.2.4.1.A.2</b> Tell and write time to the nearest half hour using both analog and digital clocks. <b>CC.2.3.1.A.2</b> Compose and distinguish between two and three-dimensional shapes based on their attributes. <b>CC.2.3.1.A.2</b> Use the understanding of fractions to partition shapes into halves and quarters.
<b>Math Practice Standards:</b>	<ul style="list-style-type: none"><li>• Make sense of problems and persevere in solving them.</li><li>• Reason abstractly and quantitatively.</li><li>• Construct viable arguments and critique the reasoning of others.</li><li>• Model with mathematics.</li><li>• Use appropriate tools strategically.</li><li>• Attend to precision.</li><li>• Look for and make use of structure.</li><li>• Look for and make sense of regularity in repeated reasoning.</li></ul>

Weeks	Topic	PA Standard	Concepts and Competencies <b>The learner will:</b>	Tier 2 & 3 Vocabulary
3 weeks	Measurement and Data – (Measurement)	CC.2.4.1.A.1 Order lengths and measure them both indirectly and by repeating length units.	<ul style="list-style-type: none"> <li>• Order three objects by length; compare the lengths of two objects indirectly by using a third object.</li> <li>• Use standard and non-standard units of measure to express the length of an object as a whole number of length units.</li> <li>• Understand that the length measurement of an object is the number of same-size length units.</li> <li>• Determine the appropriate measurement tool, explore and apply understanding of estimation.</li> </ul>	<ul style="list-style-type: none"> <li>• Compare</li> <li>• Estimate</li> <li>• Estimation</li> <li>• Length</li> <li>• Longer/longest</li> <li>• Measure</li> <li>• Measurement tool</li> <li>• Non-standard units</li> <li>• Number sense</li> <li>• Shorter/shortest</li> <li>• Smaller/smallest</li> <li>• Standard units</li> <li>• Taller/tallest</li> <li>• Width</li> </ul>
2 weeks	Measurement and Data	CC.2.4.1.A.2 Tell and write time to the nearest half hour using both analog and digital clocks.	<ul style="list-style-type: none"> <li>• Tell and write time in hours and half hours using analog and digital clocks.</li> </ul>	<ul style="list-style-type: none"> <li>• Analog clock</li> <li>• Clockwise</li> <li>• Colon</li> <li>• Digital clock</li> <li>• Half-hour</li> <li>• Hands (hour/minute)</li> <li>• Hours</li> <li>• Minutes</li> <li>• Number sense</li> <li>• Numbers</li> <li>• Numerals</li> <li>• O'clock</li> <li>• Skip count</li> </ul>

Weeks	Topic	PA Standard	Concepts and Competencies <b>The learner will:</b>	Tier 2 & 3 Vocabulary
2 weeks	Geometry	CC.2.3.1.A.1 Compose and distinguish between two and three dimensional shapes based on their attributes.	<ul style="list-style-type: none"> <li>• Compose two and three-dimensional shapes and distinguish between attributes.</li> <li>• Build, create, and draw shapes that possess given attributes.</li> <li>• Develop mathematical communication skills.</li> <li>• Construct arguments using concrete referents. (e.g., objects, pictures, drawings, actions)</li> </ul>	<ul style="list-style-type: none"> <li>• Attribute</li> <li>• Circle</li> <li>• Circular</li> <li>• Compose</li> <li>• Composite shape</li> <li>• Cone</li> <li>• Cube</li> <li>• Cylinder</li> <li>• Defining attribute</li> <li>• Face</li> <li>• Hexagon</li> <li>• Manipulatives</li> <li>• Number sense</li> <li>• Plane shapes</li> <li>• Prism</li> <li>• Rectangle</li> <li>• Rectangular prism</li> <li>• Solid figures</li> <li>• Sphere</li> <li>• Square</li> <li>• Three-dimensional</li> <li>• Trapezoid</li> <li>• Triangle</li> <li>• Two-dimensional</li> <li>• Vertex</li> <li>• Vertices</li> </ul>

Weeks	Topic	PA Standard	Concepts and Competencies <b>The learner will:</b>	Tier 2 & 3 Vocabulary
2 weeks	Geometry	CC.2.3.1.A.2 Use the understanding of fractions to partition shapes into halves and quarters.	<ul style="list-style-type: none"> <li>• Partition circles, squares, and rectangles into two and four equal shares.</li> <li>• Draw the conclusion that decomposing into more equal shares creates smaller shares.</li> </ul>	<ul style="list-style-type: none"> <li>• Circle</li> <li>• Circular</li> <li>• Compose</li> <li>• Decompose</li> <li>• Denominator</li> <li>• Equal parts</li> <li>• Face</li> <li>• Fraction</li> <li>• Fractional parts</li> <li>• Half/halves</li> <li>• Manipulatives</li> <li>• Number sense</li> <li>• Numerator</li> <li>• Plane shapes</li> <li>• Quarter/quarters</li> <li>• Rectangle</li> <li>• Rectangular prism</li> <li>• Square</li> <li>• Triangle</li> <li>• Two-dimensional</li> </ul>