

Mathematics Grade 1

Curriculum Writers: Cheryl August and Lisa O'Connor

STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
<p>CONTENT STRANDS</p> <ul style="list-style-type: none"> • Number and Operations • Geometry and Measurement • Functions and Algebra • Data, Statistics, and Probability <p>PROCESS STRANDS</p> <ul style="list-style-type: none"> • Problem-solving, Reasoning, and Proof • Communication, Connections, and 		<p>NECAP GRADE LEVEL EXPECTATIONS</p> <p>All of the concepts and skills identified at a given grade level are "fair game" for large scale assessment purposes if indicated by (state assessment, grade...).</p> <p>Each GLE includes three parts:</p> <ul style="list-style-type: none"> • A statement in bold, called the "stem" is at the beginning of each GLE. Each "stem" is the same or similar across the grades for a given GLE, and is meant to communicate the main curriculum and instructional focus of the GLE across the grades. • The unbolded text within a GLE indicates how the GLE is specified at a given grade level. There are often several indicators for each GLE stem. Each indicator is coded and indicated fair game for "state" or "local" assessment • Differences between adjacent grades are underlined. Sometimes nothing is underlined within a GLE. In these situations, differences in adjacent grades "assumes increasing text complexity" and is noted for those GLEs. • Each GLE is coded for the content area, the grade level, the GLE "stem" number, and specific indicator for that GLE stem, (e.g. N&O - 5-6.2) means N & O (numbers 	<p>DISTRICT INITIATIVES & RESEARCH</p> <p>The teacher Employs strategies of "best practice" (student-centered, experiential, holistic, authentic, expressive, reflective, social, collaborative, democratic, cognitive, developmental, constructivist/heuristic, and challenging)</p> <p>Facilitates the integration of Applied Learning Standards (SCANS)</p> <ul style="list-style-type: none"> • critical thinking • problem solving • research • communication • reflection and evaluation <p>Applies Principles of Learning (POL) ©</p> <ul style="list-style-type: none"> • organizing for effort • clear expectations • fair and credible evaluations • recognition of accomplishment • academic rigor • accountable talk • socializing intelligence • self-management of learning • learning as apprenticeship <p>Applies Principles of Disciplinary Literacy</p> <p>Differentiates instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. <p>Analyzes pre-assessment to direct instruction</p> <p>Provides exemplars and rubrics</p> <p>Addresses multiple intelligences and brain</p>	<p>Textbook <i>Everyday Mathematics Grade 1</i></p> <p>Supplementary books</p> <ul style="list-style-type: none"> • <i>McGraw-Hill Mathematics</i> • <i>Teacher Created Materials</i> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • <i>Mathematics Books by Marilyn Burns</i> • <i>Exemplars</i> • <i>Problem Solvers</i> • <i>Box It or Bag It Math</i> • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment, Options Pub., Inc</i> <p>Technology</p> <ul style="list-style-type: none"> • Calculators • Computer lab • www.ridoe.net • www.ridoe.net/instruction/curriculum • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> • Unifix cubes • 3D-solids • Rulers (metric), protractors • Number lines • Multiplication charts • Fraction bars • EDM cards 	<p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED</p> <p>Anecdotal records (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Exhibits</p> <p>Journals/notebooks</p> <p>Graphic organizers and/or visual imagery</p> <p>Multiple Intelligences assessments e.g.</p> <ul style="list-style-type: none"> • role playing, short plays (bodily kinesthetic) • graphic organizing, sketch journals/ cartooning (visual) • collaboration/ conferencing interpersonal • songs, lyrics (musical) <p>Oral presentations</p> <p>Portfolio (samples of process and products)</p> <p>Performance/problem-based tasks</p> <p>Rubrics</p> <p>Tests and quizzes</p>

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<p>Representations</p>		<p>and operations), 5 (grade 5), 6 (6th GLE stem), 2 (the second specific indicator for the 6th GLE stem).</p> <p>If an outcome does not have a GLE number, it indicates this is an additional expectation for Barrington Public Schools.</p> <p>Outcomes and Benchmarks are indicated for all MATHEMATICS GLEs/standards and are secured for this grade level unless indicated with a B for beginning or a D for developing.</p> <p>The instructional strategies, resources, and assessments to the right are a reference list of possible ways to teach and measure the outcomes/benchmarks. One, some, or all of these may be used for specific outcomes/benchmarks. The lists reflect research-based instructional strategies and assessments, and all of the district initiatives. Required district-wide assessments that includes common local assessments (REQUIRED PROBLEMS, MID-YEAR/final exams, quarterly tests), are indicated and it is the expectation they will be used for all outcomes/benchmarks</p> <p>When an instructional strategy, resource, or assessment is specific to an outcome/benchmark, it may be listed next to the benchmark.</p>	<p>dominance (spatial, bodily kinesthetic, musical, linguistic, intrapersonal, interpersonal, mathematical/logical, and naturalist)</p> <p>Organizes exhibition of student work with rubrics</p> <p>Collaborates with specialist to differentiate instruction for ALL students</p> <p>MATHEMATICS STRATEGIES</p> <p>Employs Mathematics best practice strategies e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction • modeling functions of a calculator <p>Adapts reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<ul style="list-style-type: none"> • EDM games • Graphing paper <p><u>School library resources</u></p> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works, Marzano</i> 	

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<p>1. NUMBER and OPERATIONS</p> <p>1.1 Rational numbers</p>		<p>The student</p> <p>1.1.1 Demonstrates conceptual understanding of rational numbers using models, explanations, or other representations with respect to:</p> <ul style="list-style-type: none"> • whole numbers from 0 to 100 (from 0 to 199) (D) <ul style="list-style-type: none"> ○ equivalency e.g. $10=5+5$ ○ composition e.g. $2+2+4=8$ ○ decomposition e.g. $8=2+2+4$ ○ place value e.g. forty seven ○ expanded notation e.g. $20+5=25$, $25=20+5$ • positive fractional numbers benchmark fractions: <ul style="list-style-type: none"> ○ halves, thirds, fourths (sixths, eighths) (B) ○ <u>as a part to whole relationship in area and sets where the number of parts in the whole is equal to the denominator</u> $M(N\&O)-1-1$ <p>1.1.2 Understands, uses, applies appropriate technology to solve problems</p> <p>1.1.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> • Fractions #1 • Base Ten Blocks #2 • Legs! #3 • Turtle Zoo #4 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction • modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u> <i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> • Units 1,2,3,4,5,6,8,9 <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> • McGraw-Hill Mathematics • Teacher Created Materials • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • Mathematics Books by Marilyn Burns • Exemplars • Problem Solvers • Box It or Bag It Math • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment, Options</i> Pub., Inc • <i>Mailbox Magazine</i> <p><u>Technology</u></p> <ul style="list-style-type: none"> • Calculators • Computer lab • www.ridoe.net • www.ridoe.net/instruction/curriculum • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder • AAAMath.com 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p>

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			Reading strategies to teach mathematics (Hyde) <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<u>Materials</u> <ul style="list-style-type: none"> • Unifix cubes • 3D-solids • Rulers (metric), • Number lines/grids • Fraction bars • EDM cards • EDM games • Fact triangles • Dice <u>School library resources</u> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	
1. NUMBER and OPERATIONS 1.2 Relative magnitude of numbers		<p>The student</p> <p>1.2.1 Demonstrates understanding of the relative magnitude of numbers from 0 to 100 (0-199 D) by using models, number lines, and explanations and</p> <ul style="list-style-type: none"> • ordering whole numbers • comparing whole numbers to each other or to benchmark whole numbers (5, 10, 25, 50, 75, 100) (125, 150, 175 D) • demonstrating an understanding of the relation of inequality when comparing whole numbers by using <ul style="list-style-type: none"> ○ "1 more", "1 less" ○ "5 more", "5 less" ○ "10 more", "10 less" • connecting number words (from 0 to 20) and numerals (0 to 100) to the quantities they represent M(N&O)-1-2 <p>1.2.2 Understands, uses, applies appropriate technology to solve problems</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u> <i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> • Units 1,3,4,5 <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> • <i>McGraw-Hill Mathematics</i> • <i>Teacher Created Materials</i> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • <i>Mathematics Books by Marilyn Burns</i> • <i>Exemplars</i> • <i>Problem Solvers</i> • <i>Box It or Bag It Math</i> • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p>

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		<p>1.2.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Jamal's Can Collection #5 Number Line #6 	<p>to modify instruction</p> <ul style="list-style-type: none"> modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<p><i>Assessment, Options Pub., Inc</i></p> <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder AAAMath.com <p>Materials</p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), protractors Number lines/grids Fraction bars EDM cards EDM games Fact triangles <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works, Marzano</i> Literature Link in School Resource Folder 	<p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p>
<p>1. NUMBER and OPERATIONS</p> <p>1.3 Operations</p>		<p>The student</p> <p>1.3.1 Demonstrates conceptual understanding of mathematical operations involving addition and subtraction whole numbers (from 0 to 30) by solving problems:</p> <ul style="list-style-type: none"> joining actions (e.g. $23+7=$__) separating actions (e.g. $30-7=$__) part-part whole relationships (e.g. 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work 	<p>Resources, also see pages 1-2</p> <p>Textbook</p> <p><i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> Units 2,3,4,5,6,8 <p>Supplementary books</p> <ul style="list-style-type: none"> <i>McGraw--Hill</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR

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		<p>10=7+___, 3+7= ____, or 10-3=___)</p> <ul style="list-style-type: none"> comparison situations (e.g. 25___10+5) (>, <, =) addition of multiple one-digit whole numbers. M(N&O)-1-3 <p>1.3.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>1.3.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Toy Cars #7 Go Fish #8 Flower Petals #9 New Toys at Recess #10 	<ul style="list-style-type: none"> discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting 	<p><i>Mathematics Teacher Created Materials</i></p> <ul style="list-style-type: none"> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde <i>Mathematics Books</i> by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> Box It or Bag It Math <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.ri.gov/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), Number lines/grids Fraction bars EDM cards EDM games Fact triangles <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>ASSESSMENT (EDM and Problem Solver)</p> <ul style="list-style-type: none"> PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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			<ul style="list-style-type: none"> making connections determining importance synthesizing 		
<p>1. NUMBER and OPERATIONS</p> <p>1.4 Monetary</p>		<p>The student</p> <p>1.4.1 Demonstrates understanding of monetary value by</p> <ul style="list-style-type: none"> knowing the names and values for coins (penny, nickel, dime, and quarter); and by adding collections of like coins together to a sum no greater than \$1.00. M(N&O)-1-5 adding collections of unlike coins together to a sum no greater than \$1.00 (D) making change from \$1.00 or less (D) M(N&O)-2-5 <p>1.4.2 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Visiting the Monster Museum #11 What's in Their Hand? #12 I Want Ice Cream #13 Muffins #14 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <p><i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> Units 2,3,4,6,8 <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <i>McGraw-Hill Mathematics</i> <i>Teacher Created Materials</i> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde <i>Mathematics Books by Marilyn Burns</i> <i>Exemplars</i> <i>Problem Solvers</i> <i>Box It or Bag It Math</i> <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc <p><u>Technology</u></p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ride.ri.gov/instruction/curriculum 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p>

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			<ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<ul style="list-style-type: none"> • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> • Unifix cubes • 3D-solids • Rulers (metric), • Number lines/grids • Fraction bars • EDM cards • EDM games • Fact triangles • Real and play money <p>School library resources</p> <ul style="list-style-type: none"> • Classroom Instruction That Works, Marzano 	<p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>2. NUMBER and OPERATIONS</p> <p>1.5 Mental calculations</p>		<p>The student</p> <p>1.5.1 Mentally</p> <ul style="list-style-type: none"> • adds and subtracts whole number facts to a sum of 10 (e.g. $5+3=8$, $8-3=5$) • names the number that is 1 or 2 more or less than the original number M(N&O)-1-6 • names the number that is 10 more or less than the original number (D) • adds and subtracts two digit multiples of ten (e.g., $60 + 80$, $90 - 30$) (D) M(N&O)-2-6 <p>IMPORTANT: <i>The intent of this GLE is to embed mental arithmetic throughout the instructional program, not to teach it as a separate unit.</i></p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving 	<p>Resources, also see pages 1-2</p> <p>Textbook</p> <p><i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> • <i>Units 1,2,3,4,5,6,8</i> <p>Supplementary books</p> <ul style="list-style-type: none"> • <i>McGraw--Hill Mathematics</i> • <i>Teacher Created Materials</i> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6, Arthur Hyde</i> • <i>Mathematics Books by Marilyn Burns</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends</p>

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		<p>1.5.2 Understands, uses, applies appropriate technology to solve problems</p> <p>1.5.3 REQUIRED PROBLEMS</p>	<p>approach to instruction</p> <ul style="list-style-type: none"> integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<ul style="list-style-type: none"> <i>Exemplars</i> <i>Problem Solvers</i> Box It or Bag It Math <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc. <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder AAAMath.com <p>Materials</p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), Number lines/grids Fraction bars EDM cards EDM games Fact triangles <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
<p>1. NUMBER and OPERATIONS</p> <p>1.6 Estimates</p>		<p>The student</p> <p>1.6.1 Makes estimates of the number of objects in a set (up to 30) and revises estimates as objects are counted:</p> <ul style="list-style-type: none"> e.g. estimates the number of pennies in a jar as 28, then count the first 10 and make another estimate based on those that have been counted and those that remain in the jar. M(N&O)-1-7 <p>IMPORTANT: <i>Estimation should be embedded instructionally throughout all strands.</i></p> <p>1.6.2 Understands, uses, applies appropriate technology to solve problems</p> <p>1.6.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Jellybean Estimation #15 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> Everyday Mathematics, Grade 1 <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> McGraw--Hill Mathematics Teacher Created Materials Comprehending Math: Adapting Reading Strategies to Teach Math, K-6, Arthur Hyde Mathematics Books by Marilyn Burns Exemplars Problem Solvers Box It or Bag It Math Teaching Children Mathematics, NCTM Comprehensive Math Assessment, Options Pub., Inc. <p><u>Technology</u></p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder AAAMath.com <p><u>Materials</u></p> <ul style="list-style-type: none"> Unifix cubes 3D-solids 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p>

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			Reading strategies to teach mathematics (Hyde) <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<ul style="list-style-type: none"> • Rulers (metric), • Number lines/grids • Fraction bars • EDM cards • EDM games • Everyday objects <u>School library resources</u> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	Visual representation
1. NUMBER and OPERATIONS 1.7 Properties of numbers		The student 1.7.1 Applies properties of numbers and field properties to solve problems and to simplify computations involving whole numbers. <ul style="list-style-type: none"> • odd, even • composition and decomposition (e.g. 5 is the same as 2+3) • commutative for addition (e.g. 6+4=4+6) • identity for addition (e.g. 5+0=5) M(N&O)-1-8 1.7.2 Understands, uses, applies appropriate technology to solve problems. 1.7.3 REQUIRED PROBLEMS <ul style="list-style-type: none"> • Cookies in the Bag #16 • Odd or Even? #17 	Teacher may model and/or facilitate the following: (also see pages 1-2) Mathematics best practice e.g. <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction 	Resources, also see pages 1-2 <u>Textbook</u> <i>Everyday Mathematics Grade 1</i> <ul style="list-style-type: none"> • Units 2,3,5,8,9 <u>Supplementary books</u> <ul style="list-style-type: none"> • <i>McGraw-Hill Mathematics</i> • <i>Teacher Created Materials</i> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • <i>Mathematics Books by Marilyn Burns</i> • <i>Exemplars</i> • <i>Problem Solvers</i> • <i>Box It or Bag It Math</i> • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment, Options</i> 	Assessments/evidence, also see pages 1-2 REQUIRED LOCAL ASSESSMENTS <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS SUGGESTED ASSESSMENTS Anecdotal record (e.g. defends student generated conjectures in class) Conferencing Journals/notebooks

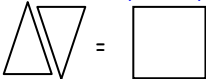
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			<ul style="list-style-type: none"> modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<p>Pub., Inc.</p> <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder AAAMath.com <p>Materials</p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), Number lines/grids Fraction bars EDM cards EDM games Fact triangles <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>2. GEOMETRY AND MEASUREMENT</p> <p>2.1 Polygons</p>		<p>The student</p> <p>2.1.1 Uses</p> <ul style="list-style-type: none"> properties - characteristics that are true to a geometric shape attributes - shape, size, color, and shading <ul style="list-style-type: none"> measurable - attributes that could be described by a measurement (e.g. weight, length, height) 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making 	<p>Resources, also see pages 1-2</p> <p>Textbook</p> <p><i>Everyday Mathematic Grade 1</i></p> <ul style="list-style-type: none"> Units 7 <p>Supplementary books</p> <ul style="list-style-type: none"> <i>McGraw--Hill Mathematics</i> <i>Teacher Created</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and

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		<ul style="list-style-type: none"> ○ non-measurable - attributes that typically not described by a measurement (e.g. the texture of material, a type of material, or the shape of an object) • composition, or decomposition - conceptual understanding of congruency as a result of composing or decomposing shapes to identify or create congruent figures by putting shapes together with no gaps or overlaps or by taking shapes  <p>to sort or classify polygons (triangles, squares, rectangles, rhombi, trapezoids, or hexagons) objects by a combination of two or more non-measurable or measurable attributes. M(G&M)-1-1</p> <p>2.1.2 Recognizes, names, builds, and <u>draws</u> polygons and circles in the environment. M(G&M)-1-1</p> <p>2.1.3 Understands, uses, applies appropriate technology to solve problems.</p> <p>2.1.4 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> • Toothpick Squares #18 • The Table Problem #19 • Building a Doghouse #20 	<ul style="list-style-type: none"> conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction • modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance 	<p><i>Materials</i></p> <ul style="list-style-type: none"> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • Mathematics Books by Marilyn Burns • <i>Exemplars</i> • <i>Problem Solvers</i> • Box It or Bag It Math • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment, Options</i> Pub., Inc. <p><u>Technology</u></p> <ul style="list-style-type: none"> • Computer lab • www.ridoe.net • www.ride.ri.gov/instruction/curriculum • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder <p><u>Materials</u></p> <ul style="list-style-type: none"> • 3D-solids • Rulers (metric), • EDM cards • EDM games • Geoboards • Geometry template • Graphing paper • Dot paper • Pattern blocks • Attribute blocks <p><u>School library resources</u></p> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano • <i>Knights of the Round Table Series</i> 	<p>Problem Solver)</p> <ul style="list-style-type: none"> • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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			<ul style="list-style-type: none"> synthesizing 		
<p>2 GEOMETRY AND MEASUREMENT</p> <p>2.2 Three-dimensional geometric shape</p>		<p>The student</p> <p>2.2.1 Given an example of a three-dimensional geometric shape (rectangular prisms, cylinders, or spheres) finds examples of objects in the environment that are of the same geometric shape (e.g., show a wooden cylinder and students identify common objects of the same shape). M(G&M)-1-3</p> <p>2.2.2 REQUIRED PROBLEMS</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction models functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <i>Every Day Math Grade 1</i> <i>Unit 7</i> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <i>McGraw-Hill Mathematics</i> <i>Teacher Created Materials</i> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde Mathematics Books by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> <i>Box It or Bag It Math</i> <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc. <p><u>Technology</u></p> <ul style="list-style-type: none"> Computer lab www.glencoe.com www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL website (Share Point) <p><u>Materials</u></p>	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Tests/ quizzes</p>

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			<ul style="list-style-type: none"> ▪ think/pair/share ▪ cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<ul style="list-style-type: none"> • Unifix cubes • 3D-solids • Rulers (metric), • EDM cards • EDM games • Geoboards • Geometry template • Graphing paper • Dot paper • Interlocking cubes • Pattern blocks • Attribute blocks <p><u>School library resources</u></p> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	<p>Visual representation</p>
<p>2 GEOMETRY AND MEASUREMENT</p> <p>2.3 Congruency</p>		<p>The student</p> <p>2.3.1 Demonstrates conceptual understanding of congruency by</p> <ul style="list-style-type: none"> • making mirror images • creating shapes that have line symmetry. M(G&M)-1-4 • composing and decomposing two-dimensional objects (D) • using models or explanations (e.g., using triangular pattern blocks to construct a figure congruent to the hexagonal pattern block) (D) • using line symmetry to demonstrate congruent parts within a shape. (D) M(G&M)-2-4 <p>2.3.2 Understands, uses, applies appropriate technology to solve problems.</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <p><i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> • Unit 7 <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> • <i>McGraw-Hill Mathematics</i> • <i>Teacher Created Materials</i> • <i>Escher - Tessellations</i> • <i>Quilting books</i> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • <i>Mathematics Books by Marilyn Burns</i> • <i>Exemplars</i> • <i>Problem Solvers</i> • <i>Box It or Bag It</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p>

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		<p>2.3.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> • Snacktime #21 • Symmetrical pictures #22 	<ul style="list-style-type: none"> • using frequent assessment to modify instruction • modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<p><u>Math</u></p> <ul style="list-style-type: none"> • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment</i>, Options Pub., Inc. <p><u>Technology</u></p> <ul style="list-style-type: none"> • Calculators • Computer lab • www.ridoe.net • www.ridoe.net/instruction/curriculum • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder <p><u>Materials</u></p> <ul style="list-style-type: none"> • 3D-solids • Rulers (metric), • EDM cards • EDM games • Geoboards • Geometry template • Tangrams • Graphing paper • Dot paper • Pattern blocks • Attribute blocks <p><u>School library resources</u></p> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	<p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>2 GEOMETRY AND MEASUREMENT</p> <p>2.4 Length/height</p>		<p>The student</p> <p>2.4.1 Demonstrates conceptual understanding of the length/height of a two-dimensional object using nonstandard units e.g.</p> <ul style="list-style-type: none"> • comparing objects to trains of small 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <p><i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> • Unit 4 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT

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		<p>cubes</p> <ul style="list-style-type: none"> using iterations of a small unit (e.g. Unifix Cubes) to measure an object. M(G&M)-1-6 <p>2.4.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>2.4.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Climbing the Rope #23 Choose Five #24 	<ul style="list-style-type: none"> facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies 	<p><u>Supplementary books</u></p> <ul style="list-style-type: none"> McGraw--Hill Mathematics Teacher Created Materials Comprehending Math: Adapting Reading Strategies to Teach Math, K-6, Arthur Hyde Mathematics Books by Marilyn Burns Exemplars Problem Solvers Box It or Bag It Math Teaching Children Mathematics, NCTM Comprehensive Math Assessment, Options Pub., Inc. <p><u>Technology</u></p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.ri.gov/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p><u>Materials</u></p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), EDM cards EDM games Geoboards Geometry template Tangrams Graphing paper Dot paper 	<p>(EDM and Problem Solver)</p> <ul style="list-style-type: none"> END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p><u>SUGGESTED ASSESSMENTS</u></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Performance-based Tasks</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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			<ul style="list-style-type: none"> • inferring • predicting • making connections • determining importance • synthesizing 	<u>School library resources</u> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	
<p>2 GEOMETRY AND MEASUREMENT</p> <p>2.5 Measurement</p>		<p>The student</p> <p>2.5.1 Demonstrates conceptual understanding of measurable attributes using comparative language to describe and compare attributes of objects</p> <ul style="list-style-type: none"> • length [longer, shorter] • height [taller, shorter] • weight [heavier, lighter] • temperature [warmer, cooler] • capacity [more, less] <p>2.5.2 Compares objects</p> <ul style="list-style-type: none"> • visually with direct comparison • <u>using non-standard units</u>. M(G&M)-1-7 • <u>using standard units (e.g. nearest inch and centimeter)</u> (b) <p>2.5.3 Determines elapsed and accrued time as it relates to calendar patterns (days of the week, <u>months of the year</u>), the sequence of events in a day; and <u>recognizes an hour and "on the ½ hour"</u>. M(G&M)-1-8</p> <p>2.5.4 <u>Understands, uses, applies appropriate technology to solve problems.</u></p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction • modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u> <i>Everyday Mathematics Grade 1</i></p> <ul style="list-style-type: none"> • Units 2,3,4,6 <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • Mathematics Books by Marilyn Burns • <i>Exemplars</i> • <i>Problem Solvers</i> • Box It or Bag It Math • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment</i>, Options Pub., Inc. <p><u>Technology</u></p> <ul style="list-style-type: none"> • Calculators • Computer lab • www.ridoe.net • www.ridoe.net/instruction/curriculum • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p>

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		<p>2.5.5 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> • Choose Five #24 • Jack's Beanstalk #25 • Nap Time #26 • Eggsactly #27 	<ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<p><u>Materials</u></p> <ul style="list-style-type: none"> • Unifix cubes • 3D-solids • Rulers (metric), • Calendars • Clocks • Pattern blocks • Attribute blocks • Templates <p><u>School library resources</u></p> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	<p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>2. GEOMETRY AND MEASUREMENT</p> <p>2.6 Spatial relationships</p>		<p>The student</p> <p>2.6.1 Demonstrates understanding of spatial relationships using location and position by using positional words e.g.</p> <ul style="list-style-type: none"> • close by • on the right • underneath • above • beyond <p>to describe one location in reference to <u>another on a map, in a diagram, (in two- and three-dimensional situations (B))</u> and in the environment. M(G&M)-1-9</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u> <i>Everyday Mathematics, Grade 1</i></p> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • <i>Mathematics Books by Marilyn Burns</i> • <i>Exemplars</i> • <i>Problem Solvers</i> • <i>Box It or Bag It Math</i> • <i>Teaching Children</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS Anecdotal record (e.g. defends</p>

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		<p>2.6.2 Demonstrates understanding of spatial relationships using location and position by creating and interpreting simple maps and naming locations on simple coordinate grids. (B) M(G&M)-2-9</p> <p>2.6.3 Understands, uses, applies appropriate technology to solve problems.</p> <p>2.6.4 REQUIRED PROBLEMS</p>	<p>approach to instruction</p> <ul style="list-style-type: none"> integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<p><i>Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc.</p> <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder Geometers Sketch Pad <p>Materials</p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
<p>3. FUNCTIONS AND ALGEBRA</p> <p>3.1 Variety of patterns</p>		<p>The student</p> <p>3.1.1 Identifies and extends to specific cases a variety of patterns (repeating and <u>growing</u> [numeric and nonnumeric]) represented in <u>models, tables, or sequences</u> by</p> <ul style="list-style-type: none"> extending the pattern to the next one, two, or <u>three elements, by finding a missing element (e.g., 2, 4, 6, _____, 10)</u> translating repeating patterns across formats (e.g., an "abb" pattern can be represented as snap, clap, clap; or red, yellow, yellow; or 1,2,2). M(F&A)-1-1 <p>3.1.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>3.1.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Rows of Flowers #28 Shape Patterns #29 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u> <i>Everyday Mathematics Grade 1</i> Units 1,3</p> <p><u>Supplementary books/materials</u></p> <ul style="list-style-type: none"> Hands-on Algebra <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde Mathematics Books by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> Box It or Bag It Math <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc. <p><u>Technology</u></p> <ul style="list-style-type: none"> Calculator Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p><u>Materials</u></p> <ul style="list-style-type: none"> Pattern tiles Unifix cubes Rulers (metric) Pan balances 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
			Reading strategies to teach mathematics (Hyde) <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<u>School library resources</u> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	
3. FUNCTIONS AND ALGEBRA 3.2 Equality		<p>The student</p> <p>3.2.1 Demonstrates conceptual understanding of equality by <i>finding the value that will make an open sentence true</i> (e.g., $5 + \square = 7$) using</p> <ul style="list-style-type: none"> • <u>models</u> • <u>verbal explanations</u> • <u>written equations (limited to addition or subtraction)</u> M(F&A)-1-4 <p>3.2.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>3.2.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> • Toy Store #31 • Cookies in the Bag #30 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u> <i>Everyday Mathematics Grade 1</i> Units 2,3,4</p> <p><u>Supplementary books/materials</u></p> <ul style="list-style-type: none"> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • Mathematics Books by Marilyn Burns • Exemplars • Problem Solvers • Box It or Bag It Math • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment</i>, Options Pub., Inc <p><u>Technology</u></p>	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p>

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			<ul style="list-style-type: none"> modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ride.ri.gov/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> Pattern tiles Unifix cubes Rulers (metric) Pan balances Graphing paper <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>4. DATA, STATISTICS, AND PROBABILITY</p> <p>4.1 Given representation</p>		<p>4.1.1 <u>Interprets a given representation created by the class (models, tally charts, pictographs with one-to-one correspondence, and tables) to</u></p> <ul style="list-style-type: none"> answer questions related to the data analyze the data to formulate conclusions using words, diagrams, or verbal/scribed responses to express answers. M(DSP)-1-1 make predictions. (D) M(DSP)-3-1 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making 	<p>Resources, also see pages 1-2</p> <p>Textbook <i>Everyday Mathematics Grade 1</i> Units - All</p> <p>Supplementary books/materials</p> <ul style="list-style-type: none"> <i>Comprehending Math: Adapting Reading</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and

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		<p>(IMPORTANT: <i>Analyzes data consistent with concepts and skills in M(DSP)-1-2.</i>)</p> <p>4.1.2 Understands, uses, applies appropriate technology to solve problems</p> <p>4.1.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> • The Petting Zoo #32 • Bike Riders #33 	<p>conjectures</p> <ul style="list-style-type: none"> • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction • modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance 	<p><i>Strategies to Teach Math, K-6, Arthur Hyde</i></p> <ul style="list-style-type: none"> • Mathematics Books by Marilyn Burns • Exemplars • Problem Solvers • Box It or Bag It Math • Teaching Children Mathematics, NCTM • Comprehensive Math Assessment, Options Pub., Inc <p>Technology</p> <ul style="list-style-type: none"> • Calculators • Computer lab • www.ridoe.net • www.ride.ri.gov/instruction/curriculum • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> • Dice • Spinners • Two-colored Chips • Graphing paper <p>School library resources</p> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works, Marzano</i> 	<p>Problem Solver)</p> <ul style="list-style-type: none"> • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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			<ul style="list-style-type: none"> synthesizing 		
<p>4. DATA, STATISTICS, AND PROBABILITY</p> <p>4.2 Patterns, trends, distributions</p>		<p>The student</p> <p>4.2.1 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using</p> <ul style="list-style-type: none"> more less equal. M(DSP)-1-2 <p>4.2.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>4.2.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Tomeka's Clothes #34 Ghosts #35 What Comes Next? #36 	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u> <i>Everyday Mathematics Grade 1</i> Units 3,4,5</p> <p><u>Supplementary books/materials</u></p> <ul style="list-style-type: none"> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde Mathematics Books by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> Box It or Bag It Math <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc <p><u>Technology</u></p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p>

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			<ul style="list-style-type: none"> ▪ tiered assignments ▪ jigsawing ▪ pre/post assessments ▪ anchoring ▪ think/pair/share ▪ cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<p>Folder</p> <p><u>Materials</u></p> <ul style="list-style-type: none"> • Dice • Spinners • Two-colored Chips • Graphing paper <p><u>School library resources</u></p> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	<p>Tests/ quizzes</p> <p>Visual representation</p>
<p>4. DATA, STATISTICS, AND PROBABILITY</p> <p>4.3 Counting techniques</p>		<p>The student</p> <p>4.3.1 Uses counting techniques to solve problems using a variety of strategies e.g.,</p> <ul style="list-style-type: none"> • objects (manipulatives) • act it out • student diagrams (D) • organized lists (D) • tables (D) • or^{sc} others (D) M(DSP)-2-4 <p>4.3.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>4.3.3 REQUIRED PROBLEMS</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <p><i>Everyday Mathematics Grade 2</i></p> <p><u>Supplementary books/materials</u></p> <ul style="list-style-type: none"> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • Mathematics Books by Marilyn Burns • <i>Exemplars</i> • <i>Problem Solvers</i> • Box It or Bag It Math 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends</p>

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			<p>approach to instruction</p> <ul style="list-style-type: none"> integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<ul style="list-style-type: none"> Teaching Children Mathematics, NCTM Comprehensive Math Assessment, Options Pub., Inc <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> Dice Spinners Two-colored Chips Graphing paper <p>School library resources</p> <ul style="list-style-type: none"> Classroom Instruction That Works, Marzano 	<p>student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
4. DATA, STATISTICS,		<p>The student</p> <p>4.4.1 For a probability event in which the sample</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p>	<p>Resources, also see pages 1-2</p> <p>Textbook</p>	<p>Assessments/evidence, also see pages 1-2</p>

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<p>AND PROBABILITY</p> <p>4.4 Probability event</p>		<p>space may or may not contain equally likely outcomes</p> <ul style="list-style-type: none"> uses experiments to describe the likelihood or chance of an event using <ul style="list-style-type: none"> "more likely" "less likely" "equally likely" M(DSP)-1-5 <p>4.4.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>4.4.3 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> Shake and Spill #37 Two-Coin Toss #38 Jellybean Problem #39 Addition Top It #40 	<p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions of a calculator <p>Differentiated instruction by varying the content, process, and product and implementing</p> <ul style="list-style-type: none"> tiered assignments jigsawing pre/post assessments anchoring think/pair/share cubing, etc. <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L 	<p><i>Everyday Mathematics Grade 1</i></p> <p>Supplementary books/materials</p> <ul style="list-style-type: none"> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde Mathematics Books by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> Box It or Bag It Math <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ride.ri.gov/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> Dice Spinners Two-colored Chips Graphing paper <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>

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STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
			<ul style="list-style-type: none"> • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 		
<p>5. PROBLEM SOLVING, REASONING, AND PROOF</p> <p>5.1 Problem Solving strategies</p>		<p>Students will use problem-solving strategies to investigate and understand increasingly complex mathematical content and be able to:</p> <p>5.1.1 Formulate and solve multi-step problems from everyday and mathematical situations.</p> <p>5.1.2 Solve problems using a variety of strategies (e.g., working backwards, looking for patterns and relationships; guess and check; making tables, charts, or organized lists; solving a simpler version of a problem, drawing a diagram; or creating a model)</p> <p>5.1.3 Verify and interpret results with respect to the original problem.</p> <p>5.1.4 Determine if the solution of a problem is reasonable.</p> <p>5.1.5 Solve problems using manipulatives, graphs, charts, diagrams, and calculators.</p> <p>5.1.6 Demonstrate that a problem may be solved in more than one way.</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction • modeling functions of a calculator <p>Reading strategies to teach</p>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> • <i>Everyday Mathematics Grade 1</i> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • <i>Mathematics Books</i> by Marilyn Burns • <i>Exemplars</i> • <i>Problem Solvers</i> • <i>Box It or Bag It Math</i> • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment</i>, Options Pub., Inc <p><u>Technology</u></p> <ul style="list-style-type: none"> • Calculator • Computer lab • www.ridoe.net • www.ride.ri.gov/instruction/curriculum • <i>NECAP Release tasks</i> • NECompact.org • <i>SCHOOL Resource</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process)</p>

Mathematics Grade 1

Curriculum Writers: Cheryl August and Lisa O'Connor

STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
		5.1.7 Exhibit confidence in their ability to solve problems independently and in groups. 5.1.8 Display increasing perseverance, and persistence in problem solving. M(PRP)-2-1	mathematics (Hyde) <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	Folder <u>Materials</u> <ul style="list-style-type: none"> • Unifix cubes • 3D-solids • Rulers (metric), <u>School library resources</u> <ul style="list-style-type: none"> • <i>Classroom Instruction That Works</i>, Marzano 	and products) Rubrics Tests/ quizzes Visual representation
5. PROBLEM SOLVING, REASONING, AND PROOF 5.2 Mathematical reasoning and proof		The student will use mathematical reasoning and proof and be able to: 5.2.1 Use models, known facts, properties, and relationships to explain their thinking. 5.2.2 Justify solution processes and answers (e.g., "I chose this method to solve the problem because..."). 5.2.3 Draw conclusions using inductive reasoning. 5.2.4 Identify the missing information needed to find a solution to a given story problem. 5.2.5 Use patterns and relationships to analyze Mathematical situations (e.g., count by fives). M(PRP)-2-2	Teacher may model and/or facilitate the following: (also see pages 1-2) Mathematics best practice e.g. <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction • modeling functions of the scientific calculator 	Resources, also see pages 1-2 <u>Textbook</u> <ul style="list-style-type: none"> • <i>Everyday Mathematics Grade 1</i> <u>Supplementary books</u> <ul style="list-style-type: none"> • <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde • <i>Mathematics Books by Marilyn Burns</i> • <i>Exemplars</i> • <i>Problem Solvers</i> • <i>Box It or Bag It Math</i> • <i>Teaching Children Mathematics</i>, NCTM • <i>Comprehensive Math Assessment</i>, Options Pub., Inc <u>Technology</u> <ul style="list-style-type: none"> • Calculator • Computer lab • www.ridoe.net • www.ridoe.net/instruction/curriculum 	Assessments/evidence, also see pages 1-2 <u>REQUIRED LOCAL ASSESSMENTS</u> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <u>SUGGESTED ASSESSMENTS</u> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p>

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			Reading strategies to teach mathematics (Hyde) <ul style="list-style-type: none"> • K-W-L • visualizing • asking strategies • inferring • predicting • making connections • determining importance • synthesizing 	<ul style="list-style-type: none"> • NECAP Release tasks • NECompact.org • SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> • Unifix cubes • 3D-solids • Rulers (metric), <p>School library resources</p> <ul style="list-style-type: none"> • Classroom Instruction That Works, Marzano 	Portfolio (samples of process and products) Rubrics Tests/ quizzes Visual representation
COMMUNICATION, CONNECTIONS, AND REPRESENTATION 6.1 Communicate understanding		Students will communicate their understanding of mathematics and be able to: <p>6.1.1 Demonstrate mathematical communication through discussion, reading, writing, listening, and responding, individually and in groups.</p> <p>6.1.2 Discuss relationships between everyday language and mathematical language and symbols (e.g., words that mean something different in mathematics and in everyday life).</p> <p>6.1.3 Explain conclusions, thought processes, and strategies in problem-solving situations.</p> <p>6.1.4 Discuss, illustrate, and write about mathematical concepts and relationships.</p> <p>6.1.5 Draw pictures and use objects to illustrate mathematical concepts. M(CCR)-2-1</p>	Teacher may model and/or facilitate the following: (also see pages 1-2) <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> • using manipulatives • facilitating cooperative group work • discussing mathematics • questioning and making conjectures • justifying of thinking • constructing written responses defending the student's mathematics • facilitating problem solving approach to instruction • integrating content with other core subjects • using appropriate technology • using frequent assessment to modify instruction 	Resources, also see pages 1-2 <p>Textbook</p> <ul style="list-style-type: none"> • Everyday Mathematics Grade 1 <p>Supplementary books</p> <ul style="list-style-type: none"> • Comprehending Math: Adapting Reading Strategies to Teach Math, K-6, Arthur Hyde • Mathematics Books by Marilyn Burns • Exemplars • Problem Solvers • Box It or Bag It Math • Teaching Children Mathematics, NCTM • Comprehensive Math Assessment, Options Pub., Inc <p>Technology</p> <ul style="list-style-type: none"> • Calculators • Computer lab 	Assessments/evidence, also see pages 1-2 <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> • MID-YEAR ASSESSMENT (EDM and Problem Solver) • END-OF-YEAR ASSESSMENT (EDM and Problem Solver) • PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p>

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STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
			<ul style="list-style-type: none"> modeling functions a calculator <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<ul style="list-style-type: none"> www.rido.net www.rido.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION</p> <p>6.2 Representations</p>		<p>Students will create and use representations to communicate mathematical ideas and to solve problems and be able to:</p> <p>6.2.1 Create and use age level appropriate representations to organize, record, and communicate mathematical ideas (e.g., students should recognize the relationship among seven counters, seven tally marks, and the symbol 7).</p> <p>6.2.2 Select, apply, and translate among mathematical representations to solve problems (e.g., representing fractions with circles, with geoboards, and with pattern blocks).</p> <p>6.2.3 Link different representations.</p> <p>6.2.4 Use representations to model and interpret physical, social, and mathematical phenomena.</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction integrating content with other core subjects 	<p>Resources, also see pages 1-2</p> <p>Textbook</p> <ul style="list-style-type: none"> <i>Everyday Mathematics Grade 1</i> <p>Supplementary books</p> <ul style="list-style-type: none"> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde Mathematics Books by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> <i>Box It or Bag It Math</i> <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math Assessment</i>, Options Pub., Inc 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESSMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p>

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STANDARDS GLEs	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT/ EVIDENCE
		<p>6.2.5 Use conventional and self-generated (invented) representations and connect them.</p> <p>6.2.6 Realize that any representation is subject to multiple interpretations (e.g., drawings and graphs can be read in a different way). M(CCR)-2-2</p>	<ul style="list-style-type: none"> using appropriate technology using frequent assessment to modify instruction modeling functions a calculator <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<p><u>Technology</u></p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p><u>Materials</u></p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), <p><u>School library resources</u></p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works</i>, Marzano 	<p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION</p> <p>6.3 Mathematical Connections</p>		<p>Students will recognize, explore, and develop mathematical connections and be able to:</p> <p>6.3.1 Recognize and use mathematics in other curriculum areas (e.g., science, social studies).</p> <p>6.3.3 Recognize and use mathematics in their daily lives (e.g., graphs, tables, or maps).</p> <p>6.3.4 Identify mathematical situations occurring in literature for children.</p> <p>6.3.5 Identify examples of geometry in nature, art, and architecture. M(CCR)-2-3</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics facilitating problem solving approach to instruction 	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <i>Everyday Mathematics Grade 1</i> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6</i>, Arthur Hyde Mathematics Books by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> <i>Box It or Bag It Math</i> <i>Teaching Children Mathematics</i>, NCTM <i>Comprehensive Math</i> 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p> <p>Anecdotal record (e.g. defends student generated conjectures)</p>

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			<ul style="list-style-type: none"> integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions a calculator <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<p><i>Assessment, Options Pub., Inc</i></p> <p>Technology</p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.net/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p>Materials</p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), <p>School library resources</p> <ul style="list-style-type: none"> <i>Classroom Instruction That Works, Marzano</i> 	<p>in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>
<p>6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION</p> <p>6.4 Mathematical connections</p>		<p>The student will recognize, explore, and develop mathematical connections and be able to:</p> <p>6.4.1 See mathematics as an integrated whole.</p> <p>6.4.2 Recognize relationships among different topics in mathematics.</p> <p>6.4.3 Recognize and use mathematics in other curriculum areas and in their daily lives.</p> <p>6.4.4 Link concepts and procedures.</p> <p>6.4.5 Use mathematical skills, concepts, and</p>	<p>Teacher may model and/or facilitate the following: (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> using manipulatives facilitating cooperative group work discussing mathematics questioning and making conjectures justifying of thinking constructing written responses defending the student's mathematics 	<p>Resources, also see pages 1-2</p> <p>Textbook</p> <ul style="list-style-type: none"> <i>Everyday Mathematics Grade 1</i> <p>Supplementary books</p> <ul style="list-style-type: none"> <i>Comprehending Math: Adapting Reading Strategies to Teach Math, K-6, Arthur Hyde</i> Mathematics Books by Marilyn Burns <i>Exemplars</i> <i>Problem Solvers</i> Box It or Bag It 	<p>Assessments/evidence, also see pages 1-2</p> <p>REQUIRED LOCAL ASSESMENTS</p> <ul style="list-style-type: none"> MID-YEAR ASSESSMENT (EDM and Problem Solver) END-OF-YEAR ASSESSMENT (EDM and Problem Solver) PRE AND POST EDM/GLE UNIT TESTS <p>SUGGESTED ASSESSMENTS</p>

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		<p>applications in other disciplines, e.g.</p> <ul style="list-style-type: none"> graphs in social studies patterns in art music and geometry in technology 	<ul style="list-style-type: none"> facilitating problem solving approach to instruction integrating content with other core subjects using appropriate technology using frequent assessment to modify instruction modeling functions a calculator <p>Reading strategies to teach mathematics (Hyde)</p> <ul style="list-style-type: none"> K-W-L visualizing asking strategies inferring predicting making connections determining importance synthesizing 	<p><u>Math</u></p> <ul style="list-style-type: none"> Teaching Children Mathematics, NCTM Comprehensive Math Assessment, Options Pub., Inc <p><u>Technology</u></p> <ul style="list-style-type: none"> Calculators Computer lab www.ridoe.net www.ridoe.ri.gov/instruction/curriculum NECAP Release tasks NECompact.org SCHOOL Resource Folder <p><u>Materials</u></p> <ul style="list-style-type: none"> Unifix cubes 3D-solids Rulers (metric), protractors <p><u>School library resources</u></p> <ul style="list-style-type: none"> Classroom Instruction That Works, Marzano 	<p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Rubrics</p> <p>Tests/ quizzes</p> <p>Visual representation</p>