

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 6: Foundations of Multiplication & Division

(Approximate Instructional Time: 6 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> 2.OA.C.4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends 	MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Formation of Equal Groups Students are able to: <ul style="list-style-type: none"> use tape diagrams to build conceptual understanding of repeated addition and creating rectangular arrays. with objects arranged in an array, use repeated addition to find the total. create arrays with objects & drawings to write an equation to express repeated addition. solve word problems involving addition of equal groups in rows and columns. create arrays with objects and drawings to build conceptual understanding and foundation for multiplication and division work in grade 3 <p>Learning Goal 1: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.</p>
<ul style="list-style-type: none"> 2.NBT.A.2. Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked) 	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Creating arrays and equal groups Students are able to: <ul style="list-style-type: none"> skip-count by tens as a foundation for counting rows and columns <p>Learning Goal 2: Orally count within 1000 including skip-counting by 5s, 10s, and 100s</p>
<ul style="list-style-type: none"> 2.G.A.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. 	MP.2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.8 Look for and express regularity	Concept(s): Build conceptual understanding of creating arrays as a foundation for the concepts of multiplication and division. Students are able to: <ul style="list-style-type: none"> use objects and math drawings to compose and decompose rectangular arrays.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

	<p>in repeated reasoning.</p>	<ul style="list-style-type: none"> partition a rectangle into rows and columns of same-size squares and count to find the total number. <p>Learning Goal 3: Partition a rectangle into rows and columns of same-size squares and count to find the total number.</p>
<ul style="list-style-type: none"> 2.OA.C.3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning</p>	<p>Concept(s): Develop the meaning of even and odd numbers.</p> <ul style="list-style-type: none"> Even: groups having even numbers of objects will pair up evenly. Odd: groups having odd numbers of objects will not pair up evenly. <p>Students are able to:</p> <ul style="list-style-type: none"> pair up to 20 object, count by 2s and determine whether the group contains an even or odd number of objects. write number sentences to express an even number as a sum of two equal addends. use rectangular arrays to investigate odd and even numbers. <p>Learning Goal 4: Write an equation to express an even number as a sum of two equal addends.</p>
<p><u>Interdisciplinary Connections:</u></p> <p>NGSS Appendix for Alignment NJSLS-Gr. 2 ELA</p>	<p><u>English-Language Arts:</u></p> <p>RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.</p> <p>RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p>RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.</p> <p>RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.</p> <p>W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.</p> <p>W.2.8. Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <p>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</p> <p>C. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

	<p>SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p> <p>SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p> <p>SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>
<p><u>21st Century Skills/ Career Ready Practices:</u></p>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP3. Attend to personal health and financial well-being.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP9. Model integrity, ethical leadership and effective management.</p> <p>CRP10. Plan education and career paths aligned to personal goals.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>
<p><u>2014 NJ Technology Standards:</u></p>	<p>8.1 Educational Technology (Word PDF) All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design and Computational Thinking - Programming (Word PDF) All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p>Please see relevant projects for technology standards 8.1 and 8.2:</p>

District/School Primary and Supplementary Resources	
<p>Primary Resource:</p> <p><u>Eureka Math (Unbound Ed - Module 6)</u></p>	<p>Supplementary Resources:</p> <p>Number Talks: Building Numerical Reasoning</p> <p>Sadlier Progress In Mathematics Online Resources - Grade 2</p> <p><i>Sadlier Progress in Mathematics</i> Workbook</p> <p><i>Excel Math</i> (Publisher: AnsMar)</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<p>Zearn.org</p>	<p>Khan Academy Visual Patterns: Gr. K-12 Number Strings Common Core Progression Documents Performance Tasks are available for use from the following sites: Illustrative Mathematics Coherence Map Inside Mathematics Problems of the Month Grade 2 YouCubed Tasks Additional Fluency & Lesson Activities</p>
<p>Suggested Materials & Tools:</p>	<p>Suggested Tasks for Use During Unit</p>
<ul style="list-style-type: none"> <input type="checkbox"/> Counters <input type="checkbox"/> Number bond <input type="checkbox"/> Number path <input type="checkbox"/> Personal white board <input type="checkbox"/> Rectangular array <input type="checkbox"/> Square tiles 	<p>2.OA.C.4 Counting Dots in Arrays</p> <p>2.NBT.B.6 Toll Bridge Puzzle</p> <p>2.G.A.2 Partitioning a Rectangle into Unit Squares</p>
<p>District/ School Formative Assessment Plan</p>	<p>District/School Summative Assessment Plan</p>
<ul style="list-style-type: none"> ● Teacher observation of students engaged in group and independent activities. ● Individual and small group conferences/interviews to assess understanding with rubric ● Sprints ● Self-assessment by students with guidance from teacher. ● Exit ticket ● Zearn Teacher Reports ● Renaissance Math programs 	<ul style="list-style-type: none"> ● Teacher created assessments and projects ● Eureka Math Mid- and End- Module Assessments (Constructed response item with rubric) ● Teacher/District created benchmark assessments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> ● Array (an arrangement of objects in rows and columns) ● Columns (the vertical groups in a rectangular array) ● Even number (a whole number whose last digit is 0, 2, 4, 6, or 8) ● Odd number (any number that is not even) ● Repeated addition (e.g., $2 + 2 + 2$) ● Rows (the horizontal groups in a rectangular array) ● Tessellation (tiling of a plane using one or more geometric shapes with no overlaps and no gaps) ● Whole number (e.g., 0, 1, 2, 3...)
Focus Mathematical Concepts	
<p><u>Grade Level Fluency Requirement:</u></p> <ul style="list-style-type: none"> ◆ 2.OA.B.2 Single-digit sums and differences (sums from memory by end of Grade 2) ◆ 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. <p><u>Prerequisite skills</u></p> <p><i>Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.</i></p> <p><u>Coherence Map</u></p> <p>1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. <i>For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</i></p> <p>2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p>2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.</p> <p><u>Common Misconceptions:</u></p> <ul style="list-style-type: none"> ● Students might overgeneralize the value of coins when they count them. They might count them as individual objects. Also some students think that the value of a coin is directly related to its size, so the bigger the coin, the more it is worth. Place pictures of a nickel on the top of five-frames that are filled with pictures of pennies. In like manner, attach pictures of dimes and pennies to ten-frames and pictures of quarters to 5 x 5 grids filled with pennies. Have students use these materials to determine the value of a set of coins in cents. ● Sometimes students will record twenty-nine dollars as 29\$. Remind them that the dollar sign goes in front. The cent sign goes after the number and there is no decimal point used with the cent sign. ● The attributes for the same kind of object can vary. This will cause equal values in an object graph to appear unequal. For example, when making an object graph using shoes for boys and girls, five adjacent boy shoes would likely appear longer than five adjacent girl shoes. To standardize the objects, place the objects on the same-sized construction paper or sticky-note, then make the object graph. 	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Some students may think that a shape is changed by its orientation. They may see a rectangle with the longer side as the base, but claim that the same rectangle with the shorter side as the base is a different shape. This is why it is so important to have young students handle shapes and physically feel that the shape does not change regardless of the orientation.

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.
- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 5: Addition & Subtraction Within 1,000 with Word Problems to 100

(Approximate Instructional Time: 6 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> 2.NBT.B.7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Strategies for adding and subtraction within 1.000</p> <p>Students are able to:</p> <ul style="list-style-type: none"> add and subtract within 1000, using concrete models or drawings. add and subtract within 1000 using strategies based on place value add and subtract within 1000 using properties of operations or the relationship between addition and subtraction. relate the strategies to a written method. <p>Learning Goal 1: Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.</p>
<ul style="list-style-type: none"> 2.NBT.B.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Strategies for adding and subtraction within 1.000</p> <ul style="list-style-type: none"> Place value <p>Students are able to:</p> <ul style="list-style-type: none"> Mentally add 10 or 100 from any given number between 100 and 900. Mentally subtract 10 or 100 from any given number between 100 and 900. <p>Learning Goal 2: Mentally add or subtract 10 or 100 from any given number between 100 and 900.</p>
<ul style="list-style-type: none"> 2.NBT.B.9. Explain why addition and subtraction strategies work, using place value and the properties of operations. 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p>	<p>Concept(s): Strategies for adding and subtraction within 1.000</p> <p>Students are able to:</p> <ul style="list-style-type: none"> <i>Choose a strategy</i> and explain, using objects and drawings, why addition and subtraction strategies based on place value work. <i>Choose a strategy</i> and explain, using objects and drawings, why addition and

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

		<p style="text-align: center;">subtraction strategies based on properties of operations work.</p> <p style="text-align: center;">Learning Goal 3: Promote modeling with mathematics by having students choose strategies and then explain solution strategies, recording with written addition or subtraction method.</p>
<p><u>Interdisciplinary Connections:</u></p> <p><u>NGSS Appendix for Alignment</u> <u>NJSLS-Gr. 2 ELA</u></p>	<p><i>English-Language Arts:</i></p> <p>RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.</p> <p>RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p>RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.</p> <p>RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.</p> <p>W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.</p> <p>W.2.8. Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <p>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</p> <p>C. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p> <p>SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p> <p>SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>	
<p><u>21st Century Skills/ Career Ready Practices:</u></p>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP3. Attend to personal health and financial well-being.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

	<p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership and effective management. CRP10. Plan education and career paths aligned to personal goals. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.</p>
<p><u>2014 NJ Technology Standards:</u></p>	<p>8.1 Educational Technology (<u>Word</u> <u>PDF</u>) All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design and Computational Thinking - Programming <u>Word</u> <u>PDF</u> All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p>Please see relevant projects for technology standards <u>8.1</u> and <u>8.2</u>:</p>

District/School Primary and Supplementary Resources	
<p>Primary Resource:</p> <p><u>Eureka Math (Unbound Ed - Module 5)</u></p>	<p>Supplementary Resources:</p> <p><u>Number Talks: Building Numerical Reasoning</u> <u>Sadlier Progress In Mathematics Online Resources - Grade 2</u> <i>Sadlier Progress in Mathematics</i> Workbook <i>Excel Math</i> (Publisher: AnsMar) Khan Academy <u>Visual Patterns: Gr. K-12</u> <u>Number Strings</u> <u>Common Core Progression Documents</u> Performance Tasks are available for use from the following sites: <u>Illustrative Mathematics</u> <u>Coherence Map</u> <u>Inside Mathematics Problems of the Month</u> <u>Grade 2 YouCubed Tasks</u> <u>Additional Fluency & Lesson Activities</u></p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Suggested Materials & Tools:	Suggested Tasks for Use During Unit
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Arrow notation, arrow way</i> <input type="checkbox"/> <i>Chip model (pictured in module overview)</i> <input type="checkbox"/> <i>Hide Zero cards</i> <input type="checkbox"/> <i>Number bond</i> <input type="checkbox"/> <i>Personal white boards</i> <input type="checkbox"/> <i>Place value charts (pictured in module overview)</i> <input type="checkbox"/> <i>Place value disk sets (19 ones, 19 tens, 10 hundreds, 1 one thousand per set)</i> <input type="checkbox"/> <i>Tape diagram</i> 	<p>2.NBT.B.7 How Many Days Until Summer Vacation?</p> <p>2.NBT.B.8 Choral Counting</p> <p>2.NBT.B.9 Peyton and Presley Discuss Addition</p>
District/ School Formative Assessment Plan	District/School Summative Assessment Plan
<ul style="list-style-type: none"> • Teacher observation of students engaged in group and independent activities. • Individual and small group conferences/interviews to assess understanding with rubric • Sprints • Self-assessment by students with guidance from teacher. • Exit tickets • Zearn Teacher Reports • Renaissance Math programs 	<ul style="list-style-type: none"> • Teacher created assessments and projects • <i>Eureka Math</i> Mid- and End- Module Assessments (Constructed response item with rubric) • Teacher/District created benchmark assessments
Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> • Compensation (simplifying strategy where students add or subtract the same amount to or from both numbers to create an equivalent, but simpler, problem)
Focus Mathematical Concepts	
<u>Grade Level Fluency Requirement:</u>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- ❖ **2.OA.B.2** Single-digit sums and differences (sums from memory by end of Grade 2)
- ❖ **2.NBT.B.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Prerequisite skills

Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.

Coherence Map

1.OA.3 Apply properties of operations as strategies to add and subtract. Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.)

1.OA.4 Understand subtraction as an unknown-addend problem. For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8. **1.NBT.5** Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1.NBT.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens—called a “hundred.” b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s. **2.NBT.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Common Misconceptions:

- Students might overgeneralize the value of coins when they count them. They might count them as individual objects. Also some students think that the value of a coin is directly related to its size, so the bigger the coin, the more it is worth. Place pictures of a nickel on the top of five-frames that are filled with pictures of pennies. In like manner, attach pictures of dimes and pennies to ten-frames and pictures of quarters to 5 x 5 grids filled with pennies. Have students use these materials to determine the value of a set of coins in cents.
- Sometimes students will record twenty-nine dollars as 29\$. Remind them that the dollar sign goes in front. The cent sign goes after the number and there is no decimal point used with the cent sign.
- The attributes for the same kind of object can vary. This will cause equal values in an object graph to appear unequal. For example, when making an object graph using shoes for boys and girls, five adjacent boy shoes would likely appear longer than five adjacent girl shoes. To standardize the objects, place the objects on the same-sized construction paper or sticky-note, then make the object graph.
- Some students may think that a shape is changed by its orientation. They may see a rectangle with the longer side as the base, but claim that the same rectangle with the shorter side as the base is a different shape. This is why it is so important to have young students handle shapes and physically feel that the shape does not change regardless of the orientation, as illustrated below.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.
- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 8: Time, Shapes & Fractions as Equal Parts of Shapes

(Approximate Instructional Time: 4 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> 2.G.A.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. 	MP.2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Attributes of geometric shapes Students are able to: <ul style="list-style-type: none"> use attributes to identify and draw triangles, quadrilaterals, pentagons, hexagons, rectangles, rhombuses, parallelograms, and trapezoids. relate the square to the cube, and describe based on attributes. <p>Learning Goal 1: Draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p>
<ul style="list-style-type: none"> 2.G.A.3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. 	MP.4 Model with mathematics. MP.7 Look for and make use of structure.	Concept(s): Create composite shapes and build conceptual understanding of fraction concepts Students are able to: <ul style="list-style-type: none"> combine shapes to create new composite shapes. partition circles and rectangles into two, three, or four equal shares. describe the shares using the words halves, thirds, fourths, half of, a third of, a fourth of, etc. recognize and then describe the whole as two halves, three thirds, four fourths. recognize that equal parts of an identical rectangle can have different shapes. <p>Learning Goal 2: Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc. and describe the whole as two halves, three thirds, and four fourths.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> 2.MD.C.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. 	<p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p>	<p>Concept(s): Application of fractions to tell time.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> use analog and digital clocks, tell time to the nearest five minutes using a.m. and p.m. use analog and digital clocks, write time to the nearest five minutes using a.m. and p.m. relate a.m. and p.m. to time of day. solve elapsed time problems involving whole hours and half hour. <p>Learning Goal 3: Tell and write time using analog and digital clocks to the nearest five minutes using a.m. and p.m.</p>
<ul style="list-style-type: none"> 2.MD.A.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. 		<p>Concept(s): Reinforce through the work with 2.G.A.1</p>
<ul style="list-style-type: none"> 2.NBT.A.2. Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked) 		<p>Concept(s): Reinforce through the work with 2.MD.C.7, 2.G.A.3</p>
<ul style="list-style-type: none"> 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked) 		<p>Concept(s): Reinforce through the work with 2.MD.C.7, 2.G.A.3</p>
<ul style="list-style-type: none"> 2.NBT.B.6. Add up to four two-digit numbers using strategies based on place value and properties of operations. 		<p>Concept(s): Reinforce through the work with 2.MD.C.7, 2.G.A.3</p>
<p><u>Interdisciplinary Connections:</u></p> <p>NGSS Appendix for Alignment NJSLS-Gr. 2 ELA</p>	<p><u>English-Language Arts:</u></p> <p>RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.</p> <p>RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p>RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.</p> <p>RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.</p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

	<p>W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.</p> <p>W.2.8. Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <p>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</p> <p>C. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p> <p>SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p> <p>SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>
<p><u>21st Century Skills/ Career Ready Practices:</u></p>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP3. Attend to personal health and financial well-being.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP9. Model integrity, ethical leadership and effective management.</p> <p>CRP10. Plan education and career paths aligned to personal goals.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>
<p><u>2014 NJ Technology Standards:</u></p>	<p>8.1 Educational Technology (Word PDF) All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design and Computational Thinking - Programming (Word PDF) All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p>Please see relevant projects for technology standards 8.1 and 8.2:</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

District/School Primary and Supplementary Resources	
<p>Primary Resource:</p> <p><u>Eureka Math (Unbound Ed - Module 8)</u></p>	<p>Supplementary Resources:</p> <p><u>Number Talks: Building Numerical Reasoning</u> <u>Sadlier Progress In Mathematics Online Resources - Grade 2</u> <i>Sadlier Progress in Mathematics</i> Workbook <i>Excel Math</i> (Publisher: AnsMar) Khan Academy <u>Visual Patterns: Gr. K-12</u> <u>Number Strings</u> <u>Common Core Progression Documents</u></p> <p>Performance Tasks are available for use from the following sites:</p> <p><u>Illustrative Mathematics</u> <u>Coherence Map</u> <u>Inside Mathematics Problems of the Month</u> <u>Grade 2 YouCubed Tasks</u> <u>Additional Fluency & Lesson Activities</u></p>
Suggested Materials & Tools:	Suggested Tasks for Use During Unit
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Cube: three-dimensional shape (real world examples such as a die, alphabet blocks, or a box)</i> <input type="checkbox"/> <i>Geoboards</i> <input type="checkbox"/> <i>Large instructional geared clock</i> <input type="checkbox"/> <i>Pattern blocks</i> <input type="checkbox"/> <i>Rulers</i> <input type="checkbox"/> <i>Spaghetti</i> <input type="checkbox"/> <i>Square tiles</i> <input type="checkbox"/> <i>Student clocks, preferably those with gears which can provide the appropriate hour-hand alignment</i> <input type="checkbox"/> <i>Toothpicks</i> 	<p><u>2.G.A.2 Partitioning a Rectangle into Unit Squares</u> <u>2.MD.A.1.3.4 Determining Length</u> <u>2.MD.C.7 Ordering Time</u> <u>2.NBT.B.5 Saving Money 1</u> <u>2.NBT.B.5 Saving Money 2</u> <u>2.NBT.B.6 Toll Bridge Puzzle</u></p>
District/ School Formative Assessment Plan	District/School Summative Assessment Plan
<ul style="list-style-type: none"> • Teacher observation of students engaged in group and independent activities. • Individual and small group conferences/interviews to assess understanding with 	<ul style="list-style-type: none"> • Teacher created assessments and projects • <i>Eureka Math</i> Mid- and End- Module Assessments (Constructed response)

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> rubric ● Sprints ● Self-assessment by students with guidance from teacher. ● Exit tickets ● Zearn Teacher Reports ● Renaissance Math programs 	<ul style="list-style-type: none"> item with rubric) ● Teacher/District created benchmark assessments ● Mammoth Math Gr. 2 End of Year Procedural Assessment ● Mammoth Math Gr. 2 End of Year Procedural Assessment Answer Key
Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> ● a.m./p.m. ● Analog clock ● Angle (e.g., figure formed by the corner of a polygon) ● Digital clock ● Parallel (two lines on the same plane are parallel if they do not intersect) ● Parallelogram (quadrilateral with both pairs of opposite sides parallel) ● Polygon (closed figure with three or more straight sides, e.g., triangle, quadrilateral, pentagon, hexagon) ● Quadrilateral (four-sided polygon, e.g., square, rhombus, rectangle, parallelogram, trapezoid) ● Quarter past, quarter to ● Right angle (e.g., a square corner) ● Second (unit for measuring time) ● Third of (shapes), thirds (three equal shares) ● Whole ● 2 halves ● 3 thirds ● 4 fourths
Focus Mathematical Concepts	
<p><u>Grade Level Fluency Requirement:</u></p> <ul style="list-style-type: none"> ❖ 2.OA.B.2 Single-digit sums and differences (sums from memory by end of Grade 2) ❖ 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. <p><u>Prerequisite skills</u></p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.

Coherence Map

1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks. Recognize and identify coins, their names, and their values.

1.G.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as “right rectangular prism.”)

1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.

2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

2.MD.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.
- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 7: Problem Solving with Length, Money & Data

(Approximate Instructional Time: 6 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> 2.MD.D.10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph. 	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Introduction to problem solving with categorical data and graphs. Students are able to: <ul style="list-style-type: none"> sort and record data into a table using up to four categories. draw a picture graph to represent a data set with up to four categories. draw a bar graph to represent a data set with up to four categories. use information in a bar graph to solve simple put together, take apart, and compare problems. <p>Learning Goal 1: Draw & label a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in the graph.</p>
<ul style="list-style-type: none"> 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked) 	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Problem solving with coins and bills Students are able to: <ul style="list-style-type: none"> use different strategies to make \$1 or make change from a \$1. solve word problems involving different ways to make change from \$1. solve two-step word problems involving dollars or cents with totals <p>Learning Goal 2: Use a variety of strategies (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 100.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> 2.MD.C.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i> 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Problem solving with coins and bills</p> <p>Students are able to:</p> <ul style="list-style-type: none"> solve word problems involving dollar bills, quarters, dimes, nickels, and pennies. <p>Learning Goal 3: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using the \$ and ¢ symbols appropriately.</p>
<ul style="list-style-type: none"> 2.MD.A.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. 	<p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p>	<p>Concept(s): Measuring and estimating with customary and metric unit systems.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> use iteration with objects (such as an inch tile) to measure. develop estimation strategies by applying prior knowledge of length and using mental benchmarks. measure lengths of objects using rules, yardsticks, meter sticks and measuring tapes. <p>Learning Goal 4: Estimate lengths of objects and measure lengths of objects using appropriate tools.</p>
<ul style="list-style-type: none"> 2.MD.A.2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p>	<p>Concept(s): Measuring and estimating with customary and metric unit systems.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> measure the length of an object twice using inches, feet and yards. compare the measurements and explain how they relate to each unit. <p>Learning Goal 5: Compare measurements of an object taken with two different units of measure (customary, metric) and describe how the two measurements relate to the size of the unit chosen.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> 2.MD.A.3. Estimate lengths using units of inches, feet, centimeters, and meters 	<p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p>	<p>Concept(s): Measuring and estimating with customary and metric unit systems.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> estimate lengths of objects. <p>Learning Goal 6: Develop estimation strategies by applying knowledge of length and using mental benchmarks.</p>
<ul style="list-style-type: none"> 2.MD.A.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. 	<p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p>	<p>Concept(s): Measuring and estimating with customary and metric unit systems.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> Measure objects, comparing to determine how much longer one object is than another. Express the difference in length in terms of a standard unit of measure. <p>Learning Goal 7: Compare lengths of two objects and determine how much longer one object is than the other using a standard unit of measure.</p>
<ul style="list-style-type: none"> 2.MD.B.5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem <i>For example, if Angela needs 30 feet of ribbon for gifts, but she only has 17 feet, number sentences $17 + \square = 30$ and $30 - \square = 17$ both represent the situation and \square represents the number of feet of ribbon that she still needs.</i> 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p>	<p>Concept(s): Problem solving with customary and metric units.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> solve two-digit addition and subtraction word problems involving length by using tape diagrams and writing equations to represent the problem. <p>Learning Goal 8: Add and subtract within 100 to solve word problems involving lengths using a symbol to represent the unknown number.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> 2.MD.B.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. 	<p>MP.4 Model with mathematics.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.5 Use appropriate tools strategically.</p>	<p>Concept(s): Displaying measurement data.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> identify unknown numbers on a number line diagram by using the distance between numbers and reference points. represent two-digit sums and differences involving length by using the ruler as a number line. <p>Learning Goal 9: Use a ruler as a number line to represent the solution of whole number sums and differences related to length within 100.</p>
<ul style="list-style-type: none"> 2.MD.D.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. 	<p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Collect, record and display data.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> collect and record measurement data in a table. answer questions and summarize the data set. relate the measurement scale to the number line. draw a line plot (horizontal scale, whole numbers) to represent a given data set. answer questions and draw conclusions based on measurement data. <p>Learning Goal 10: Use tools of measurement to measure lengths of several objects to the nearest whole unit and represent the data on a line plot with appropriate whole number units on the horizontal scale.</p>
<ul style="list-style-type: none"> 2.NBT.A.2. Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked) 		<p>Concept(s): Reinforced through the work with 2.NBT.C.5, 2.MD.B.5, 2.MD.B.6, 2.MD.D.8</p>
<ul style="list-style-type: none"> 2.NBT.A.4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons. 		<p>Concept(s): Reinforced through the work with 2.MD.B.5, 2.MD.B.6</p>
<ul style="list-style-type: none"> 2.NBT.B.6. Add up to four two-digit numbers using strategies based on place value and properties of operations. 		<p>Concept(s): Reinforced through the work with 2.NBT.C.5, 2.MD.D.8</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<p><u>Interdisciplinary Connections:</u></p> <p>NGSS Appendix for Alignment NJSLS-Gr. 2 ELA</p>	<p><u>Science:</u></p> <p>2.PS1.& K-2. ETS.1 <i>Science examples: (1) Make a bar graph with a single-unit scale showing how many samples in a mineral collection are red, green, purple, or various other colors. Based on the graph, how many samples are represented in all? (2) As part of an investigation of which materials are best for different intended uses, make a picture graph with a single-unit scale showing how many tools in a toolbox are made of metal, wood, rubber/plastic, or a combination. Based on the graph, how many tools are represented in all? Alignment notes: (1) Scaled bar graphs are not expected until Grade 3. (2) Multiplication and division of whole numbers are not expected until Grade 3.</i></p> <p>2.LS2. <i>Science example: Make a bar graph with single-unit scale showing the number of seedlings that sprout with and without watering.</i></p> <p>2.LS4. <i>Science example: Make a picture graph with single-unit scale showing the number of plant, vertebrate-animal, and invertebrate-animal species observed during a field trip or in a nature photograph; how many more plant species were observed than animal species?</i></p> <p><u>English-Language Arts:</u></p> <p>RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.</p> <p>RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p>RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.</p> <p>RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.</p> <p>W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.</p> <p>W.2.8. Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <p>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</p> <p>C. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p> <p>SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p> <p>SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>
<p><u>21st Century Skills/ Career Ready Practices:</u></p>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP3. Attend to personal health and financial well-being.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

	<p>CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership and effective management. CRP10. Plan education and career paths aligned to personal goals. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.</p>
<p>2014 NJ Technology Standards:</p>	<p>8.1 Educational Technology (Word PDF) All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design and Computational Thinking - Programming (Word PDF) All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p>Please see relevant projects for technology standards 8.1 and 8.2:</p>

District/School Primary and Supplementary Resources	
<p>Primary Resource:</p> <p>Eureka Math (Unbound Ed - Module 7)</p> <p>Zearn.org</p>	<p>Supplementary Resources:</p> <p>Number Talks: Building Numerical Reasoning Sadlier Progress In Mathematics Online Resources - Grade 2 <i>Sadlier Progress in Mathematics</i> Workbook <i>Excel Math</i> (Publisher: AnsMar) Khan Academy Visual Patterns: Gr. K-12 Number Strings Common Core Progression Documents</p> <p>Performance Tasks are available for use from the following sites:</p> <p>Illustrative Mathematics Coherence Map Inside Mathematics Problems of the Month Grade 2 YouCubed Tasks</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Suggested Materials & Tools:	Additional Fluency & Lesson Activities
Suggested Materials & Tools:	Suggested Tasks for Use During Unit
<ul style="list-style-type: none"> <input type="checkbox"/> Bar graph <input type="checkbox"/> Centimeter cube <input type="checkbox"/> Centimeter ruler <input type="checkbox"/> Dice <input type="checkbox"/> Grid paper <input type="checkbox"/> Inch and centimeter ruler <input type="checkbox"/> Inch tiles <input type="checkbox"/> Line plot <input type="checkbox"/> Measuring tape <input type="checkbox"/> Meter stick <input type="checkbox"/> Money (i.e., dollars, coins) <input type="checkbox"/> Number bond <input type="checkbox"/> Number line <input type="checkbox"/> Personal white board <input type="checkbox"/> Picture graph <input type="checkbox"/> Table <input type="checkbox"/> Tape diagram <input type="checkbox"/> Yardstick 	<ul style="list-style-type: none"> 2.MD.A.1.3,4 Determining Length 2.MD.B.5 High Jump Competition 2.MD.B.6 Frog and Toad on the Number Line 2.MD.C.7 Ordering Time 2.MD.C.8 Delayed Gratification 2.MD.D.9 Hand Span Measures 2.NBT.A.4 Ordering 3-digit numbers 2.NBT.B.5 Saving Money 1 2.NBT.B.5 Saving Money 2 2.NBT.B.6 Toll Bridge Puzzle
District/ School Formative Assessment Plan	District/School Summative Assessment Plan
<ul style="list-style-type: none"> ● Teacher observation of students engaged in group and independent activities. ● Individual and small group conferences/interviews to assess understanding with rubric ● Sprints ● Self-assessment by students with guidance from teacher. ● Exit tickets ● Zearn Teacher Reports ● Renaissance Math programs 	<ul style="list-style-type: none"> ● Teacher created assessments and projects ● <i>Eureka Math</i> Mid- and End- Module Assessments (Constructed response item with rubric) ● Teacher/District created benchmark assessments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> ● Bar graph ● Category (group of people or things sharing a common characteristic, e.g., bananas are in the fruit category) ● Data (a set of facts or pieces of information) ● Degree (used to measure temperature, e.g., degrees Fahrenheit) ● Foot (ft, unit of length equal to 12 inches) ● Inch (in, unit of length) ● Legend (notation on a graph explaining what symbols represent) ● Line plot (graphical representation of data) ● Picture graph (representation of data like a bar graph, using pictures instead of bars) ● Scale (a number line used to indicate the various quantities represented in a bar graph) ● Survey (collecting data by asking a question and recording responses) ● Symbol (picture that represents something else) ● Table (representation of data using rows and columns) ● Thermometer (tool used to measure temperature) ● Yard (yd, unit of length equal to 36 inches or 3 feet)
Focus Mathematical Concepts	
<p><u>Grade Level Fluency Requirement:</u></p> <ul style="list-style-type: none"> ❖ 2.OA.B.2 Single-digit sums and differences (sums from memory by end of Grade 2) ❖ 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. <p><u>Prerequisite skills</u></p> <p><i>Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.</i></p> <p><u>Coherence Map</u></p> <p>1.MD.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</p> <p>1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.</p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (See CCLS Glossary, Table 1.)

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.

2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.

2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

Common Misconceptions:

- Students might overgeneralize the value of coins when they count them. They might count them as individual objects. Also some students think that the value of a coin is directly related to its size, so the bigger the coin, the more it is worth. Place pictures of a nickel on the top of five-frames that are filled with pictures of pennies. In like manner, attach pictures of dimes and pennies to ten-frames and pictures of quarters to 5 x 5 grids filled with pennies. Have students use these materials to determine the value of a set of coins in cents.
- Sometimes students will record twenty-nine dollars as 29\$. Remind them that the dollar sign goes in front. The cent sign goes after the number and there is no decimal point used with the cent sign.
- The attributes for the same kind of object can vary. This will cause equal values in an object graph to appear unequal. For example, when making an object graph using shoes for boys and girls, five adjacent boy shoes would likely appear longer than five adjacent girl shoes. To standardize the objects, place the objects on the same-sized construction paper or sticky-note, then make the object graph.
- Some students may think that a shape is changed by its orientation. They may see a rectangle with the longer side as the base, but claim that the same rectangle with the shorter side as the base is a different shape. This is why it is so important to have young students handle shapes and physically feel that the shape does not change regardless of the orientation,

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 1: Sums & Differences to 20

(Approximate Instructional Time: 2 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> 2.OA.A.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. *(benchmarked) 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Review and reinforcement of Grade 1 Skills</p> <p>Students are able to:</p> <ul style="list-style-type: none"> count on and put together to add to solve one- and two-step word problems. take from or take apart to subtract to solve one- and two-step word problems. use drawings (e.g. number bonds & ten frames) and equations to represent the problem. <p>Learning Goal 1: Add and subtract <u>within 10</u> to solve 1- and 2-step word problems with unknowns in any position.</p>
<ul style="list-style-type: none"> 2.OA.B.2. Fluently add and subtract within 20 using mental strategies. <i>By end of Grade 2, know from memory all sums of two one-digit numbers.</i> *(benchmarked) 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Fluently add and subtract within 20 using mental strategies.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> add <u>within 20</u> using mental strategies with accuracy and efficiency. subtract <u>within 20</u> using mental strategies with accuracy and efficiency. <p>Learning Goal 2: Fluently add and subtract <u>within 20</u> using mental strategies.</p>
<ul style="list-style-type: none"> 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked) 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Fluently add and subtract within 100 using a variety of strategies.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> with accuracy and efficiency, add and subtract <u>within 100</u> using strategies based on place value. with accuracy and efficiency, add and subtract <u>within 100</u> using strategies based on properties of operations. with accuracy and efficiency, add and subtract <u>within 100</u> using strategies based on the relationship between addition and subtraction.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

		<p>Learning Goal 3: Use a variety of strategies (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 100.</p>
<p><u>Interdisciplinary Connections:</u></p> <p>NGSS Appendix for Alignment NJSLs-Gr. 2 ELA</p>	<p><u>Science:</u> 1-ESS1. <i>Science example: There were 16 hours of daylight yesterday. On December 21, there were only 8 hours of daylight. How many more hours of daylight were there yesterday?</i></p> <p><u>English-Language Arts:</u> RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area. RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently. RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe. RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text. RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text. RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed. W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion. W.2.8. Recall information from experiences or gather information from provided sources to answer a question. SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). B. Build on others' talk in conversations by linking their explicit comments to the remarks of others. C. Ask for clarification and further explanation as needed about the topics and texts under discussion. SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences. SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>	
<p><u>21st Century Skills/ Career Ready Practices:</u></p>	<p>CRP1. Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP3. Attend to personal health and financial well-being. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions.</p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

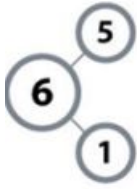
	<p>CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership and effective management. CRP10. Plan education and career paths aligned to personal goals. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.</p>
<p>2014 NJ Technology Standards:</p>	<p>8.1 Educational Technology (Word PDF) All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design and Computational Thinking - Programming (Word PDF) All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p>Please see relevant projects for technology standards 8.1 and 8.2:</p>

District/School Primary and Supplementary Resources	
<p>Primary Resource:</p> <p>Eureka Math (Unbound Ed - Module 1)</p> <p>Zearn.org</p>	<p>Supplementary Resources:</p> <p>Number Talks: Building Numerical Reasoning Sadlier Progress In Mathematics Online Resources - Grade 2 <i>Sadlier Progress in Mathematics</i> Workbook <i>Excel Math</i> (Publisher: AnsMar) Khan Academy Visual Patterns: Gr. K-12 Number Strings Common Core Progression Documents Performance Tasks are available for use from the following sites: Illustrative Mathematics Coherence Map Inside Mathematics Problems of the Month Grade 2 YouCubed Tasks Additional Fluency & Lesson Activities</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Suggested Materials & Tools:	Suggested Tasks for Use During Unit
<ul style="list-style-type: none"> <input type="checkbox"/> Dice <input type="checkbox"/> Hide Zero cards (Lesson 2 Template 1) <input type="checkbox"/> Linking cubes <input type="checkbox"/> Personal white boards <input type="checkbox"/> Rekenrek - available as an online resource (Slavonic abacus having beads with a color change at the five) <input type="checkbox"/> Ten-frame cards, 1 set per student (Lesson 1 Template 1) <ul style="list-style-type: none"> <input type="checkbox"/> 1 each of 1–4 and 6–9 <input type="checkbox"/> 2 fives <input type="checkbox"/> 10 tens <input type="checkbox"/> Blank frame <input type="checkbox"/> Ten-frame cards large set for teacher <input type="checkbox"/> Ten-strip (Lesson 4 Template) <input type="checkbox"/> Two-sided counters for each student (e.g., large white beans spray painted red on one side) 	<ul style="list-style-type: none"> 2.OA.A.1 Pencil and a Sticker 2.OA.B.2 Building toward fluency 2.NBT.B.5 Jamir's Penny Jar Additional Gr 2 Performance Task Resource
District/School Formative Assessment Plan	District/School Summative Assessment Plan
<ul style="list-style-type: none"> • Teacher observation of students engaged in group and independent activities. • Individual and small group conferences/interviews to assess understanding with rubric • Sprints • Self-assessment by students with guidance from teacher. • Exit tickets • Zearn Teacher Reports • Renaissance Math programs 	<ul style="list-style-type: none"> • Teacher created assessments and projects • Sadlier Unit Assessments • Eureka Math Mid- and End- Module Assessments (Constructed response item with rubric) • Teacher/District created benchmark assessments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary												
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> • Expression (e.g., $2 + 1$, $13 - 6$) • Make ten and subtract from ten (e.g., $8 + 3 = 8 + 2 + 1$ and $15 - 7 = 10 - 7 + 5 = 3 + 5$) • Number bond (e.g., $5 + 1 = 6$, $1 + 5 = 6$, $6 - 1 = 5$, $6 - 5 = 1$) <div style="text-align: center; margin: 5px 0;"> <p><small>Number bond</small></p>  </div> <ul style="list-style-type: none"> • Say Ten counting (e.g., 11 is “1 ten 1,” 12 is “1 ten 2,” 20 is “2 tens,” 27 is “2 tens 7,” 35 is “3 tens 5,” 100 is “1 hundred,” 146 is “1 hundred 4 tens 6”) <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Regular</th> <th style="padding: 5px;">Say Ten</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">fifty-one</td> <td style="padding: 5px;">5 tens 1</td> </tr> <tr> <td style="padding: 5px;">sixty-seven</td> <td style="padding: 5px;">6 tens 7</td> </tr> <tr> <td style="padding: 5px;">seventy-five</td> <td style="padding: 5px;">7 tens 5</td> </tr> <tr> <td style="padding: 5px;">eighty-four</td> <td style="padding: 5px;">8 tens 4</td> </tr> <tr> <td style="padding: 5px;">ninety-five</td> <td style="padding: 5px;">9 tens 5</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Ten plus (e.g., $10 + 3 = 13$, $30 + 5 = 35$, $70 + 8 = 78$) 	Regular	Say Ten	fifty-one	5 tens 1	sixty-seven	6 tens 7	seventy-five	7 tens 5	eighty-four	8 tens 4	ninety-five	9 tens 5
Regular	Say Ten												
fifty-one	5 tens 1												
sixty-seven	6 tens 7												
seventy-five	7 tens 5												
eighty-four	8 tens 4												
ninety-five	9 tens 5												
Focus Mathematical Concepts													
<p><u>Grade Level Fluency Requirement:</u></p> <ul style="list-style-type: none"> ◆ 2.OA.B.2 Single-digit sums and differences (sums from memory by end of Grade 2) ◆ 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. <p><u>Prerequisite skills</u></p> <p><i>Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.</i></p> <p>Coherence Map</p>													

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

K.NBT.1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 = 12 + 1 = 13$).

1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1.NBT.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Common Misconceptions:

- Some students may not realize the relationship between facts such as $4+7$ and $7+4$ have the same sum.
- Often when students learn to use an aid (Pac Man, bird, alligator, etc.) for knowing which comparison sign ($<$, $>$, $=$) to use, the students don't associate the real meaning and name with the sign. The use of the learning aids must be accompanied by the connection to the names: $<$ Less Than, $>$ Greater Than, and $=$ Equal To. More importantly, students need to begin to develop the understanding of what it means for one number to be greater than another.
- Students may think an odd and an odd will equal an odd.
- Students may be challenged by writing numbers that they read or hear and think that 285 is 200805.
- Some students end their solution to a two-step problem after they complete the first step.
- Many children have misconceptions about the equal sign. The equal sign means, "—is the same as" however, many primary students think that the equal sign tells you that the —answer is coming up. Students need to see examples of number sentences with an operation to the right of the equal sign and the answer on the left, so they do not overgeneralize from those limited examples.
- Students might rely on a keyword or phrase in a problem to suggest an operation that will lead to an incorrect solution.
- They might think that the word *left* always means that subtraction must be used to find a solution. Students need to solve problems where keywords are contrary to such thinking. For example, the use of the word *left* does not indicate subtraction as a solution method: Debbie took the 8 stickers he no longer wanted and gave them to Anna. Now Debbie has 11 stickers left. How many stickers did Debbie have to begin with?
- Students may overgeneralize the idea that answers to addition problems must be greater. Adding 0 to any number results in a sum that is equal to that number. Provide word problems involving 0 and have students model using drawings with an empty space for 0.
- Some students may not move beyond thinking of the number 358 as 300 ones plus 50 ones plus 8 ones to the concept of 8 singles, 5 bundles of 10 singles or tens, and 3

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

bundles of 10 tens or hundreds. Use base-ten blocks to model the collecting of 10 ones (singles) to make a ten (a rod) or 10 tens to make a hundred (a flat). It is important that students connect a group of 10 ones with the word ten and a group of 10 tens with the word hundred.

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.
- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 3: Place Value, Counting & Comparison of Numbers to 1,000

(Approximate Instructional Time: 5 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> ● 2.NBT.A.1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: 2.NBT.A.1.a. 100 can be thought of as a bundle of ten tens — called a “hundred.” 2.NBT.A.1.b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones). 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s):</p> <ul style="list-style-type: none"> ● 100 can be thought of as a bundle of ten tens — called a <i>hundred</i>. ● The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 <i>tens</i> and 0 <i>ones</i>). <p>Students are able to:</p> <ul style="list-style-type: none"> ● bundle and count ones, tens, and hundreds to 1,000. ● represent the number of <i>hundreds</i>, <i>tens</i>, and <i>ones</i> in a 3-digit number. <p>Learning Goal 1: Understand place value units represent a 3-digit number as specific amounts of <i>hundreds</i>, <i>tens</i>, and <i>ones</i>.</p> <p>Learning Goal 2: Identify ten <i>tens</i> as 100 and represent two hundred, three hundred, ... nine hundred with 2, 3, ..., 9 hundred bundles (with zero <i>tens</i> and zero <i>ones</i>).</p>
<ul style="list-style-type: none"> ● 2.NBT.A.2. Count within 1000; skip-count by 5s, 10s, and 100s. *(benchmarked) 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Use skip-counting and adding-on to count with larger numbers.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> ● count up and down between 100 & 220 using ones and tens. ● count up and down between 90 & 1,000 using ones, tens, and hundreds. ● count the total value of \$1, \$10, and \$100 bills up to \$1,000. ● count from \$10 to \$1,000 on the place value chart and the empty number line. ● explore \$1,000 and exchanging \$10 for a thousand dollar bill. <p>Learning Goal 3: Count within 1000 including skip-counting by 1s, 10s, and 100s and model base ten numbers within 1,000 with money.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> 2.NBT.A.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. 	<p>MP 2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Model numbers within 1000 with place value disks.</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> read and write numbers within 1,000 after modeling with place value disks model and write numbers with more than 9 ones or 9 tens in expanded, unit, standard and word forms <p>Learning Goal 4: Write and read three-digit numbers in unit, standard, expanded and word forms.</p>
<ul style="list-style-type: none"> 2.NBT.A.4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons. 	<p>MP 2 Reason abstractly and quantitatively.</p> <p>MP.6 Attend to precision.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Compare two three-digit numbers using place value concepts.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> use the number of the hundreds, tens and/or ones digits to compare two three-digit numbers. write the results of the comparison using $>$, $=$, or $<$. <p>Learning Goal 5: Use symbols $>$, $=$, $<$ to record the results of comparing two 3-digit numbers by decomposing the number into a number (100s, 10s, and 1s).</p>
<ul style="list-style-type: none"> 2.NBT.B.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. 	<p>MP 2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Continue to develop conceptual understanding of more and less with larger numbers</p> <p>Students are able to:</p> <ul style="list-style-type: none"> model and use language to tell about 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less. complete a pattern counting up and down. <p>Learning Goal 6: Mentally add or subtract 10 or 100 from any given number between 100 and 900.</p>
<ul style="list-style-type: none"> 2.OA.A.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with 		<p>Concept(s): Reinforced through the work with 2.NBT.B.8</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<p>a symbol for the unknown number to represent the problem. *(benchmarked)</p>		
<p>Interdisciplinary Connections:</p> <p>NGSS Appendix for Alignment NJSLS-Gr. 2 ELA</p>		<p><u>Science:</u></p> <p>2.ESS1. <i>Science example: As part of comprehending media to identify the varying timescales on which Earth events can occur, students understand that a period of thousands of years is much longer than a period of hundreds of years, which is in turn much longer than a period of tens of years.</i> <i>Alignment note: Rounding is not expected until grade 3.</i></p> <p>2.ESS2. <i>Science example: Students write about a lake that is 550 feet deep, a river that is 687 miles long, a forest that began growing about 200 years ago, and so on. (2.NBT.A.3)</i> <i>Alignment note: Students in this grade are expected to be fluent in mentally adding and subtracting within 20, knowing single-digit sums from memory by end of Grade 2; also to be fluent in adding and subtracting within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</i></p> <p><u>English-Language Arts:</u></p> <p>RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.</p> <p>RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p>RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.</p> <p>RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.</p> <p>W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.</p> <p>W.2.8. Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <p>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</p> <p>C. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p> <p>SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p> <p>SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<p>21st Century Skills/ Career Ready Practices:</p>	<p>CRP1. Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP3. Attend to personal health and financial well-being. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership and effective management. CRP10. Plan education and career paths aligned to personal goals. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.</p>
<p>2014 NJ Technology Standards:</p>	<p>8.1 Educational Technology (Word PDF) All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design and Computational Thinking - Programming (Word PDF) All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p>Please see relevant projects for technology standards 8.1 and 8.2:</p>

District/School Primary and Supplementary Resources	
<p>Primary Resource:</p> <p>Eureka Math (Unbound Ed - Module 3)</p>	<p>Supplementary Resources:</p> <p>Number Talks: Building Numerical Reasoning Sadlier Progress In Mathematics Online Resources - Grade 2 <i>Sadlier Progress in Mathematics</i> Workbook <i>Excel Math</i> (Publisher: AnsMar) Khan Academy Visual Patterns: Gr. K-12 Number Strings Common Core Progression Documents Performance Tasks are available for use from the following sites: Illustrative Mathematics Coherence Map</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

	Inside Mathematics Problems of the Month Grade 2 YouCubed Tasks Additional Fluency & Lesson Activities
Suggested Materials & Tools:	Suggested Tasks for Use During Unit
<ul style="list-style-type: none"> <input type="checkbox"/> 2 boxes of 1,000 straws per class of 25 <input type="checkbox"/> Clock number line (details in Lesson 1 Fluency Practice) <input type="checkbox"/> Dice, 1 per pair <input type="checkbox"/> Dienes blocks (See Module 3 Overview) <input type="checkbox"/> Hide Zero cards (also known as place value cards) showing numbers 1–5, 10–50, and 100–500 (1 small set per student) (Lesson 4 Template 1) <input type="checkbox"/> Hundreds place value chart (Lesson 4 Template 2) <input type="checkbox"/> Meter strip (Lesson 1 Template) <input type="checkbox"/> Number spelling activity sheet (Lesson 7 Activity Sheet) <input type="checkbox"/> Personal white boards <input type="checkbox"/> Place value box (details in Lesson 4 Concept Development) <input type="checkbox"/> Place value cards to 1,000, 1 large teacher set <input type="checkbox"/> Place value disks: suggested minimum of one set per pair (18 ones, 18 tens and 18 hundreds, and 1 one thousand) <input type="checkbox"/> Play money: \$1, \$5, \$10, and \$100 bills (10 ones, 1 five, 12 tens, and 10 hundreds per pair), and a single set of 16 pennies, 13 dimes <input type="checkbox"/> Rubber bands, 16 per pair <input type="checkbox"/> Small plastic bags (baggies) 	<ul style="list-style-type: none"> 2.NBT.A.1 Making 124 2.NBT.A.1 Largest Number Game 2.NBT.A.3 Looking at Numbers Every Which Way 2.NBT.A.4 Ordering 3-digit numbers 2.NBT.B.8 Choral Counting 2.OA.A.1 Pencil and a Sticker
District/School Formative Assessment Plan	District/School Summative Assessment Plan
<ul style="list-style-type: none"> • Teacher observation of students engaged in group and independent activities. • Individual and small group conferences/interviews to assess understanding with rubric • Sprints • Self-assessment by students with guidance from teacher. • Exit tickets • Zearn Teacher Reports • Renaissance Math programs 	<ul style="list-style-type: none"> • Teacher created assessments and projects • Eureka Math Mid- and End- Module Assessments (Constructed response item with rubric) • Teacher/District created benchmark assessments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> ● Base ten numerals (e.g., a thousand is 10 hundreds, a hundred is 10 tens, starting in Grade 3 a one is 10 tenths, etc.) ● Expanded form (e.g., $500 + 70 + 6$) ● Hundreds place (e.g., the 5 in 576 is in the hundreds place) ● One thousand (1,000) ● Place value or number disk (pictured) ● Standard form (e.g., 576) ● Unit form (e.g., 5 hundreds 7 tens 6 ones) ● Word form (e.g., five hundred seventy-six)
Focus Mathematical Concepts	
<p><u>Grade Level Fluency Requirement:</u></p> <ul style="list-style-type: none"> ❖ 2.OA.B.2 Single-digit sums and differences (sums from memory by end of Grade 2) ❖ 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. <p><u>Prerequisite skills</u></p> <p><i>Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.</i></p> <p><u>Coherence Map</u></p> <p>1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <ol style="list-style-type: none"> a. 10 can be thought of as a bundle of ten ones—called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). <p>1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.</p> <p><u>Common Misconceptions:</u></p> <ul style="list-style-type: none"> ● Some students might confuse the hour and minutes hands. For the time of 3:45, they say the time is 9:15. Also, some students name the numeral closest to the hands, regardless of whether this is appropriate. For instance, for the time of 3:45 they say the time is 3:09 or 9:03. Assess students' understanding of the roles of the minute and hour hands and the relationship between them. Provide opportunities for students to experience and measure times to the nearest five minutes and the nearest hour. Have them focus on the movement and features of the hands on real or geared manipulative clocks. ● When adding two-digit numbers, some students might start with the digits in the ones place and record the entire sum. Then they add the digits in the tens place and record this sum. Assess students' understanding of a ten and provide more experiences modeling addition with grouped and pregrouped base-ten materials. 	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Students often do not begin measuring in the correct spot on a ruler.
- Some students might think that they can only measure lengths with a ruler starting at the left edge. Provide situations where the ruler does not start at zero. For example, a ruler is broken and the first inch number that can be seen is 2. If a pencil is measured and it is 9 inches on this ruler, the students must subtract 2 inches from the 9 inches to adjust for where the measurement started.

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.
- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 4: Addition & Subtraction Within 200 with Word Problems to 100

(Approximate Instructional Time: 7 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> 2.OA.A.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. *(benchmarked) 	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Sums and differences within 100 Students are able to: <ul style="list-style-type: none"> add and subtract multiples of 10 including counting on to subtract. add and subtract multiples of 10 and some ones within 100 solve one- and two-step word problems within 100 using strategies based on place value. use drawings and equations to represent the problem. Learning Goal 1: Add and subtract <u>within 100</u> to solve 1- and 2-step word problems with unknowns in any position.
<ul style="list-style-type: none"> 2.NBT.B.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. *(benchmarked) 	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Sums and differences within 100 Students are able to: <ul style="list-style-type: none"> with accuracy and efficiency, add and subtract within 100 using place value strategies, properties of operations and/or the relationship between addition and subtraction. Learning Goal 2: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
<ul style="list-style-type: none"> 2.NBT.B.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. 	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): Sums and differences within 100 Students are able to: <ul style="list-style-type: none"> Mentally add 10 or 100 from any given number between 100 and 900. Mentally subtract 10 or 100 from any given number between 100 and 900. Learning Goal 3: Mentally add or subtract 10 or 100 from any given number between 100 and 900.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> 2.NBT.B.9. Explain why addition and subtraction strategies work, using place value and the properties of operations. 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Place value and properties of operations are strategies to add and subtract.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> Explain, using objects and drawings, why addition and subtraction strategies based on place value work. Explain, using objects and drawings, why addition and subtraction strategies based on properties of operations work. <p>Learning Goal 4: After applying addition and subtraction strategies based on place value and the properties of operations, explain why these strategies work using drawings or objects [for example, $37 + 12$ equals $30 + 7 + 10 + 2$ (place value) which equals $30 + 10 + 7 + 2$ (property of operations)].</p>
<ul style="list-style-type: none"> 2.NBT.B.6. Add up to four two-digit numbers using strategies based on place value and properties of operations. 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Strategies for composing & decomposing tens and hundreds.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> add three two digit numbers using place value strategies and properties of operations. add four two digit numbers using place value strategies and properties of operations. <p>Learning Goal 5: Add up to four two -digit numbers using strategies based on place value and properties of operations.</p>
<ul style="list-style-type: none"> 2.NBT.B.7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. 	<p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p> <p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>	<p>Concept(s): Strategies for composing & decomposing tens and hundreds.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> add and subtract within 200, using concrete models or drawings. add and subtract within 200, using strategies based on place value. add and subtract within 200, using properties of operations or the relationship between addition and subtraction. relate the strategies to a written method. <p>Learning Goal 6: Add and subtract within 200, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.</p>
<p>Interdisciplinary Connections:</p>	<p><u>English-Language Arts:</u> RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.</p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<p>NGSS Appendix for Alignment NJSLs-Gr. 2 ELA</p>	<p>RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p>RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.</p> <p>RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.</p> <p>W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.</p> <p>W.2.8. Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <p>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</p> <p>C. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p> <p>SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p> <p>SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>
<p>21st Century Skills/ Career Ready Practices:</p>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP3. Attend to personal health and financial well-being.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP9. Model integrity, ethical leadership and effective management.</p> <p>CRP10. Plan education and career paths aligned to personal goals.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>
<p>2014 NJ Technology Standards:</p>	<p>8.1 Educational Technology (Word PDF)</p> <p>All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

8.2 Technology Education, Engineering, Design and Computational Thinking - Programming

([Word](#) | [PDF](#))

All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Please see relevant projects for technology standards [8.1](#) and [8.2](#):

District/School Primary and Supplementary Resources	
Primary Resource: Eureka Math (Unbound Ed - Module 4) Zearn.org	Supplementary Resources: Number Talks: Building Numerical Reasoning Sadlier Progress In Mathematics Online Resources - Grade 2 <i>Sadlier Progress in Mathematics</i> Workbook <i>Excel Math</i> (Publisher: AnsMar) Khan Academy Visual Patterns: Gr. K-12 Number Strings Common Core Progression Documents Performance Tasks are available for use from the following sites: Illustrative Mathematics Coherence Map Inside Mathematics Problems of the Month Grade 2 YouCubed Tasks Additional Fluency & Lesson Activities
Suggested Materials & Tools:	Suggested Tasks for Use During Unit
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Arrow notation (arrow way)</i> <input type="checkbox"/> <i>Chip model (pictured in module overview)</i> <input type="checkbox"/> <i>Hide Zero cards (pictured in module overview)</i> <input type="checkbox"/> <i>Number bond</i> <input type="checkbox"/> <i>Personal white boards</i> <input type="checkbox"/> <i>Place value chart (Template in Lesson 1)</i> <input type="checkbox"/> <i>Place value disk sets (19 ones, 19 tens, 18 hundreds, 1 one thousand per set)</i> <input type="checkbox"/> Rekenrek - available as an online resource (Slavonic abacus having beads with a color change at the five) 	<ul style="list-style-type: none"> 2.OA.A.1 Pencil and a Sticker 2.NBT.B.5 Saving Money 1 2.NBT.B.5 Saving Money 2 2.NBT.B.6 Toll Bridge Puzzle 2.NBT.B.7 How Many Days Until Summer Vacation? 2.NBT.B.8 Choral Counting 2.NBT.B.9 Peyton and Presley Discuss Addition

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<input type="checkbox"/> <i>Tape diagram</i>	
District/ School Formative Assessment Plan	District/School Summative Assessment Plan
<ul style="list-style-type: none"> ● Teacher observation of students engaged in group and independent activities. ● Individual and small group conferences/interviews to assess understanding with rubric ● Sprints ● Self-assessment by students with guidance from teacher. ● Exit tickets ● Zearn Teacher Reports ● Renaissance Math programs 	<ul style="list-style-type: none"> ● Teacher created assessments and projects ● Eureka Math Mid- and End- Module Assessments (Constructed response item with rubric) ● Teacher/District created benchmark assessments
Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> ● Algorithm (a step-by-step procedure to solve a particular type of problem) ● Compose (e.g., to make 1 larger unit from 10 smaller units) ● Decompose (e.g., to break 1 larger unit into 10 smaller units) ● Equation (two expressions with an equal sign between them; that is, an equation is a statement that two expressions are equal; however, there is no guarantee that the statement is true) ● New groups below (show newly composed units on the line below the appropriate place in the addition algorithm, pictured above on page iv) ● Simplifying strategy (e.g., to solve $299 + 6$, think $299 + 1 + 5 = 300 + 5 = 305$) ● Totals below (pictured) <div style="text-align: center; margin-top: 10px;"> </div>
Focus Mathematical Concepts	
<p><u>Grade Level Fluency Requirement:</u></p> <ul style="list-style-type: none"> ❖ 2.OA.B.2 Single-digit sums and differences (sums from memory by end of Grade 2) ❖ 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. 	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Prerequisite skills

Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.

Coherence Map

1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.3 Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.) *Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.)*

1.OA.4 Understand subtraction as an unknown-addend problem. *For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.*

1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

- 10 can be thought of as a bundle of ten ones – called a “ten.”
- The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:

- 100 can be thought of as a bundle of ten tens – called a “hundred.”
- The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.

2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

Common Misconceptions:

- Students might overgeneralize the value of coins when they count them. They might count them as individual objects. Also some students think that the value of a coin is directly related to its size, so the bigger the coin, the more it is worth. Place pictures of a nickel on the top of five-frames that are filled with pictures of pennies. In like manner, attach pictures of dimes and pennies to ten-frames and pictures of quarters to 5 x 5 grids filled with pennies. Have students use these materials to determine the value of a set of coins in cents.
- Sometimes students will record twenty-nine dollars as 29\$. Remind them that the dollar sign goes in front. The cent sign goes after the number and there is no decimal point used with the cent sign.
- The attributes for the same kind of object can vary. This will cause equal values in an object graph to appear unequal. For example, when making an object graph using shoes for boys and girls, five adjacent boy shoes would likely appear longer than five adjacent girl shoes. To standardize the objects, place the objects on the same-sized construction paper or sticky-note, then make the object graph.
- Some students may think that a shape is changed by its orientation. They may see a rectangle with the longer side as the base, but claim that the same rectangle with the shorter side as the base is a different shape. This is why it is so important to have young students handle shapes and physically feel that the shape does not change

regardless of the orientation.

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.
- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Extended time for assignment completion as needed
- Highlight key vocabulary

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Use graphic organizers

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Unit 2: Addition & Subtraction of Length Units

(Approximate Instructional Time: 3 weeks)

NJ Student Learning Standards	Suggested Standards for Mathematical Practice	Critical Knowledge & Skills <i>(Learning goals are for the Unit but may not necessarily be in sequential order.)</i>
<ul style="list-style-type: none"> 2.MD.A.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. 	MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): Build conceptual understanding of using a ruler as a measurement tool. Students are able to: <ul style="list-style-type: none"> connect measurement with physical units by using multiple copies of the same physical unit (e.g. paper clip) to measure. use iteration with one physical unit to measure. apply concepts to create unit rulers and measure lengths using unit rulers. Learning Goal 1: Estimate lengths of objects and measure lengths of objects using appropriate tools.
<ul style="list-style-type: none"> 2.MD.A.3. Estimate lengths using units of inches, feet, centimeters, and meters 	MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): Measurement with centimeters and meters. <i>(Note: inches, feet and yards will be learned in Unit 7)</i> Students are able to: <ul style="list-style-type: none"> estimate lengths of objects in centimeters and meters. Learning Goal 2: Develop estimation strategies by applying prior knowledge of length and mental benchmarks.
<ul style="list-style-type: none"> 2.MD.A.2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. 	MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): Measurement with centimeters and meters. Students are able to: <ul style="list-style-type: none"> measure the length of an object using different units of measure (e.g. centimeters and meters) compare the measurements and explain how they relate to each unit. Learning Goal 3: Measure and compare measurements of an object taken with two different units of measure (standard metric & nonstandard) and describe how the two measurements relate to the size of the unit chosen.

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<ul style="list-style-type: none"> 2.MD.A.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. 	<p>MP.5 Use appropriate tools strategically.</p> <p>MP.6 Attend to precision.</p>	<p>Concept(s): Measurement with centimeters and meters.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> Measure objects, comparing to determine how much longer one object is than another. Express the difference in length in terms of a standard unit of measure. <p>Learning Goal 4: Compare lengths of two objects and determine how much longer one object is than the other using a standard unit of measure.</p>
<ul style="list-style-type: none"> 2.MD.B.5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem <i>For example, if Angela needs 30 feet of ribbon for gifts, but she only has 17 feet, number sentences $17 + \square = 30$ and $30 - \square = 17$ both represent the situation and \square represents the number of feet of ribbon that she still needs.</i> 2.MD.B.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p> <p>MP.4 Model with mathematics.</p> <p>MP.5 Use appropriate tools strategically.</p>	<p>Concept(s): Develop conceptual understanding that length is related to addition and subtraction.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> solve addition and subtraction word problems using the ruler as a number line measure lengths of string using measurement tools, and use tape diagrams to represent and compare lengths apply conceptual understanding of measurement by solving two-step word problems <p>Learning Goal 4: Add and subtract within 100 to solve word problems involving lengths using a symbol to represent the unknown number.</p>
<p><u>Interdisciplinary Connections:</u></p> <p>NGSS Appendix for Alignment NJSLs-Gr. 2 ELA</p>	<p><u>Science:</u></p> <p>2.ESS2. <i>Science example: A gully is 17 inches deep before a rainstorm and 42 inches deep after a rainstorm. How much deeper did it get during the rainstorm?</i></p> <p><i>Alignment note: Students in this grade are expected to be fluent in mentally adding and subtracting within 20, knowing single-digit sums from memory by end of Grade 2; also to be fluent in adding and subtracting within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</i></p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

	<p><u>English-Language Arts:</u></p> <p>RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.</p> <p>RI.2.5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.</p> <p>RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.</p> <p>RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.</p> <p>W.2.2. Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.</p> <p>W.2.8. Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <p>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</p> <p>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</p> <p>C. Ask for clarification and further explanation as needed about the topics and texts under discussion.</p> <p>SL.2.2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.</p> <p>SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.</p> <p>SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.</p>
<p><u>21st Century Skills/ Career Ready Practices:</u></p>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP3. Attend to personal health and financial well-being.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP9. Model integrity, ethical leadership and effective management.</p> <p>CRP10. Plan education and career paths aligned to personal goals.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

<p><u>2014 NJ Technology Standards:</u></p>	<p>8.1 Educational Technology (Word PDF) All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design and Computational Thinking - Programming (Word PDF) All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p>Please see relevant projects for technology standards 8.1 and 8.2:</p>
--	--

District/School Primary and Supplementary Resources	
<p>Primary Resource:</p> <p><u>Eureka Math (Unbound Ed - Module 2)</u></p> <p>Zearn.org</p>	<p>Supplementary Resources:</p> <p>Number Talks: Building Numerical Reasoning Sadlier Progress In Mathematics Online Resources - Grade 2 <i>Sadlier Progress in Mathematics</i> Workbook <i>Excel Math</i> (Publisher: AnsMar) Khan Academy Visual Patterns: Gr. K-12 Number Strings Common Core Progression Documents</p> <p>Performance Tasks are available for use from the following sites:</p> <p>Illustrative Mathematics Coherence Map Inside Mathematics Problems of the Month Grade 2 YouCubed Tasks Additional Fluency & Lesson Activities</p>
Suggested Materials & Tools:	Suggested Tasks for Use During Unit
<ul style="list-style-type: none"> <input type="checkbox"/> Centimeter cubes <input type="checkbox"/> Centimeter rulers <input type="checkbox"/> Large and small paper clips <input type="checkbox"/> Meter stick <input type="checkbox"/> Paper meter strips (<i>Lesson 6 Template</i>) <input type="checkbox"/> Personal white boards <input type="checkbox"/> Tape diagram 	<p>2.MD.A.1,3,4 Determining Length 2.MD.B.5 High Jump Competition 2.MD.B.6 Frog and Toad on the Number Line</p>

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

District/School Formative Assessment Plan	District/School Summative Assessment Plan
<ul style="list-style-type: none"> ● Teacher observation of students engaged in group and independent activities. ● Individual and small group conferences/interviews to assess understanding with rubric ● Sprints ● Self-assessment by students with guidance from teacher. ● Exit tickets ● Zearn Teacher Reports ● Renaissance Math programs 	<ul style="list-style-type: none"> ● Teacher created assessments and projects ● <i>Eureka Math</i> Mid- and End- Module Assessments (Constructed response item with rubric) ● Teacher/District created benchmark assessments
Instructional Best Practices and Exemplars	Mathematical Terms/Vocabulary
<ul style="list-style-type: none"> <input type="checkbox"/> <i>Number talks</i> <input type="checkbox"/> <i>Hands-on activities</i> <input type="checkbox"/> <i>Exploratory activities</i> <input type="checkbox"/> <i>Games/play</i> <input type="checkbox"/> <i>Using concrete materials to advance conceptual understanding</i> <input type="checkbox"/> <i>Use drawings and diagrams to advance conceptual understanding</i> <input type="checkbox"/> <i>Connect current concepts to previously learned skills</i> 	<ul style="list-style-type: none"> ● Benchmark (e.g., “round” numbers like multiples of 10) ● Endpoint (point where something begins or ends) ● Estimate (an approximation of a quantity or number) ● Hash mark (marks on a ruler or other measurement tool) ● Meter (standard unit of length in the metric system) ● Meter stick or strip (tool used to measure length) ● Number line ● Overlap (extend over, or cover partly) ● Ruler (tool used to measure length)
Focus Mathematical Concepts	
<p><u>Grade Level Fluency Requirement:</u></p> <ul style="list-style-type: none"> ❖ 2.OA.B.2 Single-digit sums and differences (sums from memory by end of Grade 2) ❖ 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. <p><u>Prerequisite skills</u></p> <p><i>Refer to Achieve the Core Coherence Map for full detail on vertical and horizontal alignment to prerequisite skills & future skills.</i></p> <p><u>Coherence Map</u></p> <p>1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.</p> <p>1.MD.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. <i>Limit to contexts where the object being measured is spanned by a whole</i></p>	

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

number of length units with no gaps or overlaps.

Common Misconceptions:

- Students may think that the 4 in 46 represents 4, not 40. Students need many experiences representing two-and three-digit numbers with manipulatives that group (base ten blocks) and those that do NOT group, such as counters, etc.
- When adding two-digit numbers, some students might start with the digits in the ones place and record the entire sum. Then they add the digits in the tens place and record this sum. Assess students' understanding of a ten and provide more experiences modeling addition with grouped and pre-grouped base-ten materials.
- Many children have misconceptions about the equal sign. Students can misunderstand the use of the equal sign even if they have proficient computational skills. The equal sign means "is the same as" but most primary students think that the equal sign tells you that the "answer is coming up." Students might only see examples of number sentences with an operation to the left of the equal sign and the answer on the right, so they overgeneralize from those limited examples. They might also be predisposed to think of equality in terms of calculating answers rather than as a relation because it is easier for young children to carry out steps to find an answer than to identify relationships among quantities.
- Students may confuse the value of the digit and the place the digit is in. In the number 436, they may perceive the value of the 3 as 3 rather than 30.

Differentiation/Accommodations/Modifications

Gifted and Talented

(content, process, product and learning environment)

Extension Activities

- Conduct research and provide presentation of various topics.
- Design surveys to generate and analyze data to be used in discussion.
- Debate topics of interest / cultural importance.
- Authentic listening and reading sources that provide data and support for speaking and writing prompts.
- Exploration of art and/or artists to understand society and history.
- Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic).

Anchor Activities

- Use of Higher Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice.
- Model skills/techniques that need to be mastered.
- Extended time to complete class work
- Visual dictionaries to help build vocabulary
- Provide copy of classnotes
- Pair with a peer for assistance during class

Modifications for Homework/Assignments

- Modified Assignments
- Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers

Students with Disabilities

(appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.

Students at Risk of School Failure

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Repetition and practice
- Model skills / techniques to be mastered.
- Extended time to complete class work
- Provide copy of classnotes
- Preferential seating to be mutually determined by the student and teacher
- Student may request to use a computer to complete assignments.
- Establish expectations for correct spelling on assignments.
- Extra textbooks for home.
- Student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

Modifications for Homework and Assignments

Green Township School District Grade 2 Mathematics Curriculum - Revised 2017

- Extended time to complete assignments.
- Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases.
- Provide the student with clearly stated (written) expectations and grading criteria for assignments.
- Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).

Modifications for Assessments

- Extended time on classroom tests and quizzes.
- Student may take/complete tests in an alternate setting as needed.
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests.
- Establish procedures for accommodations / modifications for assessments.