

2nd Grade Math Curriculum



Egg Harbor Township School District

State Board Adoption Date of Standards: 5/2016

Unit Overview (Standards Coverage)

Unit	Standards	Unit Focus	Standards for Mathematical Practice	Open Educational Resources
Unit 1 <i>Add and Subtract within 100 and Understand Place Value to 100</i> (approx. 75 days) -Envision Topics 1-7	2.OA.A.1 2.OA.B.2 2.OA.C.3-4 2.NBT.A.2 2.NBT.B.8	* Represent and solve problems involving addition and subtraction * Add and subtract within 20 * Understand place value * Use place value understanding and properties of operations to add/subtract *Work with equal groups of objects to gain foundations for multiplication	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments & critique the reasoning of others. MP.4 Model with mathematics.	2.OA.A.1 Pencil and a Sticker 2.OA.B.2 Building toward fluency 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.B.8 Choral Counting
Unit 2 <i>Work w/Time& Money</i> (approx. 15 days) - Envision Topic 8	2.MD.C.8	• Work with time and money	MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure.	2.MD.C.7 Ordering Time 2.NBT.B.5 Saving Money 1 2.NBT.B.5 Saving Money 2
Unit 3 <i>Add and Subtract within 100 and Understand Place Value to 1000</i> (approx. 35 days) - Envision Topics 9-11	2.OA.A.1 2.OA.B.2 2.NBT.B.5-7,9 2.NBT.A.1-2,4 2.NBT.B.8	* Represent and solve problems involving addition and subtraction * Use place value understanding and properties of operations to add and subtract * Understand place value	MP.8 Look for and express regularity in repeated reasoning	2.OA.B.2 Hitting the Target Number 2.NBT.B.6 Toll Bridge Puzzle 2.NBT.B.7 How Many Days Until Summer Vacation? 2.NBT.B.9 Peyton and Presley Discuss Addition 2.NBT.A.4 Ordering 3-digit numbers
Unit 4 <i>Measurement Reason with Shapes and Represent Data Measurement Reason with Shapes and Represent Data</i> (approx.40 days) - Envision Topics 12-15	2.MD.A.1-4 2.MD.B.5-6 2.NBT.A.2 2.NBT.B.5 2.G.A.1,3 2.MD.D.9-10 2.OA.B.2	*Measure and estimate lengths in standard units *Relate addition & subtraction to length • Understand place value • Use place value understanding and properties of operations to add/subtract Reason with shapes and their attributes • Represent and interpret data • Add and subtract within 20 • Use place value understanding and properties of operations to add/subtract		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.8 Delayed Gratification 2.MD.D.9 Hand Span Measures 2.MD.D.9 The Longest Walk 2.MD.D.10 Favorite Ice Cream Flavor

This document outlines in detail the answers to following four questions:

1. What do we want our students to know?
2. How do we know if they learned it?
3. What do we do if they did not learn it?
4. What do we do when they did learn it?

Unit 1 MATH 2ND GRADE		
Content & Practice Standards	Interdisciplinary Standards	Critical Knowledge & Skills
<p>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.</p> <p>2.OA.B.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p> <p>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</p>	<p>Primary Interdisciplinary Connections: Infused within the unit are connections to the NJSLs for Mathematics, Language Arts Literacy.</p> <p>RL.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.</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.2.7 Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.10 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.2.8 Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1.b Build on others' talk in conversations by linking their explicit comments to the remarks of others.</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.</p> <p>SL.2.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 here for specific expectations.)</p> <p>TECHNOLOGY STANDARDS and APPLY explicit standards as appropriate.</p>	<p>Concept(s): No new concept(s) introduced 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 and equations to represent the problem. <p>Learning Goal 1: Add and subtract within 20 to solve 1- and 2-step word problems with unknowns in any position.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> add within 10 using mental strategies with accuracy and efficiency. subtract within 10 using mental strategies with accuracy and efficiency. <p>Learning Goal 2: Fluently add and subtract within 10 using mental strategies</p> <p>Concept(s):</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 an equation to express an even number as a sum of two equal addends. <p>Learning Goal 3: Write an equation to express an even number as a sum of two equal addends.</p>

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

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

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.

• **8.1 Educational Technology:** All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

• **A. Technology Operations and Concepts:** Students demonstrate a sound understanding of technology concepts, systems and operations

• **C. Communication and Collaboration:** Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. **21st Century Themes/Careers:** **Through instruction in life and career skills, all students acquire the knowledge and skills needed to prepare for life as citizens and workers in the 21st century. For further clarification see NJ World Class Standards at www.NJ.gov/education/aps/cccs/career/**

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management

Concept(s):

• Arrays as arrangements of objects.

Students are able to:

- with objects arranged in an array, use repeated addition to find the total.
- with objects arranged in an array, write an equation to express repeated addition.

Learning Goal 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.

Concept(s): No new concept(s) introduced

Students are able to:

- count within 1000 by ones.
- count within 1000 by fives, tens, and hundreds beginning at any multiple of 5, 10, or 100.

Learning Goal 5: Count within 1000 by ones, fives, tens, and hundreds beginning at any multiple of 1, 5, 10, or 100 (e.g. begin at 505 and skip count by 5 up to 605, or begin at 600 and skip count by 100 up to 1000).

Concept(s): • Place value

Students are able to:

- 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 6: Mentally add or subtract 10 or 100 from any given number between 100 and 900.

Unit 1 MATH 2ND GRADE	
Stage 1 – Desired Results	
UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<p>* Represent and solve problems involving addition and subtraction</p> <p>* Add and subtract within 20</p> <p>* Understand place value</p> <p>* Use place value understanding and properties of operations to add and subtract</p> <p>*Work with equal groups of objects to gain foundations for multiplication</p>	<p>2.OA.A.1 Pencil and a Sticker</p> <p>2.OA.B.2 Building toward fluency</p> <p>2.NBT.A.1 Making 124</p> <p>2.NBT.A.1 Largest Number Game</p> <p>2.NBT.A.3 Looking at Numbers Every Which Way</p> <p>2.NBT.B.8 Choral Counting</p> <p>*Envision Math materials</p> <p>*Moby Max</p> <p>*Linkit</p> <p>*Xtra Math</p>
UNDERSTANDINGS	
<p>Students will understand that...</p> <p><u>Learning Goal 1:</u> Add and subtract within 20 to solve 1- and 2-step word problems with unknowns in any position.</p> <p><u>Learning Goal 2:</u> Fluently add and subtract within 10 using mental strategies.</p> <p><u>Learning Goal 3:</u> Write an equation to express an even number as a sum of two equal addends.</p> <p><u>Learning Goal 4:</u> 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> <p><u>Learning Goal 5:</u> Count within 1000 by ones, fives, tens, and hundreds beginning at any multiple of 1, 5, 10, or 100 (e.g. begin at 505 and skip count by 5 up to 605, or begin at 600 and skip count by 100 up to 1000).</p>	
Students will know...	Students will be able to...
<p><i>What content will be covered that students must master?</i></p> <ul style="list-style-type: none"> ● <i>Even groups having even numbers of objects will pair up evenly Students will be able to..</i> <ul style="list-style-type: none"> ● <i>count on and put together to add to solve one- and two-step word problems</i> ● <i>Odd groups having odd numbers of objects will not pair up evenly.</i> ● <i>Arrays as arrangements of objects</i> ● <i>adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones.</i> 	<p><i>What should students be able to accomplish to demonstrate understanding?</i></p> <ul style="list-style-type: none"> ● <i>take from or take apart to subtract to solve one- and two-step word problems.</i> ● <i>use drawings and equations to represent the problem.</i> ● <i>add within 10 using mental strategies with accuracy and efficiency.</i> ● <i>subtract within 10 using mental strategies with accuracy and efficiency.</i> ● <i>pair up to 20 object, count by 2s and determine whether the group contains an even or odd number of objects.</i>

Curricular Framework MATH-2nd Grade

<ul style="list-style-type: none"> • Sometimes it is necessary to compose or decompose tens or hundreds 	<ul style="list-style-type: none"> • write an equation to express an even number as a sum of two equal addends. • with objects arranged in an array, use repeated addition to find the total. • with objects arranged in an array, write an equation to express repeated addition. • partition a rectangle into rows and columns of same-size squares and count to find the total number. • with accuracy and efficiency, add and subtract within 50 using strategies based on place value. • with accuracy and efficiency, add and subtract within 50 using strategies based on properties of operations. • with accuracy and efficiency, add and subtract within 50 using strategies based on the relationship between addition and subtraction. • 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. • 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. • 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. • count within 1000 by ones. • count within 1000 by fives, tens, and hundreds beginning at any multiple of 5, 10, or 100.
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Stage 2 – Assessment Evidence

<p><u>Performance Tasks/Use of Technology:</u></p> <p>www.Xtramath.org</p> <p>http://www.mathplayground.com/</p> <p>http://www.gamequarium.com/ Guess the Number - Similar to the game Number Squeeze, guess the number up to 100.</p> <p><u>Number Patterns - Be the superhero and find the missing number in the number pattern.</u></p> <p><u>Speedboat Comparing Numbers - Using <, >, and = signs, compare numbers and make your boat go faster.</u></p>	<p><u>Other Evidence:</u></p> <p>Formative Assessments</p> <ul style="list-style-type: none"> • Teacher observation • Exit slips/check for understanding • Games • Oral Assessments/conferencing • Portfolio/math journal • Daily Classwork • Pre-Assessment • Fluency Check • Quick Quiz • Student Activity Pages
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<p><u>Aquatic Speedway - The faster you answer the subtraction facts, the faster your player swims.</u></p> <p><u>Basic Math Fact Sheets - Online addition and subtraction math fact practice. Tests and corrects online.</u></p> <p><u>Double Digits - Practice solving 2-digit addition problems.</u></p> <p><u>Moby Max</u></p> <p><u>Envision Math</u></p> <p><u>Link It</u></p> <p><u>Gone Bananas!- Practice subtraction facts and help the monkey catch bananas.</u></p> <p><u>Hidden Picture- Answer addition facts correctly and uncover a hidden picture.</u></p>	<p>Summative Assessments</p> <ul style="list-style-type: none"> • Quick Quiz • Performance Task • Unit Test Benchmark Alternative Assessments
Stage 3 – Learning Plan	
<p><i>In Topic 1 students will be fluently add and subtract within 20</i></p> <p><i>In Topic 2 students will work with equal groups, using arrays</i></p> <p><i>In Topic 3 students will add within 100 using different strategies</i></p> <p><i>In Topic 4 students will fluently add within 100</i></p> <p><i>In Topic 5 students will subtract within 100 using various strategies</i></p> <p><i>In Topic 6 students will fluently subtract within 100</i></p> <p><i>In Topic 7 students will solve addition and subtraction word problems</i></p> <p><i>(Students will be assessed based on their understanding of addition and subtraction within 100, applying strategies, and solving word problems using various strategies. This will be assessed through formative and summative tasks as well as through Pearson Envision).</i></p> <ul style="list-style-type: none"> • <i>Hook the student through engaging and provocative entry points: thought-provoking and focusing experiences, issues, oddities, problems, and challenges that point toward essential questions, core ideas, and final performance tasks.</i> • <i>Explore and Equip. 21st Century Learning and Interdisciplinary connections. Engage students in learning experiences that allow them to explore the big ideas and essential questions; that cause them to pursue leads or hunches, research and test ideas, try things out. Equip students for the final performances through guided instruction and coaching on needed skill and knowledge. Have them experience the ideas to make them real.</i> 	

• *Organize and sequence the learning for maximal engagement and effectiveness, given the desired results.*

Planned Differentiation & Interventions for Tiers I, II, III, ELL, SPED, and Gift & Talented Students

• *Rethink and revise. Dig deeper into ideas at issue (through the faces of understanding). Revise, rehearse, and refine, as needed. Guide students in self-assessment and self-adjustment, based on feedback from inquiry, results, and discussion.*

• *Evaluate understandings. Reveal what has been understood through final performances and products. Involve students in a final self-assessment to identify remaining questions, set future goals, and point toward new units and lessons.*

• *Tailor (personalize) the work to ensure maximum interest and achievement. Differentiate the approaches used and provide sufficient options and variety (without compromising goals) to make it most likely that all students will be engaged and effective.*

Gifted & Talented:

- “Differentiating the Lesson” in EnVision Math online resources for all sections
- “Additional Topics” in EnVision Math online resources to extend and enhance instruction
- Advanced Center Activities from EnVision Math
- Design Challenges
- Student Choice/Driven Activities
- Group Projects
- MobyMax
- LinkIt
- Rocket Math
- [Intervention Central](#)
- [Do to Learn](#)
- [Differentiation Strategies for Math](#)
- [Discovery Education Math](#)
- [Everyday Mathematics](#)
- [Homework Spot](#)
- [Flash Card Math](#)
- [Math Fact Fluency](#)

Tier I:

- Progress Monitoring/Data Tracking
- EnVision Math “Error Intervention” resource
- Visual Learning examples

- Working Backward problem solving EnVision Math resource
- Flash Cards
- Brain Pop
- Extended Time
- Flexible Grouping
- Centers/Small Group Instruction
- Peer Buddies
- Math Tutoring Center (HS only)
- Math Lab/Tutorial
- MobyMax
- LinkIt!
- Rocket Math
- [Intervention Central](#)
- [Do to Learn](#)
- [Learning Ally](#)
- [Xtramath](#)
- [Differentiation Strategies for Math](#)
- [Discovery Education Math](#)
- [Everyday Mathematics](#)
- [Homework Spot](#)
- [Flash Card Math](#)
- [Math Fact Fluency](#)
- EnVision Math Reteach resource

Tier II:

- EnVision Math Daily Assessment Resource
- Differentiated Instruction assignments through EnVision Math
- MobyMax
- Rocket Math
- Xtramath
- Flash Cards

Tier III:

- Intense Interventions to accelerate progress EnVision Math resource
- Focus Math
- Systematic Assessments to focus on specific deficits

ELL:

- EnVision Math resources available in Spanish

- Letters to Parents are available in the Resources by Chapter book to assist in guiding parents through each chapter and offer helpful suggestions they can use to demonstrate mathematical concepts for their child in daily activities. These letters are editable so teachers can customize them.
- Student Dynamic eBook Audio has the option to be read in English or Spanish
- Multi-Language Glossary for new Math vocabulary is available in 14 different languages.
- Audio version is available in English or Spanish.
- Game Closet can be accessed in English or Spanish, while also allowing for all students to play and understand these educational games.
- ELL Notes included in Teacher Edition to help teachers overcome obstacles.
- Record & Practice Journal available in Spanish.
- Student Journal available in Spanish.
- Chapter Reviews available in English and Spanish.
- Vocabulary Flash Cards
- Chunking Information
- Math Word Wall/Word Bank
- Multi-Sensory Instruction
- Use of Translation software
- Gradual Release Model
- [TODOS: Mathematics for ALL](#) - Excellence and Equity in Mathematics
- [FABRIC - A Learning Paradigm for ELLs](#) (NJDOE resource)

SPED:

- Menu Math (mostly for very low functioning students)
- MobyMax
- LinkIt!
- Xtramath
- Learning Ally (audio version for textbooks and other published materials) – Also available for 504 students
- Use of specialized equipment such as beeping balls, text to speech and speech to text software, special seats or desks
- Use of hands-on materials for problem solving
- Visual supports and Use of manipulatives
- Extended time to complete tests and assignments
- Graphic Organizers/Study Guides
- Mnemonic tricks to improve memory
- Reducing workload
- Centers/Small Group Instruction
- Adjusting accountability for standards by focusing only on essential standards
- Use of iPads or laptops for students with motor issues that make writing difficult
- Use of tangible rewards (certificates, small toys, etc. per behavior plan)
- Use prompts and model directions/assignments

- Use task analysis to break down activities and lessons into each individual step needed to complete the task
- Use concrete examples to teach concepts
- Have student repeat/rephrase written directions
- Provide multi-sensory, hands-on materials for instruction
- Chunking Information
- Modify all fine motor tasks for example: (fat crayons, pencil grip, adaptive scissors)
- Functional or practical emphasis

504:

- Learning Ally (audio version for textbooks and other published materials)
- Extra help opportunities
- Reduce workload
- Partial credit
- Allow use of calculator, when appropriate
- Modified length and time frame of assignments
- Alternate assessments with extended time
- Provide guided notes and study guides as needed (use interactive notebook)
- Preferential Seating
- Extra Practice
- Directions repeated, clarified and reworded
- Breakdown task into manageable units
- Differentiated instruction
- Use of manipulatives

Unit 2 MATH 2ND GRADE

Content & Practice Standards

Interdisciplinary Standards

Critical Knowledge & Skills

<p>2.MD.C.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?</p> <p>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>	<p>Primary Interdisciplinary Connections: Infused within the unit are connections to the NJSLs for Mathematics, Language Arts Literacy.</p> <p>RL.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.</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.2.7 Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.10 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.2.8 Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1.b Build on others' talk in conversations by linking their explicit comments to the remarks of others.</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.</p> <p>SL.2.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 here for specific expectations.)</p> <p>TECHNOLOGY STANDARDS and APPLY explicit standards as appropriate.</p> <ul style="list-style-type: none"> ● 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems 	<p>Concept(s):</p> <ul style="list-style-type: none"> • Know the value of dollar bills, quarters, dimes, nickels, and pennies. <p>Students are able to:</p> <ul style="list-style-type: none"> • identify dollar bills, quarters, dimes, nickels, and pennies. • using dollar bills, quarters, dimes, nickels, and pennies, count to determine the total amount of money. • solve word problems involving dollar bills, quarters, dimes, nickels, and pennies. <p>Learning Goal 7: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using the \$ and ¢ symbols appropriately.</p> <p>Concept(s):</p> <p>No new concept(s) introduced</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. <p>Learning Goal 8: Tell and write time using analog and digital clocks to the nearest five minutes using a.m. and p.m</p>
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individually and collaborate and to create and communicate knowledge.

- A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
- C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. 21st Century Themes/Careers: **Through instruction in life and career skills, all students acquire the knowledge and skills needed to prepare for life as citizens and workers in the 21st century. For further clarification see NJ World Class Standards at www.NJ.gov/education/aps/cccs/career/**

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management

Stage 1 – Desired Results	
UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
Students will work with time and money to be able to tell and write time as well as utilize various amounts in dollars and cents to solve problems.	2.MD.C.8, 2.NBT.A.2 https://www.usmint.gov/kids/ 2.MD.C.8 http://www.orangekids.com/ 2.MD.C.8, 2.NBT.A.2 http://www.abcya.com/counting_money.htm 2.MD.C.8 http://www.time monsters.com/ *Envision Math materials *Moby Max *Linkit *Xtra Math
UNDERSTANDINGS	
Students will understand that... <u>Learning Goal 7:</u> Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using the \$ and ¢ symbols appropriately. <u>Learning Goal 8:</u> Tell and write time using analog and digital clocks to the nearest five minutes using a.m. and p.m	
Students will know...	Students will be able to...
<i>What content will be covered that students must master?</i> <ul style="list-style-type: none"> the value of dollar bills, quarters, dimes, nickels, and pennies. telling time to the nearest 5 minutes; use a.m. and p.m. 	<i>What should students be able to accomplish to demonstrate understanding?</i> <ul style="list-style-type: none"> identify dollar bills, quarters, dimes, nickels, and pennies. using dollar bills, quarters, dimes, nickels, and pennies, count to determine the total amount of money. solve word problems involving dollar bills, quarters, dimes, nickels, and pennies <ul style="list-style-type: none"> identify time on an analog clock to the nearest 5 minutes to correctly use a.m. and p.m.
Stage 2 – Assessment Evidence	
<u>Performance Tasks/Use of Technology:</u> www.Xtramath.org http://www.mathplayground.com/ http://www.gamequarium.com/	<u>Other Evidence:</u> Formative Assessments <ul style="list-style-type: none"> Teacher observation Exit slips/check for understanding Games Oral Assessments/conferencing Portfolio/math journal Daily Classwork Pre-Assessment

<p><u>Moby Max</u></p> <p><u>Envision Math</u></p> <p><u>Link It</u></p> <p>www.education.com/games/time</p> <p>www.abcya.com - <u>time travel game</u></p>	<ul style="list-style-type: none"> ● Fluency Check ● Quick Quiz ● Student Activity Pages <p>Summative Assessments</p> <ul style="list-style-type: none"> ● Quick Quiz ● Performance Task ● Unit Test Benchmark Alternative Assessments
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Stage 3 – Learning Plan

In Topic 8 students will work with time and money.

(Students will be assessed based on their understanding of both time and money. This will be assessed through formative and summative tasks as well as through Pearson Envision).

- *Hook the student through engaging and provocative entry points: thought-provoking and focusing experiences, issues, oddities, problems, and challenges that point toward essential questions, core ideas, and final performance tasks.*
- *Explore and Equip. 21st Century Learning and Interdisciplinary connections. Engage students in learning experiences that allow them to explore the big ideas and essential questions; that cause them to pursue leads or hunches, research and test ideas, try things out. Equip students for the final performances through guided instruction and coaching on needed skill and knowledge. Have them experience the ideas to make them real.*
- *Organize and sequence the learning for maximal engagement and effectiveness, given the desired results.*

Planned Differentiation & Interventions for Tiers I, II, III, ELL, SPED, and Gift & Talented Students

- *Rethink and revise. Dig deeper into ideas at issue (through the faces of understanding). Revise, rehearse, and refine, as needed. Guide students in self-assessment and self-adjustment, based on feedback from inquiry, results, and discussion.*

• *Evaluate understandings. Reveal what has been understood through final performances and products. Involve students in a final self-assessment to identify remaining questions, set future goals, and point toward new units and lessons.*

• *Tailor (personalize) the work to ensure maximum interest and achievement. Differentiate the approaches used and provide sufficient options and variety (without compromising goals) to make it most likely that all students will be engaged and effective.*

Gifted & Talented:

- “Differentiating the Lesson” in EnVision Math online resources for all sections
- “Additional Topics” in EnVision Math online resources to extend and enhance instruction
- Advanced Center Activities from EnVision Math
- Design Challenges
- Student Choice/Driven Activities
- Group Projects
- MobyMax
- LinkIt
- Rocket Math
- [Intervention Central](#)
- [Do to Learn](#)
- [Differentiation Strategies for Math](#)
- [Discovery Education Math](#)
- [Everyday Mathematics](#)
- [Homework Spot](#)
- [Flash Card Math](#)
- [Math Fact Fluency](#)

Tier I:

- Progress Monitoring/Data Tracking
- EnVision Math “Error Intervention” resource
- Visual Learning examples
- Working Backward problem solving EnVision Math resource
- Flash Cards
- Brain Pop
- Extended Time
- Flexible Grouping
- Centers/Small Group Instruction

- Peer Buddies
- Math Tutoring Center (HS only)
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- LinkIt!
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- [Learning Ally](#)
- [Xtramath](#)
- [Differentiation Strategies for Math](#)
- [Discovery Education Math](#)
- [Everyday Mathematics](#)
- [Homework Spot](#)
- [Flash Card Math](#)
- [Math Fact Fluency](#)
- EnVision Math Reteach resource

Tier II:

- EnVision Math Daily Assessment Resource
- Differentiated Instruction assignments through EnVision Math
- MobyMax
- Rocket Math
- Xtramath
- Flash Cards

Tier III:

- Intense Interventions to accelerate progress EnVision Math resource
- Focus Math
- Systematic Assessments to focus on specific deficits

ELL:

- EnVision Math resources available in Spanish
- Letters to Parents are available in the Resources by Chapter book to assist in guiding parents through each chapter and offer helpful suggestions they can use to demonstrate mathematical concepts for their child in daily activities. These letters are editable so teachers can customize them.
- Student Dynamic eBook Audio has the option to be read in English or Spanish
- Multi-Language Glossary for new Math vocabulary is available in 14 different languages.
- Audio version is available in English or Spanish.
- Game Closet can be accessed in English or Spanish, while also allowing for all students to play and understand these educational games.

- ELL Notes included in Teacher Edition to help teachers overcome obstacles.
- Record & Practice Journal available in Spanish.
- Student Journal available in Spanish.
- Chapter Reviews available in English and Spanish.
- Vocabulary Flash Cards
- Chunking Information
- Math Word Wall/Word Bank
- Multi-Sensory Instruction
- Use of Translation software
- Gradual Release Model
- [TODOS: Mathematics for ALL](#) - Excellence and Equity in Mathematics
- [FABRIC - A Learning Paradigm for ELLs](#) (NJDOE resource)

SPED:

- Menu Math (mostly for very low functioning students)
- MobyMax
- LinkIt!
- Xtramath
- Learning Ally (audio version for textbooks and other published materials) – Also available for 504 students
- Use of specialized equipment such as beeping balls, text to speech and speech to text software, special seats or desks
- Use of hands-on materials for problem solving
- Visual supports and Use of manipulatives
- Extended time to complete tests and assignments
- Graphic Organizers/Study Guides
- Mnemonic tricks to improve memory
- Reducing workload
- Centers/Small Group Instruction
- Adjusting accountability for standards by focusing only on essential standards
- Use of iPads or laptops for students with motor issues that make writing difficult
- Use of tangible rewards (certificates, small toys, etc. per behavior plan)
- Use prompts and model directions/assignments
- Use task analysis to break down activities and lessons into each individual step needed to complete the task
- Use concrete examples to teach concepts
- Have student repeat/rephrase written directions
- Provide multi-sensory, hands-on materials for instruction
- Chunking Information
- Modify all fine motor tasks for example: (fat crayons, pencil grip, adaptive scissors)
- Functional or practical emphasis

504:

- Learning Ally (audio version for textbooks and other published materials)
- Extra help opportunities
- Reduce workload
- Partial credit
- Allow use of calculator, when appropriate
- Modified length and time frame of assignments
- Alternate assessments with extended time
- Provide guided notes and study guides as needed (use interactive notebook)
- Preferential Seating
- Extra Practice
- Directions repeated, clarified and reworded
- Breakdown task into manageable units
- Differentiated instruction
- Use of manipulatives

Unit 3 MATH 2ND GRADE

Content & Practice Standards

Interdisciplinary Standards

Critical Knowledge & Skills

<p>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.</p> <p>2.OA.B.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p> <p>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>	<p>Primary Interdisciplinary Connections: Infused within the unit are connections to the NJSLs for Mathematics, Language Arts Literacy.</p> <p>RL.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.</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.2.7 Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.10 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.2.8 Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1.b Build on others' talk in conversations by linking their explicit comments to the remarks of others.</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.</p> <p>SL.2.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 here for specific expectations.)</p> <p>TECHNOLOGY STANDARDS and APPLY explicit standards as appropriate.</p> <ul style="list-style-type: none"> ● 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems 	<p>Concept(s): No new concept(s) introduced 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 and equations to represent the problem. <p>Learning Goal 9: Add and subtract within 20 to solve 1- and 2-step word problems with unknowns in any position.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> • add within 10 using mental strategies with accuracy and efficiency. • subtract within 10 using mental strategies with accuracy and efficiency. <p>Learning Goal 10: Fluently add and subtract within 10 using mental strategies.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> • with accuracy and efficiency, add and subtract within 50 using strategies based on place value. • with accuracy and efficiency, add and subtract within 50 using strategies based on properties of operations. • with accuracy and efficiency, add and subtract within 50 using strategies based on the relationship between addition and subtraction. <p>Learning Goal 10: Use a variety of strategies (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 50.</p>
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<p>2.NBT.B.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.</p> <p>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> <p>2.NBT.B.9. Explain why addition and subtraction strategies work, using place value and the properties of operation.</p>	<p>individually and collaborate and to create and communicate knowledge.</p> <ul style="list-style-type: none"> • A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations • C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. 21st Century Themes/Careers: Through instruction in life and career skills, all students acquire the knowledge and skills needed to prepare for life as citizens and workers in the 21st century. For further clarification see NJ World Class Standards at www.NJ.gov/education/aps/cccs/career/ <p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP6. Demonstrate creativity and innovation.</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>Concept(s): No new concept(s) introduced</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 11: Add up to four two -digit numbers using strategies based on place value and properties of operations.</p> <p>Concept(s):</p> <ul style="list-style-type: none"> • In adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones. • Sometimes it is necessary to compose or decompose tens or hundreds. <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 12: 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> <p>Concept(s): No new concept(s) introduced</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.
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<p>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:</p> <p>2.NBT.A.1.a. 100 can be thought of as a bundle of ten tens — called a “hundred.”</p> <p>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> <p>2.NBT.A.2. Count within 1000; skipcount by 5s, 10s, and 100s.</p>		<ul style="list-style-type: none"> • Explain, using objects and drawings, why addition and subtraction strategies based on properties of operations work. <p>Learning Goal 13: 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> <p>Concept(s):</p> <ul style="list-style-type: none"> • 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). <p>Students are able to:</p> <ul style="list-style-type: none"> • represent 100 as a bundle of ten tens. • represent the number of hundreds, tens, and ones in a 3-digit number. <p>Learning Goal 14: Represent a 3-digit number as specific amounts of hundreds, tens, and ones.</p> <p>Learning Goal 4: Identify ten tens as 100 and represent two hundred, three hundred, ... nine hundred with 2, 3, ..., 9 hundred bundles (with zero tens and zero ones).</p> <p>Concept(s): No new concept(s) introduced</p> <p>Students are able to:</p> <ul style="list-style-type: none"> • count by fives within 1000. • count by tens within 1000. • count by hundreds within 1000 <p>Learning Goal 15: Skip count by 5s and 10s up to 100...beginning at any multiple of 5.</p>
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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.

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.

Concept(s): • Place value

Students are able to:

- 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 $<$.

Learning Goal 16: Use symbols $>$, $=$, $<$ to record the results of comparing two 3-digit numbers by decomposing the number into a number (100s, 10s, and 1s).

Concept(s): • Place value

Students are able to:

- 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 17: Mentally add or subtract 10 or 100 from any given number between 100 and 900.

Concept(s): • Place value

Students are able to:

- 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 18: Mentally add or subtract 10 or 100 from any given number between 100 and 900.

Unit 3 MATH 2ND GRADE

Stage 1 – Desired Results

UNIT SUMMARY

CORE AND SUPPLEMENTAL MATERIALS/RESOURCES

Curricular Framework MATH-2nd Grade

<ul style="list-style-type: none"> • Understand place value • Use place value understanding and properties of operations to add and subtract <p>Use place value understanding and properties of operations to add and subtract.</p> <ul style="list-style-type: none"> • Represent and solve problems involving addition and subtraction. 	<p>2.NBT.A.1,2,3,4 https://www.education.com/game/place-value-machine-3-digit/</p> <p>2.NBT.A.1,2,3,4 https://www.education.com/game/place-value-baking-3-digit/</p> <p>2.NBT.B.8 Choral Counting</p> <p>2.NBT.B.7,8,9, https://www.education.com/game/number-holdem-2/</p> <p>*Envision Math materials</p> <p>*Moby Max</p> <p>*Linkit</p> <p>*Xtra Math</p>
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UNDERSTANDINGS

Students will understand that...

- **Add and subtract within 20 to solve 1- and 2-step word problems with unknowns in any position.**
- **Fluently add and subtract within 10 using mental strategies.**
- **Three digits of a three-digit number represents amounts in hundreds, tens, and ones.**
- **How to count within 1000, skip-counting 5s, 10s, 100s.**
- **How to utilize strategies to addition and subtraction strategies to solve word problems.**

Students will know...

- *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)*
- *Expanded Form*
- *Place Value*

Students will be able to...

- *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 and equations to represent the problem.*
- *subtract within 10 using mental strategies with accuracy and efficiency.*
- *represent 100 as a bundle of ten tens.*
- *represent the number of hundreds, tens, and ones in a 3-digit number.*
- *count by fives within 1000.*
- *count by tens within 1000.*
- *count by hundreds within 1000.*
- *read numbers to 1000 written using base-ten numerals.*
- *read number names to 1000.*
- *read numbers to 1000 written in expanded form.*
- *write numbers to 1000 using base-ten numerals, number names, and expanded form.*
- *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 <.*
- *add within 10 using mental strategies with accuracy and efficiency.*
- *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.*

Stage 2 – Assessment Evidence

Performance Tasks/Use of Technology:

www.Xtramath.org

<http://www.mathplayground.com/>

<http://www.gamequarium.com/> Guess the Number - Similar to the game Number Squeeze, guess the number up to 100.

Number Patterns - Be the superhero and find the missing number in the number pattern.

Speedboat Comparing Numbers - Using $<$, $>$, and $=$ signs, compare numbers and make your boat go faster.

Aquatic Speedway - The faster you answer the subtraction facts, the faster your player swims.

Basic Math Fact Sheets - Online addition and subtraction math fact practice. Tests and corrects online.

Double Digits - Practice solving 2-digit addition problems.

Moby Max

Envision Math

Link It

Gone Bananas!- Practice subtraction facts and help the monkey catch bananas.

Hidden Picture- Answer addition facts correctly and uncover a hidden picture.

Other Evidence:

Formative

Formative Assessments

- Teacher observation
- Exit slips/check for understanding
- Games
- Oral Assessments/conferencing
- Portfolio/math journal
- Daily Classwork
- Pre-Assessment
- Fluency Check
- Quick Quiz
- Student Activity Pages

Summative Assessments

- Quick Quiz
- Performance Task
- Unit Test Benchmark Alternative Assessments

Stage 3 – Learning Plan

In Topic 9 students will use place value understanding and properties of operations to add and subtract numbers to 1,000

In Topic 10 students will add within 1,000 using various strategies

In Topic 11 students will subtract within 1,000 using models and strategies

(Students will be assessed based on their understanding of addition and subtraction within 1,000, applying strategies, and solving word problems using various strategies. This will be assessed through formative and summative tasks as well as through Pearson Envision).

- *Hook the student through engaging and provocative entry points: thought-provoking and focusing experiences, issues, oddities, problems, and challenges that point toward essential questions, core ideas, and final performance tasks.*
- *Explore and Equip. 21st Century Learning and Interdisciplinary connections. Engage students in learning experiences that allow them to explore the big ideas and essential questions; that cause them to pursue leads or hunches, research and test ideas, try things out. Equip students for the final performances through guided instruction and coaching on needed skill and knowledge. Have them experience the ideas to make them real.*
- *Organize and sequence the learning for maximal engagement and effectiveness, given the desired results.*

Planned Differentiation & Interventions for Tiers I, II, III, ELL, SPED, and Gift & Talented Students

- *Rethink and revise. Dig deeper into ideas at issue (through the faces of understanding). Revise, rehearse, and refine, as needed. Guide students in self-assessment and self-adjustment, based on feedback from inquiry, results, and discussion.*
- *Evaluate understandings. Reveal what has been understood through final performances and products. Involve students in a final self-assessment to identify remaining questions, set future goals, and point toward new units and lessons.*
- *Tailor (personalize) the work to ensure maximum interest and achievement. Differentiate the approaches used and provide sufficient options and variety (without compromising goals) to make it most likely that all students will be engaged and effective.*

Gifted & Talented:

- “Differentiating the Lesson” in EnVision Math online resources for all sections
- “Additional Topics” in EnVision Math online resources to extend and enhance instruction
- Advanced Center Activities from EnVision Math
- Design Challenges
- Student Choice/Driven Activities
- Group Projects
- MobyMax
- LinkIt
- Rocket Math
- [Intervention Central](#)
- [Do to Learn](#)
- [Differentiation Strategies for Math](#)

- [Discovery Education Math](#)
- [Everyday Mathematics](#)
- [Homework Spot](#)
- [Flash Card Math](#)
- [Math Fact Fluency](#)

Tier I:

- Progress Monitoring/Data Tracking
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- Flash Cards
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- Flexible Grouping
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- EnVision Math Reteach resource

Tier II:

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- Differentiated Instruction assignments through EnVision Math
- MobyMax

- Rocket Math
- Xtramath
- Flash Cards

Tier III:

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ELL:

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- ELL Notes included in Teacher Edition to help teachers overcome obstacles.
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- Student Journal available in Spanish.
- Chapter Reviews available in English and Spanish.
- Vocabulary Flash Cards
- Chunking Information
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- Use of Translation software
- Gradual Release Model
- [TODOS: Mathematics for ALL](#) - Excellence and Equity in Mathematics
- [FABRIC - A Learning Paradigm for ELLs](#) (NJDOE resource)

SPED:

- Menu Math (mostly for very low functioning students)
- MobyMax
- LinkIt!
- Xtramath
- Learning Ally (audio version for textbooks and other published materials) – Also available for 504 students
- Use of specialized equipment such as beeping balls, text to speech and speech to text software, special seats or desks
- Use of hands-on materials for problem solving
- Visual supports and Use of manipulatives

- Extended time to complete tests and assignments
- Graphic Organizers/Study Guides
- Mnemonic tricks to improve memory
- Reducing workload/Chunking Information
- Center/Small Group Instruction
- Adjusting accountability for standards by focusing only on essential standards
- Use of iPads or laptops for students with motor issues that make writing difficult
- Use of tangible rewards (certificates, small toys, etc. per behavior plan)
- Use prompts and model directions/assignments
- Use task analysis to break down activities and lessons into each individual step needed to complete the task
- Use concrete examples to teach concepts
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- Provide multi-sensory, hands-on materials for instruction
- Modify all fine motor tasks for example: (fat crayons, pencil grip, adaptive scissors)
- Functional or practical emphasis

504:

- Learning Ally (audio version for textbooks and other published materials)
- Extra Practice & Help opportunities
- Reduce workload/Practice credit
- Allow use of calculator, when appropriate
- Modified length and time frame of assignments
- Alternate assessments with extended time
- Provide guided notes and study guides as needed (use interactive notebook)
- Preferential Seating
- Breakdown task into manageable units (Directions repeated, clarified and reworded)
- Differentiated instruction
- Use of manipulatives

Unit 4 MATH 2ND GRADE

Content & Practice Standards

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.

Interdisciplinary Standards

Primary Interdisciplinary Connections: Infused within the unit are connections to the NJSLs for Mathematics, Language Arts Literacy.

Critical Knowledge & Skills

Concept(s): No new concept(s) introduced
Students are able to:
 • measure lengths of objects using rules, yardsticks, meter sticks and measuring tapes.

<p>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> <p>2.MD.A.3. Estimate lengths using units of inches, feet, centimeters, and meters</p> <p>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>	<p>RL.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.</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.2.7 Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>RI.2.10 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.2.8 Recall information from experiences or gather information from provided sources to answer a question.</p> <p>SL.2.1.b Build on others' talk in conversations by linking their explicit comments to the remarks of others.</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.</p> <p>SL.2.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 here for specific expectations.)</p> <p>TECHNOLOGY STANDARDS and APPLY explicit standards as appropriate.</p> <ul style="list-style-type: none"> • 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. 	<p>Learning Goal 19: Estimate lengths of objects and measure lengths of objects using appropriate tools.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> • measure the length of an object using different units of measure. • compare the measurements and explain how they relate to each unit. <p>Learning Goal 2: Compare measurements of an object taken with two different units of measure and describe how the two measurements relate to the size of the unit chosen.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> • estimate lengths of objects. <p>Learning Goal 20: Estimate lengths of objects and measure lengths of objects using appropriate.</p> <p>Concept(s): No new concept(s) introduced 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 21: Compare lengths of two objects and determine how much longer one object is than the other using a standard unit of measure.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> • add and subtract, within 100, to solve word problems involving lengths (lengths are given in the same units). • use drawings to represent the problem. • use number sentences with a symbol for the unknown to represent the problem.
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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. 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.

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.

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

- **A. Technology Operations and Concepts:** Students demonstrate a sound understanding of technology concepts, systems and operations
- **C. Communication and Collaboration:** Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. 21st Century Themes/Careers: **Through instruction in life and career skills, all students acquire the knowledge and skills needed to prepare for life as citizens and workers in the 21st century. For further clarification see NJ World Class Standards at www.NJ.gov/education/aps/cccs/career/**

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management

Learning Goal 22: Add and subtract within 100 to solve word problems involving lengths using a symbol to represent the unknown number.

Concept(s): No new concept(s) introduced

Students are able to:

- use equally spaced points of a number line to represent whole numbers as lengths from 0.
- represent whole number sums within 100 on a number line diagram.
- represent whole number differences within 100 on a number line diagram.

Learning Goal 23: Use a number line to represent the solution of whole number sums and differences related to length within 100.

Concept(s): No new concept(s) introduced

Students are able to:

- count by fives within 1000.
- count by tens within 1000.
- count by hundreds within 1000.

Learning Goal 24: Skip count by 5s and 10s up to 100...beginning at any multiple of 5.

Concept(s): No new concept(s) introduced

Students are able to:

- with accuracy and efficiency, add and subtract within 50 using strategies based on place value.
- with accuracy and efficiency, add and subtract within 50 using strategies based on properties of operations.
- with accuracy and efficiency, add and subtract within 50 using strategies based on the relationship between addition and subtraction.

Learning Goal 25: Use a variety of strategies (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 50.

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.

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.

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.

Concept(s): No new concept(s) introduced

Students are able to:

- draw shapes having specified attributes (e.g. number of equal faces, number of angles)
- identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Learning Goal 26: 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.

Concept(s): • Equal shares of identical wholes need not have the same shape.

Students are able to:

- partition rectangles into two, three, or four equal shares.
- partition two same-sized rectangles to show that equal shares of identical wholes need not have the same shape.
- 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.

Learning Goal 27: 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.

Concept(s): • Generate data.

Students are able to:

- generate measurement data by measuring lengths, to the nearest whole unit, of several objects or by making repeated measurements of the same object.
- record the measurements in a line plot having a horizontal scale in whole number units

Learning Goal 28: Use tools of measurement to measure lengths of several objects to the nearest whole

<p>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> <p>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.</p> <p>2.OA.B.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p>		<p>unit and represent the data on a line plot with appropriate whole number units on the horizontal scale.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> • 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 29: 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 the graph.</p> <p>Concept(s): No new concept(s) introduced Students are able to:</p> <ul style="list-style-type: none"> • add within 10 using mental strategies with accuracy and efficiency. • subtract within 10 using mental strategies with accuracy and efficiency. <p>Learning Goal 30: Fluently add and subtract within 10 using mental strategies.</p>
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Unit 4 MATH 2ND GRADE

Stage 1 – Desired Results

UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<ul style="list-style-type: none"> • Measure and estimate lengths in standard units • Relate addition and subtraction to length • Understand place value • Use place value understanding and properties of operations to add and subtract. 	<p>2.OA.A.1 , 2.MD.D9,10 https://www.education.com/game/graphing-germs/ 2.G.A.1,2,3 https://www.education.com/game/square-tangram/</p> <p>*Envision Math materials *Moby Max</p>

<ul style="list-style-type: none"> • Reason with shapes and their attributes • Represent and interpret data • Add and subtract within 20 • Use place value understanding and properties of operations to add and subtract 	<ul style="list-style-type: none"> *Linkit *Xtra Math
UNDERSTANDINGS	
<p>Students will understand that...</p> <ul style="list-style-type: none"> • Addition and subtraction problems can be solved by using measurements in length and standard units • Place Value understanding is a critical skill for performing multi-digit operations • Shapes can be identified by specific attributes and partitioned using equal shares 	
Students will know...	Students will be able to...
<ul style="list-style-type: none"> • <i>Place Value</i> • <i>Relationship between addition & subtraction</i> • <i>Properties of operations</i> 	<ul style="list-style-type: none"> • <i>measure lengths of objects using rules, yardsticks, meter sticks and measuring tapes.</i> • <i>measure the length of an object using different units of measure.</i> • <i>compare the measurements and explain how they relate to each unit.</i> • <i>estimate lengths of objects.</i> • <i>Measure objects, comparing to determine how much longer one object is than another.</i> • <i>Express the difference in length in terms of a standard unit of measure.</i> • <i>add and subtract, within 100, to solve word problems involving lengths (lengths are given in the same units).</i> • <i>use drawings to represent the problem.</i> • <i>use number sentences with a symbol for the unknown to represent the problem.</i> • <i>use equally spaced points of a number line to represent whole numbers as lengths from 0.</i> • <i>represent whole number sums within 100 on a number line diagram.</i> • <i>represent whole number differences within 100 on a number line diagram.</i> • <i>use analog and digital clocks, tell time to the nearest five minutes using a.m. and p.m.</i> • <i>use analog and digital clocks, write time to the nearest five minutes using a.m. and p.m.</i> • <i>count within 1000 by ones.</i> • <i>count within 1000 by fives, tens, and hundreds beginning at any multiple of 5, 10, or 100.</i> • <i>add and subtract within 100 using place value strategies.</i> • <i>add and subtract within 100 using properties of operations and the relationship between addition and subtraction.</i>
Stage 2 – Assessment Evidence	
<p><u>Performance Tasks/Use of Technology:</u></p> <p><u>www.Xtramath.org</u></p> <p><u>http://www.mathplayground.com/</u></p>	<p>Other Evidence:</p> <p><u>Formative</u></p> <p>Formative Assessments</p> <ul style="list-style-type: none"> • Teacher observation

<p>http://www.gamequarium.com/</p> <p><u>Moby Max</u></p> <p><u>Envision Math</u></p> <p><u>Link It</u></p> <p>www.education.com</p>	<ul style="list-style-type: none"> ● Exit slips/check for understanding ● Games ● Oral Assessments/conferencing ● Portfolio/math journal ● Daily Classwork ● Pre-Assessment ● Fluency Check ● Quick Quiz ● Student Activity Pages <p>Summative Assessments</p> <ul style="list-style-type: none"> ● Quick Quiz ● Performance Task ● Unit Test Benchmark Alternative Assessments
Stage 3 – Learning Plan	
<p><i>In Topic 12 students will relate addition and subtraction to length</i></p> <p><i>In Topic 13 students will continue to relate addition and subtraction to length</i></p> <p><i>In Topic 14 students will be able to interpret data using various graphs</i></p> <p><i>In Topic 15 students will identify shapes and their attributes</i></p> <p><i>(Students will be assessed based on their understanding of length and how it relates to addition and subtraction, their understanding and ability to interpret data, identifying shapes and their attributes and solving word problems using various strategies. This will be assessed through formative and summative tasks as well as through Pearson Envision).</i></p> <ul style="list-style-type: none"> • <i>Hook the student through engaging and provocative entry points: thought-provoking and focusing experiences, issues, oddities, problems, and challenges that point toward essential questions, core ideas, and final performance tasks.</i> • <i>Explore and Equip. 21st Century Learning and Interdisciplinary connections. Engage students in learning experiences that allow them to explore the big ideas and essential questions; that cause them to pursue leads or hunches, research and test ideas, try things out. Equip students for the final performances through guided instruction and coaching on needed skill and knowledge. Have them experience the ideas to make them real.</i> • <i>Organize and sequence the learning for maximal engagement and effectiveness, given the desired results.</i> 	
Planned Differentiation & Interventions for Tiers I, II, III, ELL, SPED, and Gift & Talented Students	

- *Rethink and revise. Dig deeper into ideas at issue (through the faces of understanding). Revise, rehearse, and refine, as needed. Guide students in self-assessment and self-adjustment, based on feedback from inquiry, results, and discussion.*
- *Evaluate understandings. Reveal what has been understood through final performances and products. Involve students in a final self-assessment to identify remaining questions, set future goals, and point toward new units and lessons.*
- *Tailor (personalize) the work to ensure maximum interest and achievement. Differentiate the approaches used and provide sufficient options and variety (without compromising goals) to make it most likely that all students will be engaged and effective.*

Gifted & Talented:

- “Differentiating the Lesson” in EnVision Math online resources for all sections
- “Additional Topics” in EnVision Math online resources to extend and enhance instruction
- Advanced Center Activities from EnVision Math
- Design Challenges
- Student Choice/Driven Activities
- Group Projects
- MobyMax
- LinkIt
- Rocket Math
- [Intervention Central](#)
- [Do to Learn](#)
- [Differentiation Strategies for Math](#)
- [Discovery Education Math](#)
- [Everyday Mathematics](#)
- [Homework Spot](#)
- [Flash Card Math](#)
- [Math Fact Fluency](#)

Tier I:

- Progress Monitoring/Data Tracking
- EnVision Math “Error Intervention” resource
- Visual Learning examples
- Working Backward problem solving EnVision Math resource
- Flash Cards
- Brain Pop
- Extended Time
- Flexible Grouping
- Centers/Small Group Instruction

- Peer Buddies
- Math Tutoring Center (HS only)
- Math Lab/Tutorial
- MobyMax
- LinkIt!
- Rocket Math
- [Intervention Central](#)
- [Do to Learn](#)
- [Learning Ally](#)
- [Xtramath](#)
- [Differentiation Strategies for Math](#)
- [Discovery Education Math](#)
- [Everyday Mathematics](#)
- [Homework Spot](#)
- [Flash Card Math](#)
- [Math Fact Fluency](#)
- EnVision Math Reteach resource

Tier II:

- EnVision Math Daily Assessment Resource
- Differentiated Instruction assignments through EnVision Math
- MobyMax
- Rocket Math
- Xtramath
- Flash Cards

Tier III:

- Intense Interventions to accelerate progress EnVision Math resource
- Focus Math
- Systematic Assessments to focus on specific deficits

ELL:

- EnVision Math resources available in Spanish
- Letters to Parents are available in the Resources by Chapter book to assist in guiding parents through each chapter and offer helpful suggestions they can use to demonstrate mathematical concepts for their child in daily activities. These letters are editable so teachers can customize them.
- Student Dynamic eBook Audio has the option to be read in English or Spanish
- Multi-Language Glossary for new Math vocabulary is available in 14 different languages.
- Audio version is available in English or Spanish.
- Game Closet can be accessed in English or Spanish, while also allowing for all students to play and understand these educational games.

- ELL Notes included in Teacher Edition to help teachers overcome obstacles.
- Record & Practice Journal available in Spanish.
- Student Journal available in Spanish.
- Chapter Reviews available in English and Spanish.
- Vocabulary Flash Cards
- Chunking Information
- Math Word Wall/Word Bank
- Multi-Sensory Instruction
- Use of Translation software
- Gradual Release Model
- [TODOS: Mathematics for ALL](#) - Excellence and Equity in Mathematics
- [FABRIC - A Learning Paradigm for ELLs](#) (NJDOE resource)

SPED:

- Menu Math (mostly for very low functioning students)
- MobyMax
- LinkIt!
- Xtramath
- Learning Ally (audio version for textbooks and other published materials) – Also available for 504 students
- Use of specialized equipment such as beeping balls, text to speech and speech to text software, special seats or desks
- Use of hands-on materials for problem solving
- Visual supports and Use of manipulatives
- Extended time to complete tests and assignments
- Graphic Organizers/Study Guides
- Mnemonic tricks to improve memory
- Reducing workload
- Centers/Small Group Instruction
- Adjusting accountability for standards by focusing only on essential standards
- Use of iPads or laptops for students with motor issues that make writing difficult
- Use of tangible rewards (certificates, small toys, etc. per behavior plan)
- Use prompts and model directions/assignments
- Use task analysis to break down activities and lessons into each individual step needed to complete the task
- Use concrete examples to teach concepts
- Have student repeat/rephrase written directions
- Provide multi-sensory, hands-on materials for instruction
- Chunking Information
- Modify all fine motor tasks for example: (fat crayons, pencil grip, adaptive scissors)
- Functional or practical emphasis

504:

- Learning Ally (audio version for textbooks and other published materials)
- Extra help opportunities
- Reduce workload
- Partial credit
- Allow use of calculator, when appropriate
- Modified length and time frame of assignments
- Alternate assessments with extended time
- Provide guided notes and study guides as needed (use interactive notebook)
- Preferential Seating
- Extra Practice
- Directions repeated, clarified and reworded
- Breakdown task into manageable units
- Differentiated instruction
- Use of manipulatives