

4th 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 – 30 days <i>Place Value & Whole Number Operations</i>	4. NBT. A. 1–3 4. NBT. B. 4 4. OA. C. 5	<ul style="list-style-type: none"> Generalize place value understanding for multi-digit whole numbers. Use place value understanding and properties of operations to perform multi-digit arithmetic. Generalize and analyze patterns. 	<p>MP.1 Make sense of problems and persevere in solving them.</p> <p>MP.2 Reason abstractly and quantitatively.</p>	4.NBT.A.1 Thousands and Millions of Fourth Graders 4.NBT.A.2 Ordering 4-digit numbers 4.NBT.A.3 Rounding on the Number Line 4.NBT.B To regroup or not to regroup 4.OA.A.2 Comparing Money Raised
Unit 2 – 55 days <i>Multiplication & Division</i>	4. NBT. B. 5–6 4. OA. A. 1–3 4. OA. B. 4	<ul style="list-style-type: none"> Use place value understanding and properties of operations to perform multi-digit arithmetic. Solve using the four operations with whole numbers. Gain familiarity with factors and multiples. 	<p>MP.3 Construct viable arguments & critique the reasoning of others.</p>	4.OA.B Numbers in a Multiplication Table 4.OA.C.5 Double Plus One 4.NBT.B.6 mental Division Strategy 4.OA.A.3 Carnival Tickets
Unit 3 <i>Fractions & Decimals-55 days</i>	4. NF. A. 1 4. NF. A. 2 4. NF. B. 3. A–D 4. NF. B. 4. C 4. NF. C. 5–7	<ul style="list-style-type: none"> Extend understanding of fraction equivalence and ordering. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. Understand decimal notation for fractions and compare decimal fractions. 	<p>MP.4 Model with mathematics.</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>MP.8 Look for and express regularity in repeated reasoning</p>	4.NF.A.1 Explaining Fraction Equivalence with Pictures 4.NF.A.1 Fractions and Rectangles 4.NF.A.2 Comparing Fractions Benchmarks Game 4.NF.A.2 Doubling Numerators and Denominators 4.NF.B.3a Comparing Sums of Unit Fractions 4.NF.B.3b Making 22 Seventeenths in Many Ways 4.NF.B.3c Cynthia's Perfect Punch 4.NF.B.3c Peaches 4.NF.B.4 Extending Multiplication From Whole Numbers to Fractions 4.NF.B.4c Sugar in six cans of soda 4.NF.C.5 Adding Tenths and Hundredths 4.NF.C.6 Dimes and Pennies 4.NF.C.6 Expanded Fractions and Decimals 4.NF.C.7 Using Place Value
Unit 4 <i>Geometry & Measurement-40 days</i>	4. MD. A. 1–3 4. MD. B. 4 4. MD. C. 5. A 4. MD. C. 6 4. G. A. 1–3	<ul style="list-style-type: none"> Solve problems involving measurement and conversions from a larger to smaller unit. Represent and interpret data. Geometric measurement: Understand concepts of angle and measure angles. Draw and identify lines and angles, and classify shapes by properties of their lines and angles. 		4.G.A.1 The Geometry of Letters 4.G.A.1 What's the Point? 4.G.A.2 Are these right? 4.G.A.2 Defining Attributes of Rectangles and Parallelograms 4.G.A.3 Finding Lines of Symmetry 4.G.A.3 Lines of symmetry for triangles 4.MD.C.6, 4.MD.C.7, 4.G.A.1 Measuring Angles 4.MD.C.7, 4.G.A.2 Finding an unknown angle 4.MD.A.2 Margie Buys Apples

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 4TH GRADE		
Content & Practice Standards	Interdisciplinary Standards	Critical Knowledge & Skills
<p>4.NBT.A.1</p> <ul style="list-style-type: none"> Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <p>4.NBT.A.2</p> <ul style="list-style-type: none"> Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons. <p>4.NBT.A.3</p> <ul style="list-style-type: none"> Use place value understanding to round multi-digit whole numbers to any place. <p>4.NBT.B.4</p> <ul style="list-style-type: none"> Fluently add and subtract multi-digit whole numbers using the standard algorithm <p>4.OA.C.5</p> <ul style="list-style-type: none"> Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. 	<p>RL. 4.1.</p> <p>W. 4.4.</p> <p>RL. 4.7.</p>	<p>Concept(s):</p> <ul style="list-style-type: none"> A quantitative relationship exists between the digits in place value positions of a multi-digit number. <p>Students are able to:</p> <ul style="list-style-type: none"> Explain that a digit in one place represents ten times what it would represent in the place to its right. <p>Concept(s):</p> <ul style="list-style-type: none"> Multiple representations of whole numbers exist. <p>Students are able to:</p> <ul style="list-style-type: none"> read and write multi-digit whole numbers using base-ten numerals. read and write multi-digit whole numbers using number names. read and write multi-digit whole numbers using expanded form. compare two multi-digit numbers using $>$, $=$, and $<$ symbols. <p>Concept(s):</p> <ul style="list-style-type: none"> Estimation <p>Students are able to:</p> <ul style="list-style-type: none"> round whole numbers to any place.

Unit 1 MATH 4TH GRADE	
Stage 1 – Desired Results	
UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<p><i>In Unit 1, students will understand the relationships between values of digits, various forms of a number, rounding, and comparing whole numbers. They will also be able to fluently add and subtract multi-digit whole numbers, as well as estimating sums and differences.</i></p>	<ul style="list-style-type: none"> • Envision Math resources • MobyMax • Amanda Beans Amazing Dream by: Marilyn Burn • How Much is a Million? by: David Schwartz • If You Made a Million by: David Schwartz • One Hundred Hungry Ants by: Elinor Pinczes • The King’ s Commissioners by: Marilyn Burns • The Math Curse by: Jon Scieszka • Two Ways to Count to Ten by: Ruby Dee
UNDERSTANDINGS	
<ul style="list-style-type: none"> • For a whole number up to one million, explain that a digit in one place represents ten times what it would represent in the place to its right. • Compare two multi-digit whole numbers (up to one million) using $>$, $=$, and $<$ for numbers presented as base ten numerals, number names, and/or in expanded form. • Round multi-digit whole numbers up to one million to any place. • Add/subtract multi-digit whole numbers 	
Students will know...	Students will be able to...
<ul style="list-style-type: none"> • A quantitative relationship exists between the digits place value positions of a multidigit number • That a digit in one place represents ten times what it would represent in the place to its right. • Estimation • Multiple representations of whole numbers exist. 	<ul style="list-style-type: none"> • Represent problems with drawings and equations, using symbols for unknowns. • Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. • Compare two multidigit numbers using $>$, $=$, and $<$ symbols. Round whole numbers to any place. • Explain why an answer is reasonable. Use mental computation and estimation strategies to determine whether an answer is reasonable. • Add multi-digit whole numbers using standard algorithm with accuracy and efficiency • Subtract multi-digit whole numbers using the standard algorithm with accuracy and efficiency.
Stage 2 – Assessment Evidence	
Performance Tasks/Use of Technology	Formative Assessments
<p><i>www.prodigy.com</i> <i>https://www.mathsisfun.com/</i> <i>https://www.mathplayground.com/grade_4_games.html</i> <i>https://www.mathgames.com/grade4</i></p>	<p>Teacher Observation Exit Slips/Check for Understanding Games Portfolio/Math Journal Daily Classwork Student Activity Pages</p>

Whiteboard response
 Google Slide Activity
 Problem of the day

Summative Assessments

Envision Topic 1 Assessment
 Envision Topic 2 Assessment
 Projects

Benchmark

LinkIt/ Moby Max

Alternative Assessments

online Envision assessments-Topic 1 & 2
 Envision Performance Assessments Topic 1 & 2
 Teacher generated quizzes

Stage 3 – Learning Plan

- *Where is the work headed? Why is it headed there? What are the student's final performance obligations, the anchoring performance assessments? What are the criteria by which student work will be judged for understanding? (These are questions asked by students. Help the student see the answers to these questions upfront.)*
- *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.*
 - Envision Topic 1: Generalize Place Value Understanding
 - How are greater numbers written?
 - How can whole numbers be compared?
 - How are place values related?
 - Envision Topic 2: Fluently Add & Subtract Multi-digit Whole Numbers
 - How can sums and differences of whole numbers be estimated?
 - What are standard procedures for adding and subtracting whole numbers?

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 4TH GRADE

Content & Practice Standards	Interdisciplinary Standards	Critical Knowledge & Skills
<p>4. NBT. B. 5</p> <ul style="list-style-type: none"> • Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. <p>4. NBT. B. 6</p> <ul style="list-style-type: none"> • Find whole-number quotients and remainders with up to four-digit 	<p>NJSLS. A. R4 NJSLSA. SL4</p>	<p>Concept(s): No new concept(s) introduced</p> <p>Students are able to:</p> <ul style="list-style-type: none"> • multiply a whole number of up to four digits by a one-digit whole number using strategies based on place values. • multiply two two-digit numbers using strategies based on place value. • represent these operations with equations, rectangular arrays, and area models.

<p>dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p>4. OA. A. 3</p> <ul style="list-style-type: none">• Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. <p>4. OA. B. 4</p> <ul style="list-style-type: none">• Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite. <p>4. OA. A. 1</p> <ul style="list-style-type: none">• Interpret a multiplication equation as a comparison. <p>4. OA. A. 2</p> <ul style="list-style-type: none">• Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.		<ul style="list-style-type: none">• explain the calculation by referring to the model (equation, array, or area model). <p>Concept(s): No new concept(s) introduced</p> <p>Students are able to:</p> <ul style="list-style-type: none">• find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based on place value, the properties of operations, and the relationship between multiplication and division.• represent these operations with equations, rectangular arrays, and area models. explain the calculation by referring to the model (equation, array, or area model).
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Unit 2 MATH 4TH GRADE	
Stage 1 – Desired Results	
UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<p><i>During this unit, students will use various strategies to fluently multiply and divide multi-digit numbers. They will apply these strategies to word problems.</i></p>	<ul style="list-style-type: none"> • Envision Math resources • MobyMax • A Remainder of One book and activity • The Herding Game • The Division House • Prime Number Hunter • Illustrative Mathematics - Thousands and Millions of FourthGraders • <i>Illustrative Mathematics - Mental Division Strategies</i> • Illustrative Mathematics - Identifying Multiples • Illustrative Mathematics - Numbers in a Multiplication Table • Manipulatives for modeling multiplication and division • Connecting cubes
UNDERSTANDINGS	
<ul style="list-style-type: none"> • Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers; represent and explain calculations using equations, rectangular arrays, and area models. • Divide a whole number of up to four-digits by a one-digit divisor; represent and explain the calculation using equations, rectangular arrays, and area models. 	
Students will know...	Students will be able to...
<ul style="list-style-type: none"> • Multiplication equations represent comparisons. • Multiple representations of whole numbers exist. • Whole numbers are a multiple of each of its factors. • Prime numbers do not have factors other than 1 and the number itself. • Whole numbers are a multiple of each of its factors. • Prime numbers do not have factors other than 1 and the number itself. 	<ul style="list-style-type: none"> • Multiply a whole number of up to four digits by one digit whole number using strategies based on place values. • Multiply two-digit numbers using strategies using place value. • Represent these operations with equations, rectangular arrays, and area models. • Explain calculation by referring to the model (equation, array, or area model). • Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based on place value, properties of operations, and the relationship between multiplication and division. • Solve multi-step word problems involving any of the four operations.
Stage 2 – Assessment Evidence	
<u>Performance Tasks/Use of Technology</u>	<u>Formative</u>
<p>https://www.multiplication.com/games/all-games https://www.mathplayground.com/index_multiplication_division.html http://www.math-play.com/multiplication-games.html</p>	<p>Teacher Observation Exit Slips/Check for Understanding Games Portfolio/Math Journal Daily Classwork Student Activity Pages Whiteboard response</p>

<https://www.splashmath.com/division-games-for-4th-graders>

Google slides

Summative

Summative Assessments

Envision Topic 3 Assessment
 Envision Topic 4 Assessment
 Envision Topic 5 Assessment
 Envision Topic 6 Assessment
 Projects

Benchmark

LinkIt/ Moby Max

Alternative Assessments

online Envision assessments-Topic 3-7
 Envision Performance Assessments Topic 3-7
 Teacher generated quizzes

Stage 3 – Learning Plan

- *Where is the work headed? Why is it headed there? What are the student’s final performance obligations, the anchoring performance assessments? What are the criteria by which student work will be judged for understanding? (These are questions asked by students. Help the student see the answers to these questions upfront.)*
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- *Organize and sequence the learning for maximal engagement and effectiveness, given the desired results.*
 - Envision Topic 3: Use strategies and properties to multiply by 1 digit numbers
 - How can you multiply by multiples of 10, 100, and 1,000?
 - How can you estimate when you multiply?
 - Envision Topic 4: Use strategies and properties to multiply by 2 digit numbers
 - How can you use a model to multiply?

- How can you use the Distributive Property to multiply?
- How can you use multiplication to solve problems?
- Envision Topic 5: Use strategies and properties to divide by 1 digit numbers
 - How can mental math be used to divide?
 - How can quotients be estimated?
 - How can the steps for dividing be explained?
- Envision Topic 6: Use operations with whole numbers to solve problems
 - How is comparing with multiplication different from comparing with addition?
 - How can you use equations to solve multi-step problems?
- Envision Topic 7: Factors and Multiples
 - How can you use arrays or multiplication to find the factors of a number?
 - How can you identify prime and composite numbers?
 - How can you find the multiples of a number?

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Gifted & Talented:

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- [Flash Card Math](#)
- [Math Fact Fluency](#)

Tier I:

- Progress Monitoring/Data Tracking
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- Working Backward problem solving EnVision Math resource
- Flash Cards
- Brain Pop
- Extended Time
- Flexible Grouping
- Centers/Small Group Instruction
- Peer Buddies
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- EnVision Math Reteach resource

Tier II:

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- Focus Math
- Systematic Assessments to focus on specific deficits

ELL:

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- 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
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SPED:

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- 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
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- 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
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- Chunking Information
- Modify all fine motor tasks for example: (fat crayons, pencil grip, adaptive scissors)
- Functional or practical emphasis

504:

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- 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 4TH GRADE		
Content & Practice Standards	Interdisciplinary Standards	Critical Knowledge & Skills
<p>4.NF.A.1</p> <ul style="list-style-type: none"> • Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. <p>4.NF.A.2</p> <ul style="list-style-type: none"> • Compare two fractions with different numerators and different denominators. <p>4.NF.B.3.A</p> <ul style="list-style-type: none"> • Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. <p>4.NF.B.3.B</p> <ul style="list-style-type: none"> • Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. <p>4.NF.B.3.C</p> <ul style="list-style-type: none"> • Add and subtract mixed numbers with like denominators. <p>4.NF.B.3.D</p>	<p>RI.4.7</p> <p>NJSLSA.SL5</p>	<p>Concept(s):</p> <ul style="list-style-type: none"> • Equivalent fractions are the same size while the number and size of the parts differ. <p>Students are able to:</p> <ul style="list-style-type: none"> • explain, using visual fraction models, why two fractions are equivalent • generate equivalent fractions, using fraction a/b as equivalent to fraction $(n \times a)/(n \times b)$. <p>Concept(s):</p> <ul style="list-style-type: none"> • Fractions may only be compared when the two fractions refer to the same whole. <p>Students are able to:</p> <ul style="list-style-type: none"> • create common denominators in order to compare two fractions. • create common numerators in order to compare two fractions. • compare two fractions with different numerators and different denominators by comparing to a benchmark fraction. • record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

<ul style="list-style-type: none"> Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. <p>4.NF.B.4.C</p> <ul style="list-style-type: none"> Solve word problems involving multiplication of a fraction by a whole number. <p>4.NF.C.5</p> <ul style="list-style-type: none"> Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. <p>4.NF.C.6</p> <ul style="list-style-type: none"> Use decimal notation for fractions with denominators 10 or 100. <p>4.NF.C.7</p> <ul style="list-style-type: none"> Compare two decimals to hundredths by reasoning about their size. 		<p>Concept(s):</p> <ul style="list-style-type: none"> Some fractions can be decomposed. Addition/subtraction of fractions is joining/separating parts referring to the same whole. <p>Students are able to:</p> <ul style="list-style-type: none"> decompose a fraction into a sum of fractions with the same denominator in more than one way. write decompositions of fractions as an equation. develop visual fraction models that represent decomposed fractions and use them to justify decompositions. <p>Concept(s):</p> <ul style="list-style-type: none"> Some fractions can be decomposed. Addition/subtraction of fractions is joining/separating parts referring to the same whole. <p>Students are able to:</p> <ul style="list-style-type: none"> add and subtract fractions having like denominators in order to solve real world problems. develop visual fraction models and write equations to represent real world problems involving addition and subtraction of fractions. add and subtract mixed numbers with like denominators. <p>Concept(s):</p> <ul style="list-style-type: none"> Fraction Multiplication: any fraction a/b as a multiple of fraction $1/b$. Fraction Multiplication: any multiple of fraction a/b is also a multiple of fraction $1/b$. <p>Students are able to:</p>
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		<ul style="list-style-type: none">• represent a/b as a $x (1/b)$ using a visual fraction model.• represent $n \times (a/b)$ as $(n \times a)/b$ in a visual fraction model.• multiply a fraction by a whole number.• solve real world problems by multiplying a fraction by a whole number, using visual fraction models and equations to represent the problem. <p>Concept(s):</p> <ul style="list-style-type: none">• Equivalent Fractions <p>Students are able to:</p> <ul style="list-style-type: none">• add two fractions with respective denominators of 10 and 100 using equivalent fractions. <p>Concept(s):</p> <ul style="list-style-type: none">• Relationship between place value (decimals) and fraction <p>Students are able to:</p> <ul style="list-style-type: none">• write a decimal as a fraction that has a denominator of 10 or 100. <p>Students are able to:</p> <ul style="list-style-type: none">• represent a decimal using a model.• compare two decimals to hundredths by reasoning about their size.• explain that comparisons are valid only when the two decimals refer to the same whole.• record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions (e.g., by using a visual model).
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Unit 3 MATH 4TH GRADE

Stage 1 – Desired Results

UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<p><i>In this unit, students will be able to generate and identify equivalent fractions. They will also be able to add & subtract fractions and multiply fractions by a whole number. Students will be able to relate fractions to decimals and compare decimals.</i></p>	<p>Envision Math resources Moby Max Piece=Part=Portion: Fractions= Decimals= Percents by Scott Gifford If You Hopped Like a Frog by David M. Schwartz If Dogs Were Dinosaurs by David M. Schwartz Ten Times Better by Richard Michelson The Hershey’s Milk Chocolate Fractions Book by: Jerry Pallotta Each Orange Had 8 Slices by: Paul Giganti</p>
UNDERSTANDINGS	
<ul style="list-style-type: none"> Recognize and generate equivalent fractions and explain why they are equivalent using visual fraction models. Compare two fractions with different numerators or different denominators, recording comparison with $>$, $=$, or $<$, and justifying the conclusion using visual fraction models. Decompose a fraction into a sum of fractions with the same denominator in more than one way and record the decomposition as an equation; justify the decomposition with a visual fraction model. Add and subtract mixed numbers with like denominators by replacing each mixed number with an equivalent fraction or improper fraction. Make a line plot to display a data set in measurements in fractions of a unit ($1/2$, $1/4$, $1/8$) and use it to solve problems involving addition and subtraction of fractions with like denominators. Multiply a fraction by a whole number using visual fraction models and equations, demonstrating a fraction a/b as a multiple of $1/b$. Multiply a fraction by a whole number, using a visual fraction model and equations to demonstrate that a multiple of a/b is the product of $1/b$ and a whole number. Solve 1-step word problems involving multiplication of a fraction by a whole number, using visual fraction models and equations to represent the problem Add two fractions with respective denominators of 10 and 100 by writing each fraction with denominator 100. Given decimal notation, write fractions having denominators of 10 or 100. Compare two decimals to hundredths by reasoning about their size, demonstrating that comparisons are valid only when the two decimals refer to the same whole; record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model. 	
Students will know...	Students will be able to...
<ul style="list-style-type: none"> Equivalent fractions are the same size while the number and size of the parts differ. Fractions may only be compared when the two fractions refer to the same whole. Some fractions can be decomposed. Addition/subtraction of fractions is joining/separating parts referring to the same whole. Fraction multiplication: any fractions a/b as a multiple of fraction $1/b$ Fraction multiplication: any multiple of fractions a/b is also a multiple of fraction $1/b$. 	<ul style="list-style-type: none"> Explain, using visual fraction models, why two fractions are equivalent. Generate equivalent fractions, using fraction a/b as equivalent to fractions $(n \times a)/(n \times b)$. Create common denominators in order to compare two fractions. Create common numerators in order to compare fractions. Compare two fractions with different numerators and different denominators by comparing to a benchmark fraction. Record the results of comparisons with the symbols $>$, $=$, or $<$ and justify the conclusions, e.g., by using visual fraction model.

Curricular Framework MATH-4th Grade

<ul style="list-style-type: none"> • Equivalent Fractions 	<ul style="list-style-type: none"> • Decompose a fraction into a sum of fractions with the same denominator in more than one way. • Write decompositions of fractions as an equation. • Develop visual fraction models that represent decomposed fractions and use them to justify decompositions. • Add and subtract fractions having like denominators in order to solve real world problems. • Develop visual fraction models to write equations to represent real world problems involving addition and subtraction of fractions. • Add and subtract mixed numbers with like denominators. • Represent a/b as $x(1/b)$ using a visual fraction model. • Represent $n \times (a/b)$ as $(n \times a)/b$ in a visual fraction model. • Multiply a fraction by a whole number. • Solve real world problems by multiplying a fraction by a whole number, using visual fraction models and equations to represent the problem. • Add two fractions with respective denominators of 10
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Stage 2 – Assessment Evidence

<p><u>Performance Tasks/Use of Technology</u></p> <p>http://www.math-aids.com/ http://www.vectorkids.com/vkfractions.htm https://www.mrnussbaum.com/tonyfraction/ https://www.mrnussbaum.com/clarafraction/ http://www.aaamath.com/fra43b-comparefractud.html https://www.funbrain.com/games/math-baseball</p>	<p><u>Formative</u></p> <p>Teacher Observation Exit Slips/Check for Understanding Games Portfolio/Math Journal Daily Classwork Student Activity Pages Whiteboard response Google slides</p> <p><u>Summative</u></p> <p>Summative Assessments Envision Topic 8 Assessment Envision Topic 9 Assessment Envision Topic 10 Assessment Envision Topic 11 Assessment Envision Topic 12 Assessment</p> <p>Projects</p>
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Benchmark

LinkIt/ Moby Max

Alternative Assessments

online Envision assessments-Topic 8-12

Envision Performance Assessments Topic 8-12

Teacher generated quizzes

Stage 3 – Learning Plan

- *Where is the work headed? Why is it headed there? What are the student's final performance obligations, the anchoring performance assessments? What are the criteria by which student work will be judged for understanding? (These are questions asked by students. Help the student see the answers to these questions upfront.)*
- *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.*
- Envision Topic 8: Extend understanding of fraction equivalence and ordering
 - What are some ways to name the same part of a whole?
 - How can you compare fractions with unlike denominators?
- Envision Topic 9: Understand addition and subtraction of fractions
 - How do you add and subtract fractions and mixed numbers with like denominators?
 - How can fractions be added and subtracted on a number line?
- Envision Topic 10: Extend multiplication concepts to fraction
 - How can you describe a fraction by using a unit fraction?
 - How can you multiply a whole number by a mixed number?
- Envision Topic 11: Represent and interpret data on line plots
 - How can you read data on a line plot?
 - How can you make a line plot?
- Envision Topic 12: Understand and compare decimals
 - How can you write a fraction as a decimal?
 - How can you locate points on a number line?
 - How do you compare decimals?

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 4 MATH 4TH GRADE

Content & Practice Standards	Interdisciplinary Standards	Critical Knowledge & Skills
<p>4.MD.A.1</p> <ul style="list-style-type: none"> • Know relative sizes of measurement units within one system of units including km, m, cm, mm; kg, g; lb, oz.; l, ml; hr, min, sec. • Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. • Record measurement equivalents in a two column table. <p>4.MD.A.2</p> <ul style="list-style-type: none"> • Use the four operations to solve word problems involving distances, intervals of 	<ul style="list-style-type: none"> • 8.1.5.A.1 • 8.1.2.B.1 • 8.1.P.C.1 • 8.1.5.F. 	<p>Concept(s):</p> <ul style="list-style-type: none"> • Relative sizes of measurements (e.g. a kilometer is 1000 times as long as a meter and 100,000 times as long as a centimeter). <p>Students are able to:</p> <ul style="list-style-type: none"> • express measurements of a larger unit in terms of a smaller unit (within a single measurement system) (e.g. convert hours to minutes, kilometers to centimeters, etc). • generate a two-column table to record measurement equivalents.

time, liquid volumes, masses of objects, and money.

4.MD.A.3

- Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.MD.B.4

- Make a line plot to display a data set of measurements in fractions of a unit.
- Solve problems involving addition and subtraction of fractions by using information presented in line plots. difference in length between the longest and shortest specimens in an insect collection.

4.MD.C.5.A

- An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle.

4.MD.C.6

- Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

4.G.A.1

- Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.A.2

- Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size.

Students are able to:

- solve real world and mathematical problems by finding the area of rectangles using a formula.
- solve real world and mathematical problems by finding the perimeter of rectangles using a formula.

Students are able to:

- given a data set consisting of measurements in fractions of a unit, create a line plot.
- using measurement information presented in line plots, add and subtract fractions with like denominators in order to solve problems.

Students are able to:

- solve word problems (using addition, subtraction and multiplication) involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals.
- solve word problems (using all four operations) involving whole number distances, intervals of time, liquid volumes, masses of objects, and money, including problems requiring expressing measurements given in a larger measurement unit in terms of a smaller measurement unit (conversion).
- construct diagrams (e.g. number line diagrams) to represent measurement quantities.

Students are able to:

- draw points, lines, line segments and rays.
- draw angles (right, acute, obtuse).
- draw perpendicular and parallel lines.

<p>4.G.A.3</p> <ul style="list-style-type: none"> Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. 		<ul style="list-style-type: none"> distinguish between lines, line segments, and rays. identify points, lines, line segment, rays, right angles, acute angles, obtuse angles, perpendicular lines and parallel lines in two-dimensional figures <p>Concept(s):</p> <ul style="list-style-type: none"> Trapezoid is a quadrilateral with at least one pair of parallel sides. <p>Students are able to:</p> <ul style="list-style-type: none"> classify triangles based on the presence or absence of perpendicular lines and based on the presence or absence of angles of a particular size. <p>classify quadrilaterals based on the presence or absence of parallel or perpendicular lines and based on the presence or absence of angles of a particular size.</p> <p>Students are able to:</p> <ul style="list-style-type: none"> fold a figure along a line in order to create matching parts. identify lines of symmetry as a line across the figure such that the figure can be folded along the line into matching parts. identify figures having line symmetry. draw lines of symmetry. <p>Concept(s):</p> <ul style="list-style-type: none"> Angles are formed by two rays sharing a common endpoint and result from the rotation of one ray around the endpoint.
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		<ul style="list-style-type: none">• Angle Measurement: An angle that turns through n one-degree angles is said to have an angle measure of n degrees. <p>Students are able to:</p> <ul style="list-style-type: none">• describe an angle as measured with reference to a circle with the center of the circle being the common endpoint of the rays.• explain a ‘one-degree angle’ and its relation to a circle; a “degree” is defined as $1/360$ (one degree angle) of the entire circle. <p>Students are able to:</p> <ul style="list-style-type: none">• measure angles in whole-number degrees.• given an angle measure, sketch the angle. <p>Concept(s):</p> <ul style="list-style-type: none">• Angle measures may be added; when an angle is decomposed into non-overlapping parts, the angle measure of the whole (original angle) is the sum of the angle measures of the parts. <p>Students are able to:</p> <ul style="list-style-type: none">• add and subtract to find unknown angles on a diagram in real world and mathematical problems.• write an equation with a symbol for the unknown angle measure.
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Unit 4 MATH 4TH GRADE	
Stage 1 – Desired Results	
UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<p><i>During this unit, students will use measurement units and convert between units. They will also learn geometric relationships and classify shapes and figures using these relationships.</i></p>	<p>Envision Math resources Moby Max Perimeter and Area Project Symmetry Crafts Illustrative Mathematics - Who is the Tallest? Illustrative Mathematics - Karl's Garden Illustrative Mathematics - The Geometry of Letters Illustrative Mathematics - Finding an Unknown Angle</p>
UNDERSTANDINGS	
<ul style="list-style-type: none"> • Express measurement in a larger unit in terms of a smaller unit and record equivalent measures in a two-column table. • Solve real world problems with whole numbers by finding the area and perimeter of rectangles using formulas. • Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures. • Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a particular size; recognize right angles as a category, and identify right, acute, obtuse, equilateral, isosceles, and scalene triangles. • Draw lines of symmetry and identify line-symmetric figures • Explain angles as geometric shapes formed by two rays sharing a common endpoint and explain the relationship between a one-degree angle, a circle, and angle measure. • Measure angles in whole number degrees using a protractor and sketch angles of specific measures. • Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems using a symbol for an unknown angle measure. 	
Students will know...	Students will be able to...
<ul style="list-style-type: none"> • Relative sizes of measurement (e.g. a kilometer is 1000 times as long as a meter and 100,000 times as long as a centimeter). • Relationship between place value (decimals) and fraction. • Trapezoid is a quadrilateral with at least one pair of parallel sides. • Angles are formed by two rays sharing a common endpoint and result from the rotation of one ray around the endpoint. • Angle Measurement: An angle that turns through n one-degree angles is said to have an angle measure of n degrees. • How to draw and classify points, lines, line segments, rays, and angles with the appropriate tools.. • The difference between parallel and perpendicular lines. • How to identify symmetry in a two dimensional shape. 	<ul style="list-style-type: none"> • solve real world and mathematical problems by finding the area of rectangles using a formula. • solve real world and mathematical problems by finding the perimeter of rectangles using a formula. given a data set consisting of measurements in fractions of a unit, create a line plot • using measurement information presented in line plots, add and subtract fractions with like denominators in order to solve problems. • solve word problems (using addition, subtraction and multiplication) involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals. • solve word problems (using all four operations) involving whole number distances, intervals of time, liquid volumes, masses of objects, and money, including problems requiring expressing measurements given in a larger measurement unit in terms of a smaller measurement unit (conversion). • construct diagrams (e.g. number line diagrams) to represent measurement quantities. 56 draw points, lines, line segments and rays. draw angles (right, acute, obtuse).

Curricular Framework MATH-4th Grade

	<ul style="list-style-type: none"> • draw perpendicular and parallel lines. • distinguish between lines, line segments, and rays. identify points, lines, line segment, rays, right angles, acute angles, obtuse angles, perpendicular lines and parallel lines in two-dimensional figures. • classify triangles based on the presence or absence of perpendicular lines and based on the presence or absence of angles of a particular size. • classify quadrilaterals based on the presence or absence of parallel or perpendicular lines and based on the presence or absence of angles of a particular size. • fold a figure along a line in order to create matching parts. • identify lines of symmetry as a line across the figure such that the figure can be folded along the line into matching parts. • identify figures having line symmetry. • draw lines of symmetry • describe an angle as measured with reference to a circle with the center of the circle being the common endpoint of the rays. • explain a ‘one-degree angle’ and its relation to a circle; a “degree” is defined as 1/360 (one degree angle) of the entire circle. measure angles in whole-number degrees. • given an angle measure, sketch the angle. • add and subtract to find unknown angles on a diagram in real world and mathematical problems. • write an equation with a symbol for the unknown angle measure.
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Stage 2 – Assessment Evidence

<p><u>Performance Tasks/Use of Technology</u> http://nlvm.usu.edu/en/nav/vlibrary.html http://www.aaamath.com/ http://www.mathopenref.com/tocs/anglestoc.html http://us.mathletics.com/</p>	<p><u>Formative</u> Teacher Observation Exit Slips/Check for Understanding Games Portfolio/Math Journal Daily Classwork Student Activity Pages Whiteboard response Google slides</p> <p><u>Summative</u></p> <p>Summative Assessments Envision Topic 13 Assessment Envision Topic 14 Assessment Envision Topic 15 Assessment Envision Topic 16 Assessment</p>
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Projects

Benchmark

LinkIt/ Moby Max

Alternative Assessments

online Envision assessments-13-16

Envision Performance Assessments Topic 13-16

Teacher generated quizzes

Stage 3 – Learning Plan

- *Where is the work headed? Why is it headed there? What are the student’s final performance obligations, the anchoring performance assessments? What are the criteria by which student work will be judged for understanding? (These are questions asked by students. Help the student see the answers to these questions upfront.)*
- *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.*
- Envision Topic 13: Measurement: Find Equivalence in Units of Measure
 - How can you convert from one unit to another?
 - How can you be precise when solving math problems?
- Envision Topic 14: Algebra: Generate and Analyze Patterns
 - How can you use a rule to continue a pattern?
 - How can you use a table to extend the pattern?
 - How can you use a repeating pattern to predict a shape?
- Envision Topic 15: Geometric Measurement: Understand concepts of angles and angle measurements
 - What are some common geometric terms?
 - How can you measure angles?
- Envision Topic 16: Lines, Angles, & Shapes
 - How can you classify triangles and quadrilaterals?

-What is line symmetry?

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 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