

Kindergarten 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 -Counting and Cardinality: <i>Numbers to 10</i> -Classifying and Counting Data 60 Days	<ul style="list-style-type: none"> • K.CC.A • K.CC.B • K.CC.C • K.MD.B 	<ul style="list-style-type: none"> • Know the number names and count the sequence • Count to tell the number of objects • Compare numbers • Classify objects and count number of objects in each category 	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.	K.CC.A.1 Counting Circles K.CC.A.1 Choral Counting K.CC.A.3 Number TIC TAC TOE K.CC.B.4 Counting Mat K.CC.B.5 Finding Equal Groups K.MD.B.3 Sort and Count 1
Unit 2 -Addition and Subtraction -Counting and Cardinality: <i>Numbers to 20.</i> 60 Days	<ul style="list-style-type: none"> • K.OA.A • K.CC.A • K.CC.B 	<ul style="list-style-type: none"> • Understanding addition as putting together and adding to • Understanding subtraction as taking apart and taking from • Know number names and count the sequence • Count to tell the number of objects 	MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	K.CC.A.1 Choral Counting K.CC.A.2 Start-Stop Counting K.CC.A.3 Assessing Writing Numbers K.OA.A.2 Dice Addition 2 K.OA.A.2 What's Missing? K.CC.B.5 Finding Equal Groups K.CC.C.6 Which number is greater? Which number is less? How do you know? K.CC.C.7 Guess the Marbles in the Bag K.OA.A.5 Many Ways to Do Addition 1
Unit 3 -Compose and Decompose <i>Numbers 11-19</i> -Count Numbers to 100 -Identify, Describe, Analyze, Compare, and Create Shapes -Describe and Compare Measurable Attributes 60 Days	<ul style="list-style-type: none"> • K.CC.A • K.NBT.A • K.G.A • K.G.B • K.MD.A 	<ul style="list-style-type: none"> • Work with numbers 11-19 to gain foundations for place value • Know number names and count the sequence • Identify and describe shapes • Analyze, compare, create, and compose shapes • Describe and compare measurable attributes 	MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning	K.CC.A.1 Assessing Counting Sequences Part 1 K.MD.A.1 Which is heavier? K.MD.A.2 Which is Longer? K.MD.B.3 Sort and Count 2 K.OA.A.3 Shake and Spill K.OA.A.3 Pick Two K.NBT.A.1 What Makes a Teen Number K.OA.AK.CC.A.1 Counting by Tens K.G.B.4 Alike or Different Game K.NBT.5 My Book of Five

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 KINDERGARTEN		
Content & Practice Standards	Interdisciplinary Standards	Critical Knowledge & Skills
<ul style="list-style-type: none"> ● K.CC.A 1. Count to 100 by ones and tens. 2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). 3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). ● K.CC.B 4. Understand the relationship between numbers and quantities; connect counting to cardinality. 5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. ● K.CC.C 6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies (include groups with up to ten objects). 7. Compare two numbers between 1 and 10 as written numerals. ● K.MD.B 3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.) 	<ul style="list-style-type: none"> ● TECHNOLOGY STANDARDS and APPLY explicit standards as appropriate. <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. ○ A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations ● 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/ <ul style="list-style-type: none"> ○ 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. ○ CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. 	<p>Concept: Number names and the count sequence up to 10 Students are able to: count orally by ones up to 10.</p> <p>Concept: Represent the number of objects with a numeral. Students are able to: write numbers from 0 to 10.</p> <p>Concepts:</p> <ul style="list-style-type: none"> • Objects can be counted in any order. Each object is counted once (one-to-one correspondence). • The next number name in counting is always one greater than the previous number. • The last number name said tells the number of objects counted. <p>Students are able to:</p> <ul style="list-style-type: none"> • say number names in the standard order. • pair each object with one number name (one-to-one correspondence). • count to tell the number of objects. • count objects arranged in any order. • identify the last number named as the number of objects counted. <p>Concept: Objects can be sorted based on their properties. Students will be able to: sort objects into categories</p>

Curricular Framework MATH-Kindergarten

Stage 1 – Desired Results	
UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<ul style="list-style-type: none"> ● <i>Identify and write numbers 0-10</i> ● <i>Count to identify how many</i> ● <i>Count to at least 30 by ones</i> ● <i>Count to at least 40 by tens</i> ● <i>Classify, sort, and count objects.</i> 	<ul style="list-style-type: none"> ● EnVisions Workbook Pages ● Center Activities ● EnVisions Ten Frame Mats ● EnVisions and Other Appropriate Counting and Manipulatives ● White Boards for Number Writing
UNDERSTANDINGS	
<p>Learning Goal 1: Count by ones up to 10</p> <p>Learning Goal 2: Represent the number of objects with a written numeral up to 10</p> <p>Learning Goal 3: Assign an ascending number name for each object in a group.</p> <p>Learning Goal 4: State the last number named as the number of counted objects in the set.</p> <p>Learning Goal 5: Identify the next number name in counting as one greater than the previous number.</p> <p>Learning Goal 6: Classify objects into given categories and count the objects in each category (up to 10 objects)</p>	
Students will know...	Students will be able to...
<p><i>* number names and the count sequence..</i></p> <p><i>*how to count to tell the number of objects.</i></p> <p><i>*how to write numbers 0-10</i></p> <p><i>*how to decompose numbers less than or equal to 10 into pairs in more than one way,</i></p> <p><i>* how to compare numbers and identify less/more/equal</i></p> <p><i>* number names and the count sequence.</i></p>	<ul style="list-style-type: none"> ● <i>name numbers and count in sequence</i> ● <i>count objects</i> ● <i>compare numbers to 10</i> ● <i>read number names</i> ● <i>write numbers 0-10</i> ● <i>decompose numbers</i> ● <i>classify and sort objects</i>
Stage 2 – Assessment Evidence	
<p><u>Performance Tasks/Use of Technology:</u></p> <ul style="list-style-type: none"> ● Conferencing/Individual Small group ● Centers ● Whole group Instruction ● Observations ● https://www.abcya.com ● https://media.pearsoncmg.com 	<p><u>Formative</u></p> <ul style="list-style-type: none"> ● Quizzes ● Exit slips ● Small Group/Centers Work (Teacher Observation) ● Homework <p><u>Summative</u></p> <ul style="list-style-type: none"> ● Mid-Trimester Skills Assessment ● Topic Tests ● Trimester Assessment
Stage 3 – Learning Plan	
<p><i>Count numbers 1-5</i></p>	

Recognize numbers 1-5 in different arrangements
Read and Write numbers 1-5
Identify the number 0
Ways to make 5
Determine equal groups
Greater than/Less Than
Compare Groups to 5 by counting
Count numbers 6-10
Read and write numbers 6-10
Ways to Make 10
Compare Groups to 10
Compare numbers using numerals to 10
Compare Groups of 10 by counting
Count numbers to 10
Classify Objects into Categories
Count the Number of Objects in each category
Sort the Categories by counting

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 KINDERGARTEN		
Content & Practice Standards	Interdisciplinary Standards	Critical Knowledge & Skills
<ul style="list-style-type: none"> • K.OA.A 1. Represent addition and subtraction with objects, fingers, mental images, drawings (Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)), sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. 2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. 3. Decompose numbers less than or equal to 10 into pairs in more 	<ul style="list-style-type: none"> • TECHNOLOGY STANDARDS and APPLY explicit standards as appropriate. <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. 	Concept(s): <ul style="list-style-type: none"> • Understand addition as putting together and adding to. • Understand subtraction as taking apart and taking from. • Represent the number of objects with a numeral.

Curricular Framework MATH-Kindergarten

<p>than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).</p> <p>4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</p> <p>5. Fluently add and subtract within 5.</p> <ul style="list-style-type: none"> ● K.CC.A <ol style="list-style-type: none"> 1. Count to 100 by ones and tens. 2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). 3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). ● K.CC.B <ol style="list-style-type: none"> 4. Understand the relationship between numbers and quantities; connect counting to cardinality. 5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. 	<ul style="list-style-type: none"> ○ A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations ● 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/ <ul style="list-style-type: none"> ○ 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. ○ CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. 	<ul style="list-style-type: none"> ● Objects can be counted in any order. Each object is counted once (one-to-one correspondence). ● The next number name in counting is always one greater than the previous number. ● The last number name said tells the number of objects counted. <ul style="list-style-type: none"> ● The number of objects can be represented by a numeral. ● Numbers from 11 to 19 can be represented as one group of ten <i>ones</i> and another group containing fewer than ten <i>ones</i>.
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Unit 2 MATH KINDERGARTEN

Stage 1 – Desired Results

UNIT SUMMARY	CORE AND SUPPLEMENTAL MATERIALS/RESOURCES
<ul style="list-style-type: none"> ● <i>Identify and write numbers 0-20</i> ● <i>Count to identify how many</i> ● <i>Count to at least 60 by ones</i> ● <i>Count to at least 70 by tens</i> ● <i>Understand addition and subtraction</i> 	<ul style="list-style-type: none"> ● EnVisions Workbook Pages ● Center Activities ● EnVisions Ten Frame Mats ● EnVisions and Other Appropriate Counting and Manipulatives ● White Boards for Number Writing

UNDERSTANDINGS

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- Learning Goal 1: Create addition events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations for sums up to 10.
- Learning Goal 2: Represent the number of objects with a written numeral up to 10.
- Learning Goal 3: Answer *how many?* questions about groups of up to 10 objects when arranged in a line, rectangular array or circle
- Learning Goal 4: Answer *how many?* questions about groups of up to 5 when arranged in a scattered configuration.
- Learning Goal 5: Represent a number of objects with a written numeral 0 to 20.
- Learning Goal 6: Use mental math strategies to solve addition and subtraction facts within 5.

Students will know...	Students will be able to...
<p><i>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</i></p> <p><i>Know number names and the count sequence</i></p> <ul style="list-style-type: none"> ● <i>Know number names and the count sequence.</i> ● <i>Count to tell the number of objects</i> ● <i>Compare numbers</i> 	<p>Students are able to:</p> <ul style="list-style-type: none"> ● count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration. ● count to tell the number of objects when asked <i>how many?</i> questions . ● given a number from 1-10, count out that many object. ● create addition events by acting out situations and with verbal explanations ● write numbers from <u>0 to 20</u>. ● create subtraction and addition events with objects (up to 10). ● create subtraction and addition events with drawings and sounds (up to 10). ● create subtraction and addition events by acting out situations and with verbal explanations. ● use objects and drawings to represent addition and subtraction. ● add and subtract within 10. ● add and subtract within 5 with accuracy and efficiency .

Stage 2 – Assessment Evidence

<p><u>Performance Tasks/Use of Technology:</u></p> <ul style="list-style-type: none"> ● Conferencing/Individual Small group ● Centers ● Whole group Instruction ● Word problems ● Observations ● Smart Table Resources ● https://www.abcya 	<p><u>Formative</u></p> <ul style="list-style-type: none"> ● Quizzes ● Exit slips ● Small Group/Centers Work (Teacher Observation) ● Homework <p><u>Summative</u></p> <ul style="list-style-type: none"> ● Mid-Trimester Skills Assessment ● Topic Tests ● Trimester Assessment
<p>Stage 3 – Learning Plan</p>	
<p><i>Explore Addition and Subtraction</i> <i>Represent Addition as adding to</i> <i>Represent Addition as putting together</i> <i>Use the plus sign</i> <i>represent and explain addition and subtraction with equations</i> <i>solve addition word problems: add to and puts together</i> <i>Represent Subtraction as Taking Apart</i> <i>Represent Subtraction as Taking From</i> <i>Use the Minus Sign</i> <i>Solve Subtraction Word Problems: Take From</i> <i>Use patterns to develop fluency in addition and subtraction</i> <i>Decompose and Represent Number to 10</i> <i>Solve Word Problems: Both Addends Unknown</i> <i>Find the missing part of 10</i> <i>Count and write numbers 11-20</i> <i>Count Forward from any number to 20</i> <i>Count to Find How Many</i></p>	
<p>Planned Differentiation & Interventions for Tiers I, II, III, ELL, SPED, and Gift & Talented Students</p>	

Gifted & Talented:

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- Advanced Center Activities from EnVision Math
- Design Challenges
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Tier I:

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- Flash Cards
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- Xtramath
- Flash Cards

Tier III:

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

ELL:

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- 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
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- Use of Translation software
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SPED:

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- 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

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- 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 KINDERGARTEN

Content & Practice Standards

Interdisciplinary Standards

Critical Knowledge & Skills

<ul style="list-style-type: none"> ● K.CC.A <ol style="list-style-type: none"> 1. Count to 100 by ones and tens. 2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). 3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (0 = count of no objects). ● K.NBT.A <ol style="list-style-type: none"> 1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. ● K.G.A <ol style="list-style-type: none"> 1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. 2. Correctly name shapes regardless of their orientations or overall size. 3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). ● K.G.B <ol style="list-style-type: none"> 4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length). 5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. 6. Compose simple shapes to form larger shapes. For example, “Can you join these two triangles with full sides touching to make a rectangle?” ● K.MD.A <ol style="list-style-type: none"> 1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of an object. 2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. 	<ul style="list-style-type: none"> ● TECHNOLOGY STANDARDS and APPLY explicit standards as appropriate. <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. ○ A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations ● 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/ <ul style="list-style-type: none"> ○ 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. ○ CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. 	<p>Concept(s):</p> <ul style="list-style-type: none"> ● Measurable attributes: length, weight, size (volume) ● A single object can have more than one measurable attribute. ● When comparing objects by measuring, each object must have the same starting point. ● Moving an object does not change its measure. ● Groups can be sorted by the number of objects in each group. <ul style="list-style-type: none"> ● Shapes have names. ● Shapes can have the same names but appear different ● Shapes may be <i>flat</i> or <i>solid</i>. <ul style="list-style-type: none"> ● Part-to-whole relationships ● Some groups of objects can be broken into two smaller groups while the total number remains the same. ● Some groups of objects can be broken into two smaller groups in more than one way. ● Numbers from 11 to 19 can be represented as one group of ten <i>ones</i> and another group containing fewer than ten <i>ones</i>. <ul style="list-style-type: none"> ● Orientation does not alter attributes or size. ● Shapes may have sides of unequal or equal length. ● Shapes may or may not have the same number of sides or ‘corners’. ● Basic shapes exist in real world objects. ● Shapes can be combined to make larger shapes.
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Unit 3 MATH KINDERGARTEN

Stage 1 – Desired Results

UNIT SUMMARY

CORE AND SUPPLEMENTAL MATERIALS/RESOURCES

Curricular Framework MATH-Kindergarten

<ul style="list-style-type: none"> ● <i>Identify, describe, analyze, compose and create shapes</i> ● <i>Describe and compare measurable attributes</i> ● <i>Count to at least 100 by ones</i> ● <i>Count to at least 100 by tens</i> 	<ul style="list-style-type: none"> ● EnVisions Workbook Pages ● Center Activities ● EnVisions Ten Frame Mats ● EnVisions and Other Appropriate Counting and Manipulatives ● White Boards for Number Writing
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UNDERSTANDINGS

<p>Learning Goal 1: Describe measurable attributes of multiple objects and describe several measurable attributes of a single object.</p> <p>Learning Goal 2: Directly compare two objects with a measurable attribute in common; use <i>more of</i> or <i>less of</i> to compare the objects.</p> <p>Learning Goal 3: Count the objects in given categories and sort the categories by count (up to 10 objects).</p> <p>Learning Goal 4: Correctly names shapes regardless of their orientation or overall size.</p> <p>Learning Goal 5: Identify shapes as two-dimensional (lying in a plane, <i>flat</i>) or three-dimensional (<i>not flat, solid</i>).</p> <p>Learning Goal 6: Decompose numbers less than or equal to ten into pairs of numbers in more than one way and record with a drawing or equation.</p> <p>Learning Goal 7: Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives; record each composition or decomposition through a drawing or equation.</p> <p>Learning Goal 8: Use informal language to describe similarities, differences, parts number of sides, number of <i>corners</i>), and other attributes (having sides of equal length) when comparing two- and three- dimensional shapes, in different sizes and orientations.</p> <p>Learning Goal 9: Model shapes in the world by building and drawing shapes.</p> <p>Learning Goal 10: Compose simple shapes to form larger shapes.</p>

Students will know...	Students will be able to...
<ul style="list-style-type: none"> * <i>how to identify 2-D and 3-D shapes</i> * <i>how to analyze and describe shapes</i> * <i>how to create shapes</i> 	<ul style="list-style-type: none"> ● identify measurable attributes. ● describe the measurable attributes of multiple objects. ● describe multiple measurable attributes of a single object.

Curricular Framework MATH-Kindergarten

*how to compare measurable attributes (hot/cold, short/tall, heavy/light, etc.)
 *how to count to 100 by ones
 *how to count to 100 by tens

- directly compare and describe two objects with measurable attribute in common correctly names shapes regardless of their orientation or overall size.
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- identify shapes as two-dimensional (lying in a plane, *flat*) or three-dimensional (*not flat, solid*).
- compare two- and three- dimensional shapes, in different sizes, and orientations.
- decompose numbers less than or equal to ten into two numbers.
- record the decomposition with a drawing.
- record the decomposition with an equation.
- decompose the same number in more than one way.
- compose and decompose numbers from 11 to 19 into a group of ten *ones* and another group of one(s).
- use the term *ones* to describe the number of objects in each group.
- compare two- and three- dimensional shapes in different sizes and in different orientations and compare parts of two- and three-dimensional shapes [e.g. number of sides, number of vertices (*corners*)].
- compare attributes of two- and three-dimensional shapes [e.g. sides have equal length.]
- use informal language to describe similarities, differences, parts, and other attributes when comparing two-and three-dimensional shapes, in different sizes and orientations
- recognize basic shapes in the real world.
- use objects (clay, sticks, etc) to model shapes.
- model shapes in the world by drawing shapes.
- compose simple shapes to form larger shapes.

Stage 2 – Assessment Evidence

Performance Tasks/Use of Technology:

- Conferencing/Individual Small group
- Centers
- Whole group Instruction
- Observations
- <https://www.abcya.com>
- <https://media.pearsoncmg.com>

- Formative**
- Quizzes
 - Exit slips
 - Small Group/Centers Work (Teacher Observation)
 - Homework
- Summative**
- Mid-Trimester Skills Assessment
 - Topic Tests
 - Trimester Assessment

Stage 3 – Learning Plan

Make numbers 11-19
Find Parts of numbers 11-19
Count Using Patterns to 30
Count Using Patterns to 50

Count by Tens to 100
Count by Tens and Ones
Count Forward from any Number to 100
Count Using Patterns to 100
Identify 2D and 3D Shapes
Identify Circles, triangles, squares, rectangles and hexagons
Identify solid figure
Describe Shapes in the Environment
Describe the Position of Shapes in the Environment
Analyze and Compare 2D and 3D shapes
Compare 2D shapes to 3D shapes
Make 2D shapes from other 2D shapes
Build 2D shapes and 3D shapes
Compare length and Height
Compare by Capacity
Compare by Weight
Describe Objects by Attributes
Describe Objects by Measurable Attributes

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