

# **Wayne Township Public Schools Kindergarten Math Curriculum**

Curriculum Writers:

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**Wayne Township Public Schools**  
**Kindergarten Math Curriculum**

<b>Grade Level &amp; Content:</b>	Kindergarten Mathematics
<b>Unit Plan Title:</b>	<b>Unit 1:</b> Numbers to 10
<b>Time Frame:</b>	11 Weeks (please see pacing calendar)
<b>Anchor Standards/Domain*      *i.e: ELA: reading, writing i.e.: Math: Number and Operations in Base 10</b>	
Math: <ul style="list-style-type: none"> <li>- Counting and Cardinality</li> <li>- Operations and Algebraic Thinking</li> </ul>	
<b>Unit Summary</b>	
In this unit, students will learn that counting is more than just a verbal skill. Students will count up to 10 objects in various arrangements, tell how many, write numerals, and show numbers using a variety of representations. Students will also learn how to compare groups of objects and numerals from 0 to 10 in order to develop a deep understanding of the concepts greater than, less than, equal, and not equal.	
<b>Standard Number(s)</b>	
<ul style="list-style-type: none"> <li>● K.CC.A.2: Know the number names and the count sequence. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).</li> <li>● K.CC.A.3: Know the number names and the count sequence. 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).</li> <li>● K.CC.B.4: Count to tell the number of objects. Understand the relationship between numbers and quantities; connect counting to cardinality.</li> <li>● K.CC.B.4a: Count to tell the number of objects. Understand the relationship between numbers and quantities; connect counting to cardinality. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.</li> <li>● K.CC.B.4b: Count to tell the number of objects. Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.</li> <li>● K.CC.B.4c: Count to tell the number of objects. Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that each successive number name refers to a quantity that is one larger.</li> <li>● K.CC.B.5: Count to tell the number of objects. 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.</li> <li>● K.CC.C.6: Compare numbers. 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.</li> <li>● K.CC.C.7: Compare numbers. Compare two numbers between 1 and 10 presented as written numerals.</li> <li>● K.OA.A.3: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</li> </ul>	

- Mathematical Practices 1-8
  1. Make sense of problems and persevere in solving them.
  2. Reason abstractly and quantitatively.
  3. Construct viable arguments and critique the reasoning of others.
  4. Model with mathematics.
  5. Use appropriate tools strategically.
  6. Attend to precision.
  7. Look for and make use of structure.
  8. Look for and express regularity in repeated reasoning.
- Career Readiness, Life Literacies, and Key Skills Practices
  - CRP4. Demonstrate creativity and innovation.
  - CRP5. Utilize critical thinking to make sense of problems and persevere in solving them.
  - CRP9. Work productively in teams while using cultural/global competence.
- Career Readiness, Life Literacies, and Key Skills
  - 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives.
  - 9.4.2.CT.2: Identify possible approaches and resources to execute a plan.
  - 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
  - 9.4.2.IML.2: Represent data in a visual format to tell a story about the data.
- WIDA
  - ELD Standard 1: The Language of Social and Instructional Language
  - ELD Standard 3: The Language of Mathematics
- Computer Science and Design Thinking
  - 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
  - 8.1.2.DA.3: Identify and describe patterns in data visualizations.
  - 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

#### Essential Question(s)

- Topic 1: How can numbers from 0 to 5 be counted, read, and written?
- Topic 2: How can numbers from 0 to 5 be compared and ordered?
- Topic 3: How can numbers from 6 to 10 be counted, read, and written?
- Topic 4: How can numbers from 0 to 10 be compared and ordered?

#### Enduring Understandings

##### Topic 1

- Counting tells how many are in a group, regardless of their arrangement or the order in which they were counted. The last number said when counting a group is the total. Counting is cumulative.
- There is a unique symbol that goes with each number word.
- Zero is a number that tells how many objects there are when there are none.
- There is more than one way to show a number.
- There is a specific order to the set of whole numbers.
- Good math thinkers use math to explain why they are right. They can talk about the math that others do, too.

#### Topic 2:

- Two groups of objects are equal in number if they can be directly matched, one-to-one, with no extras in either group.
- Two groups of objects can be directly compared using a matching process.
- Two sets of objects can be compared by number using counting strategies, which is a more efficient method than matching.
- Two numbers can be compared by using the counting number sequence. A number represents a quantity greater than another quantity if it is later in the sequence.
- Good math thinkers use math they know to show and solve problems.

#### Topic 3:

- Counting tells how many are in a set, or group, no matter which order the objects are counted. The last number said when counting a group is the total. Counting is cumulative.
- There is a unique symbol that goes with each number word.
- There is more than one way to show a number.
- Good math thinkers look for patterns in math to help solve problems.

#### Topic 4:

- In comparing two groups, the group with more objects is greater in number than the other. The group with fewer objects is less in number than the other.
- In a pair of numbers, the number that tells more is greater. The number that tells fewer is less.
- Two groups can be compared by counting the number of objects in each group and finding the position of each number within the counting sequence.
- Two numbers can be compared by finding the position of each number within the counting sequence.
- There is a specific order to the set of whole numbers.
- Good math thinkers look for things that repeat in a problem. They use what they learn from one problem to help them solve other problems.

### Interdisciplinary Connections

Activities to connect math with other disciplines from the enVision 2.0 resources:

- Language Arts (RF.K.1, RI.K.1)
  - Problem solving reading mats and activities (Source: Problem-Solving Reading Activity Guide)
  - Interactive math stories (Source: Teacher's Resource Masters)
- Science (K-ESS2-1, K-ESS2-2)
  - Math and science project (Source: Teacher Manual)
  - Math and science activities (Source: Teacher's Resource Masters)

In this unit plan, the following 21<sup>st</sup> Century themes and skills are addressed.

Check all that apply. 21 <sup>st</sup> Century Themes		Check all that apply. 21 <sup>st</sup> Century Skills	
<input type="checkbox"/>	Global Awareness	<input type="checkbox"/>	Creativity and Innovation
<input type="checkbox"/>	Environmental Literacy	<input checked="" type="checkbox"/>	Critical Thinking and Problem Solving
<input type="checkbox"/>	Health Literacy	<input checked="" type="checkbox"/>	Communication
<input type="checkbox"/>	Civic Literacy	<input checked="" type="checkbox"/>	Collaboration
<input type="checkbox"/>	Financial, Economic, Business, and Entrepreneurial Literacy		

**Student Learning Targets/Objectives (Students will know/Students will understand)**

- Topic 1
  - o Count 1, 2, 3, 4, and 5 objects .
  - o Count groups of 1, 2, 3, 4, and 5 objects shown in different ways.
  - o Read and write the numbers 0, 1, 2, 3, 4, and 5.
  - o Use zero to tell when there are no objects.
  - o Show ways to make 5.
  - o Count up to the number 5.
  - o Use math to explain what you know about counting.
- Topic 2
  - o Compare groups to see whether they are equal by matching.
  - o Tell whether one group is greater in number or less in number than another group.
  - o Compare groups by counting.
  - o Compare numbers.
  - o Use objects, drawings, and numbers to compare numbers.
- Topic 3
  - o Count to the numbers 6, 7, 8, 9, and 10.
  - o Read and write the numbers 6, 7, 8, 9, and 10.
  - o Show how to make a group of 10.
  - o Use counting patterns to solve a problem.
- Topic 4
  - o Compare groups of up to 10 numbers.
  - o Compare groups of numbers using numerals to 10 .
  - o Compare groups of numbers by counting.
  - o Compare two numbers.
  - o Count groups of numbers to 10.
  - o Repeat something from one problem to help solve another problem.

**Assessments (Pre, Formative, Summative, Other)**

*Denote required common assessments with an \**

- Placement Test (Source: Assessment Book or online resources) - Pre-Assessment
- Review, "What You Know" (Source: Student Book at the beginning of each topic) - Pre-Assessment
- \*Topics 1 & 2 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- \*Topics 3 & 4 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- Lesson Quick Checks (Source: Online resources) - Formative Assessment
- Quizzes (Source: ExamView, Standards Practice Workbook) - Formative Assessment

- Topics 1-4 Cumulative Benchmark Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- Student Self-Assessment Tool (Source: Teacher's Resource Masters, Vol. 2) - Alternative Assessment
- Evaluate student work using the Cognitive Rigor Matrix for Mathematics (Source: Assessment Book) - Alternative Assessment
- Portfolio Assessment of student work - Alternative Assessment

### *Teaching and Learning Activities*

<i>Activities</i>	enVision 2.0 lessons 1.1-1.11 enVision 2.0 lessons 2.1-2.6 enVision 2.0 lessons 3.1-3.8 enVision 2.0 lessons 4.1-4.6
<i>Differentiation Strategies</i>	<ul style="list-style-type: none"> <li>- Reteaching Activities in Student Book</li> <li>- Leveled Center Games</li> <li>- Online Resources (today's challenge, accessible student edition of the text, games, another look activities and videos, reteaching activities)</li> <li>- Short Challenge Activities</li> <li>- Long Challenge Activities</li> <li>- Math Diagnosis and Intervention System</li> <li>- ELL Toolkit &amp; ELL Activities within the Teacher Manual</li> <li>- Problem-Solving Reading Mats and Teacher Guide</li> <li>- <a href="#">Differentiation Strategies for Special Education Students</a></li> <li>- <a href="#">Differentiation Strategies for Gifted and Talented Students</a></li> <li>- <a href="#">Differentiation Strategies for ELL Students</a></li> <li>- <a href="#">Differentiation Strategies for At Risk Students</a></li> <li>- <a href="#">Differentiation Strategies for Students with a 504</a></li> </ul>

### Resources

- enVision 2.0 Resources
  - Student Book
  - Teacher Manual
  - Teacher Resource Guide
  - Assessment Book
  - Pearsonrealize.com (online platform)
    - Math Games
    - Digital Text
    - Math Videos
    - Virtual Manipulatives
    - Math Diagnosis and Intervention System
  - Problem-Solving Reading Mats & Teacher Guide
  - Center Games
  - ELL Toolkit & ELL Activities within the Teacher Manual
  - Standards Practice Workbook and Teacher Manual
  - ExamView
- Math Manipulatives
- WTPS Assessment Pack (Located in Google Drive Folder)
- Short Challenge Activities (Located in Google Drive Folder)
- Long Challenge Activities (Located in Google Drive Folder)

<b>Grade Level &amp; Content:</b>	Kindergarten Mathematics
<b>Unit Plan Title:</b>	<b>Unit 2:</b> Addition, Subtraction, and Data
<b>Time Frame:</b>	12 weeks (please see pacing calendar)
<b>Anchor Standards/Domain*</b>	<b>*i.e: ELA: reading, writing i.e.: Math: Number and Operations in Base 10</b>
<b>Math:</b> <ul style="list-style-type: none"> <li>- Counting and Cardinality</li> <li>- Operations and Algebraic Thinking</li> <li>- Measurement &amp; Data</li> </ul>	
<b>Unit Summary</b>	
<p>In this unit, students will learn to classify objects into two given categories, count the number of objects in each of those categories, and then sort the categories by count. They will also focus on a deep understanding of addition as “put together” and “add to,” and subtraction as “take apart” and “take from.” Students will learn how to represent and solve addition and subtraction word problems, decompose numbers through 10, and fluently add and subtract within 5.</p>	
<b>Standard Number(s)</b>	
<ul style="list-style-type: none"> <li>• K.CC.A.2: Know the number names and the count sequence. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).</li> <li>• K.CC.B.5: Count to tell the number of objects. 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.</li> <li>• K.CC.C.6: Compare numbers. 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.</li> <li>• K.CC.C.7: Compare numbers. Compare two numbers between 1 and 10 presented as written numerals.</li> <li>• K.OA.A.1: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</li> <li>• K.OA.A.2: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</li> <li>• K.OA.A.3: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</li> <li>• K.OA.A.4: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. 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.</li> <li>• K.OA.A.5: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. Demonstrate fluency for addition and subtraction within 5.</li> <li>• K.MD.B.3: Classify objects and count the number of objects in each category. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</li> </ul>	

- Mathematical Practices 1-8
  - 1. Make sense of problems and persevere in solving them.
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- Career Readiness, Life Literacies, and Key Skills Practices
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  - 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
  - 8.1.2.DA.3: Identify and describe patterns in data visualizations.
  - 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

#### Essential Question(s)

- Topic 5: How can classifying data help answer questions?
- Topic 6: What types of situations involve addition?
- Topic 7: How can representing taking apart and taking from in different ways help you learn about subtraction?
- Topic 8: How can decomposing numbers in more than one way help you learn about addition and subtraction?

#### Enduring Understandings

##### Topic 5

- Objects can be classified into two categories, based on whether they have or do not have a particular attribute. Each group can then be counted.
- Data can be sorted and compared in a variety of ways. Objects can be sorted by putting those with a particular attribute in one group and those without the attribute in another group. Then, the groups can be counted and the categories can be compared by count.
- Good math thinkers use math to explain why they are right. They can talk about the math that others do too.



#### Topic 6:

- Addition can be shown in different ways, such as with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.
- Adding one or more objects to an existing group is one interpretation of addition.
- Putting together parts to make a whole is one interpretation of addition.
- Adding groups can be shown in an addition expression that uses the plus sign (+).
- Adding parts together to make a whole is one interpretation of addition. Equations using + and = can be used to show parts of a whole.
- Objects, drawings, counting, and equations can be used to help solve addition problems involving adding to or putting together.
- Patterns can be used to help solve addition problems.
- Good math thinkers use math they know to show and solve problems.

#### Topic 7:

- Subtraction can be shown in different ways, such as with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.
- Separating parts from a whole is one interpretation of subtraction.
- Taking parts from a whole is one interpretation of subtraction.
- Take apart and take from subtraction situations can be shown in a subtraction expression that uses the minus sign (-).
- Subtraction equations using - and = can be used to show subtraction situations.
- Objects, words, drawings, counting, and equations can be used to help solve subtraction problems involving taking from.
- Patterns can be used to help solve subtraction problems.
- Good math thinkers know how to pick the right tools to solve math problems.

#### Topic 8:

- Numbers can be broken apart in many ways. An addition equation can show how a number is broken into two parts.
- Addition and subtraction facts have an inverse relationship. Equations using +, -, and = can be used to show parts of a whole.
- Good math thinkers know how to think about words and numbers to solve problems.
- Addition and subtraction facts can be solved using different strategies.
- Objects, drawings, counting, and equations can be used to help solve addition problems involving unknown addends.
- For any number from 1-9, there is another number to make 10.

### Interdisciplinary Connections

Activities to connect math with other disciplines from the enVision 2.0 resources:

- Language Arts (RF.K.1, RI.K.1)
  - Problem solving reading mats and activities (Source: Problem-Solving Reading Activity Guide)
  - Interactive math stories (Source: Teacher's Resource Masters)
- Science (K-LS1-1, K-ESS3-1)
  - Math and science project (Source: Teacher Manual)
  - Math and science activities (Source: Teacher's Resource Masters)

In this unit plan, the following 21<sup>st</sup> Century themes and skills are addressed.

Check all that apply. 21 <sup>st</sup> Century Themes			Check all that apply. 21 <sup>st</sup> Century Skills		
	<input type="checkbox"/>	Global Awareness		<input type="checkbox"/>	Creativity and Innovation
	<input type="checkbox"/>	Environmental Literacy		<input checked="" type="checkbox"/>	Critical Thinking and Problem Solving
	<input type="checkbox"/>	Health Literacy		<input checked="" type="checkbox"/>	Communication
	<input type="checkbox"/>	Civic Literacy		<input checked="" type="checkbox"/>	Collaboration
	<input type="checkbox"/>	Financial, Economic, Business, and Entrepreneurial Literacy			

**Student Learning Targets/Objectives (Students will know/Students will understand)**

- Topic 5
  - Classify objects into categories and tell why they are in each category.
  - Count how many objects are in different categories.
  - Use counting to compare how many objects are in categories.
  - Tell whether the way objects have been sorted, counted, and compared makes sense.
- Topic 6
  - Show numbers in many ways.
  - Represent addition as adding to a number.
  - Represent addition as putting two or more numbers together.
  - Add numbers together.
  - Write an equation to show addition.
  - Use the plus sign and equal sign in an equation.
  - Solve addition problems.
  - Use equations to represent and explain addition.
  - Use patterns to add numbers together.
  - Model adding different numbers together by drawing, counting, or writing equations
- Topic 7
  - Show numbers in many ways.
  - Take apart a number and tell the parts.
  - Represent subtraction as taking away from a whole.
  - Separate numbers.
  - Use the minus sign in an equation.
  - Find the difference of two numbers.
  - Find patterns in subtraction equations.
  - Use tools to subtract numbers.
- Topic 8
  - Write equations to show the parts of numbers up to 5.
  - Solve related addition and subtraction equations.
  - Reason about numbers and operations.
  - Write addition and subtraction equations within 5 and remember them.
  - Write equations to show the parts of 6, 7, 8, 9, and 10.
  - Write an addition equation to solve a word problem.
  - Find number partners for 10.
  - Find a missing part to make 10.

Assessments (Pre, Formative, Summative, Other)		Denote required common assessments with an *
<ul style="list-style-type: none"> <li>● Placement Test (Source: Assessment Book or online resources) - Pre-Assessment</li> <li>● Review, "What You Know" (Source: Student Book at the beginning of each topic) - Pre-Assessment</li> <li>● *Topic 5 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment</li> <li>● *Topic 6 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment</li> <li>● *Topic 7 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment</li> <li>● Topic 8 Assessment (Source: Assessment Book or online resources) - Summative Assessment</li> <li>● Lesson Quick Checks (Source: Online resources) - Formative Assessment</li> <li>● Quizzes (Source: ExamView, Standards Practice Workbook) - Formative Assessment</li> <li>● *Topics 1-8 Cumulative Benchmark Assessment (WTPS Assessment Pack in Google Folder) - Summative Assessment</li> <li>● Topics 1-8 Cumulative Benchmark Assessment (Source: online resources) - Summative Assessment</li> <li>● Student Self-Assessment Tool (Source: Teacher's Resource Masters, Vol. 2) - Alternative Assessment</li> <li>● Evaluate student work using the Cognitive Rigor Matrix for Mathematics (Source: Assessment Book) - Alternative Assessment</li> <li>● Portfolio Assessment of student work - Alternative Assessment</li> </ul>		
Teaching and Learning Activities		
Activities	enVision 2.0 lessons 5.1-5.4 enVision 2.0 lessons 6.1-6.10 enVision 2.0 lessons 7.1-7.9 enVision 2.0 lessons 8.1-8.10	
Differentiation Strategies	<ul style="list-style-type: none"> <li>- Reteaching Activities in Student Book</li> <li>- Leveled Center Games</li> <li>- Online Resources (today's challenge, accessible student edition of the text, games, another look activities and videos, reteaching activities)</li> <li>- Short Challenge Activities</li> <li>- Long Challenge Activities</li> <li>- Math Diagnosis and Intervention System</li> <li>- ELL Toolkit &amp; ELL Activities within the Teacher Manual</li> <li>- Problem-Solving Reading Mats and Teacher Guide</li> <li>- <a href="#">Differentiation Strategies for Special Education Students</a></li> <li>- <a href="#">Differentiation Strategies for Gifted and Talented Students</a></li> <li>- <a href="#">Differentiation Strategies for ELL Students</a></li> <li>- <a href="#">Differentiation Strategies for At Risk Students</a></li> <li>- <a href="#">Differentiation Strategies for Students with a 504</a></li> </ul>	

## Resources

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- WTPS Assessment Pack (Located in Google Drive Folder)
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- Long Challenge Activities (Located in Google Drive Folder)

<b>Grade Level &amp; Content:</b>	Kindergarten Mathematics
<b>Unit Plan Title:</b>	<b>Unit 3:</b> Numbers to 100
<b>Time Frame:</b>	7 weeks (please see pacing calendar)
<b>Anchor Standards/Domain*</b>	<b>*i.e: ELA: reading, writing i.e.: Math: Number and Operations in Base 10</b>
<b>Math:</b> <ul style="list-style-type: none"> <li>- Counting and Cardinality</li> <li>- Numbers and Operations in Base Ten</li> </ul>	
<b>Unit Summary</b>	
<p>In this unit, students will continue learning about the counting sequence with a focus on numbers 11 to 20. They will also build a foundation for understanding place value by focusing on the composition and decomposition of numbers 11 to 19. This unit focuses on extending the number names and counting to 100. Students will learn about verbal and written patterns in the counting sequence, and they count by ones, by tens, and by both tens and ones beginning from any number.</p>	
<b>Standard Number(s)</b>	
<ul style="list-style-type: none"> <li>• K.CC.A.1: Know the number names and the count sequence. Count to 100 by ones and by tens.</li> <li>• K.CC.A.2: Know the number names and the count sequence. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).</li> <li>• K.CC.A.3: Know the number names and the count sequence. 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).</li> <li>• K.CC.B.4c: Count to tell the number of objects. Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that each successive number name refers to a quantity that is one larger.</li> <li>• K.CC.B.5: Count to tell the number of objects. 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.</li> <li>• K.NBT.A.1: Work with numbers 11-19 to gain foundations for place value. 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 (such as <math>18 = 10 + 8</math>); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</li> <li>• Mathematical Practices 1-8 <ul style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ul> </li> <li>• Career Readiness, Life Literacies, and Key Skills Practices <ul style="list-style-type: none"> <li>o CRP4. Demonstrate creativity and innovation.</li> <li>o CRP5. Utilize critical thinking to make sense of problems and persevere in solving them.</li> <li>o CRP9. Work productively in teams while using cultural/global competence.</li> </ul> </li> </ul>	

- Career Readiness, Life Literacies, and Key Skills
  - 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives.
  - 9.4.2.CT.2: Identify possible approaches and resources to execute a plan.
  - 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
  - 9.4.2.IML.2: Represent data in a visual format to tell a story about the data.
- WIDA
  - ELD Standard 1: The Language of Social and Instructional Language
  - ELD Standard 3: The Language of Mathematics
- Computer Science and Design Thinking
  - 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
  - 8.1.2.DA.3: Identify and describe patterns in data visualizations.
  - 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

#### Essential Question(s)

- Topic 9: How can numbers to 20 be counted, read, written, and pictured to tell how many?
- Topic 10: How can composing and decomposing numbers from 11 to 19 into ten ones and some further ones help you understand place value?
- Topic 11: How can numbers to 100 be counted using a hundred chart?

#### Enduring Understandings

Topic 9:

- There is a unique symbol that goes with each number word.
- You use the count sequence to count from any number within 20. Numbers become greater when you count on.
- Counting tells how many are in a set, regardless of their arrangement or the order in which they were counted. The last number said when counting a set is the total. Counting is cumulative.
- Good math thinkers know how to think about words and numbers to solve problems.

Topic 10:

- Numbers from 11-19 can be represented as the sum of 10 and some more.
- The numbers 11, 12, 13, 14, 15, 16, 17, 18, and 19 can be decomposed as the sum of ten and some ones.
- Good math thinkers look for patterns in math to help solve problems.

Topic 11:

- Counting patterns can be seen on a hundred chart in both the rows and the columns. Some patterns can also be heard when counting aloud.
- Decade numbers such as 10, 20,...100 are used to name groups of ten. You can count by tens to 100 by counting only the decade numbers.
- Numbers are counted and written in a specific sequence on a hundred chart.
- Using counting patterns on the hundred chart can help when counting on from any number from 1 to 100.
- Good math thinkers look for patterns in math to solve problems.

## Interdisciplinary Connections

Activities to connect math with other disciplines from the enVision 2.0 resources:

- Language Arts (RF.K.1, RI.K.1)
  - Problem solving reading mats and activities (Source: Problem-Solving Reading Activity Guide)
  - Interactive math stories (Source: Teacher's Resource Masters)
- Science (K-LS1-1, K-PS3-1, K-PS3-2, K-ESS2-2)
  - Math and science project (Source: Teacher Manual)
  - Math and science activities (Source: Teacher's Resource Masters)

In this unit plan, the following 21<sup>st</sup> Century themes and skills are addressed.

Check all that apply. 21 <sup>st</sup> Century Themes			Check all that apply. 21 <sup>st</sup> Century Skills		
	<input type="checkbox"/>	Global Awareness		<input type="checkbox"/>	Creativity and Innovation
	<input type="checkbox"/>	Environmental Literacy		<input checked="" type="checkbox"/>	Critical Thinking and Problem Solving
	<input type="checkbox"/>	Health Literacy		<input checked="" type="checkbox"/>	Communication
	<input type="checkbox"/>	Civic Literacy		<input checked="" type="checkbox"/>	Collaboration
	<input type="checkbox"/>	Financial, Economic, Business, and Entrepreneurial Literacy			

## Student Learning Targets/Objectives (Students will know/Students will understand)

- Topic 9
  - Count and write the numbers 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20.
  - Count forward from any number to a number within 20.
  - Count to find out how many are in a group.
  - Use reasoning to count and write numbers to the number 20.
- Topic 10
  - Use drawings and equations to make the numbers 11, 12, and 13.
  - Make the numbers 14, 15, 16, 17, 18, and 19.
  - Find parts of the numbers 11, 12, 13, 14, 15, 16, 17, 18, and 19.
  - Use patterns to make and find the parts of numbers to 19.
- Topic 11
  - Use patterns to count to 50.
  - Skip count by tens to 100.
  - Count to the number 100 by using tens and ones.
  - Count forward from any number to 100 by ones.
  - Count by tens and ones from any number up to 100.
  - Count on from any number counting by tens and ones.

## Assessments (Pre, Formative, Summative, Other)

Denote required common assessments with an \*

- Placement Test (Source: Assessment Book or online resources) - Pre-Assessment
- Review, "What You Know" (Source: Student Book at the beginning of each topic) - Pre-Assessment
- \*Topic 9 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- \*Topic 10 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- \*Topic 11 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- Lesson Quick Checks (Source: Online resources) - Formative Assessment

- Quizzes (Source: ExamView, Standards Practice Workbook) - Formative Assessment
- Topics 1-11 Cumulative Benchmark Assessment (Source: Assessment Book or online resources) - Summative Assessment
- Student Self-Assessment Tool (Source: Teacher's Resource Masters, Vol. 2) - Alternative Assessment
- Evaluate student work using the Cognitive Rigor Matrix for Mathematics (Source: Assessment Book) - Alternative Assessment
- Portfolio Assessment of student work - Alternative Assessment

### *Teaching and Learning Activities*

<i>Activities</i>	enVision 2.0 lessons 9.1-9.7 enVision 2.0 lessons 10.1-10.7 enVision 2.0 lessons 11.1-11.7 <a href="#">Lesson 9.5 - Supplement Activity (Located in the Google Drive Folder)</a> <a href="#">Lesson 11.5 - Supplement Activity (Located in the Google Drive Folder)</a>
<i>Differentiation Strategies</i>	<ul style="list-style-type: none"> <li>- Reteaching Activities in Student Book</li> <li>- Leveled Center Games</li> <li>- Online Resources (today's challenge, accessible student edition of the text, games, another look activities and videos, reteaching activities)</li> <li>- Short Challenge Activities</li> <li>- Long Challenge Activities</li> <li>- Math Diagnosis and Intervention System</li> <li>- ELL Toolkit &amp; ELL Activities within the Teacher Manual</li> <li>- Problem-Solving Reading Mats and Teacher Guide</li> <li>- <a href="#">Differentiation Strategies for Special Education Students</a></li> <li>- <a href="#">Differentiation Strategies for Gifted and Talented Students</a></li> <li>- <a href="#">Differentiation Strategies for ELL Students</a></li> <li>- <a href="#">Differentiation Strategies for At Risk Students</a></li> <li>- <a href="#">Differentiation Strategies for Students with a 504</a></li> </ul>

### Resources

- enVision 2.0 Resources
  - Student Book
  - Teacher Manual
  - Teacher Resource Guide
  - Assessment Book
  - Pearsonrealize.com (online platform)
    - Math Games
    - Digital Text
    - Math Videos
    - Virtual Manipulatives
    - Math Diagnosis and Intervention System
  - Problem-Solving Reading Mats & Teacher Guide
  - Center Games
  - ELL Toolkit & ELL Activities within the Teacher Manual
  - Standards Practice Workbook and Teacher Manual
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<b>Grade Level &amp; Content:</b>	Kindergarten Mathematics
<b>Unit Plan Title:</b>	<b><i>Unit 4:</i></b> Geometry and Measurement
<b>Time Frame:</b>	6 weeks (please see pacing calendar)
<b>Anchor Standards/Domain*</b>	<b>*i.e: ELA: reading, writing i.e.: Math: Number and Operations in Base 10</b>
Math: <ul style="list-style-type: none"> <li>- Geometry</li> <li>- Measurement &amp; Data</li> </ul>	
<b>Unit Summary</b>	
<p>In this unit, students will be introduced to many geometric ideas by asking students to identify shapes as two- or three-dimensional, name shapes, and use terms to describe the relative position of shapes in their environment. Students will also build and draw shapes along with composing simple shapes to form larger shapes. Additionally, students will be introduced to measurement learning that objects can be described by measurable attributes and that some objects can be described by more than one measurable attribute.</p>	
<b>Standard Number(s)</b>	
<ul style="list-style-type: none"> <li>• K.G.A.1: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as <i>above</i>, <i>below</i>, <i>beside</i>, <i>in front of</i>, <i>behind</i>, and <i>next to</i>.</li> <li>• K.G.A.2: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Correctly name shapes regardless of their orientations or overall size.</li> <li>• K.G.A.3: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").</li> <li>• K.G.B.4: Analyze, compare, create, and compose shapes. 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).</li> <li>• K.G.B.5: Analyze, compare, create, and compose shapes. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</li> <li>• K.G.B.6: Analyze, compare, create, and compose shapes. Compose simple shapes to form larger shapes. <i>For example, "Can you join these two triangles with full sides touching to make a rectangle?"</i></li> <li>• K.MD.A.1: Describe and compare measurable attributes. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</li> <li>• K.MD.A.2: Describe and compare measurable attributes. 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. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></li> <li>• Mathematical Practices 1-8 <ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> </ol> </li> </ul>	

- 7. Look for and make use of structure.
- 8. Look for and express regularity in repeated reasoning.
- Career Readiness, Life Literacies, and Key Skills Practices
  - o CRP4. Demonstrate creativity and innovation.
  - o CRP5. Utilize critical thinking to make sense of problems and persevere in solving them.
  - o CRP9. Work productively in teams while using cultural/global competence.
- Career Readiness, Life Literacies, and Key Skills
  - o 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives.
  - o 9.4.2.CT.2: Identify possible approaches and resources to execute a plan.
  - o 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
  - o 9.4.2.IML.2: Represent data in a visual format to tell a story about the data.
- WIDA
  - o ELD Standard 1: The Language of Social and Instructional Language
  - o ELD Standard 3: The Language of Mathematics
- Computer Science and Design Thinking
  - o 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
  - o 8.1.2.DA.3: Identify and describe patterns in data visualizations.
  - o 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

#### Essential Question(s)

- Topic 12: How can two- and three-dimensional shapes be identified and described?
- Topic 13: How can solid figures be named, described, compared, and composed?
- Topic 14: How can objects be compared by length, height, capacity, and weight?

#### Enduring Understandings

##### Topic 12:

- Objects have shape. Some objects, such as a sheet of paper or a photograph, are two-dimensional, or flat, shapes. Some objects, such as a ball, can, box, or jar, are three-dimensional, or solid, shapes.
- A circle is round and does not have any corners (vertices). A triangle has 3 sides and 3 corners (vertices).
- Flat shapes called rectangles have 4 sides and 4 vertices that look the same. A rectangle looks like a door. Squares are special rectangles because their sides are all the same length.
- Six-sided flat shapes are called hexagons. These shapes can be found in objects made by people and in nature.
- Spheres, cylinders, cones, and cubes are solid figures. Many everyday objects closely approximate these figures.
- Objects have shape. Some objects look like flat shapes or solid shapes, including squares, rectangles, triangles, circles, hexagons, spheres, cubes, cylinders, and cones.
- The positions of objects in relation to surrounding objects can be described using words such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.
- Good math thinkers are careful about what they write and say, so their ideas about math are clear.

**Topic 13:**

- 2-D shapes can be sorted and identified by their attributes.
- Objects shaped like spheres, cones, and cylinders can roll. Objects shaped like cubes, cones, and cylinders can stack and slide.
- The flat surfaces of many solid figures have specific 2-D shapes.
- Good math thinkers know what the problem is about. They have a plan to solve it. They keep trying if they get stuck.
- You can make 2-D shapes by putting together two or more 2-D shapes.
- When building a given 2-D shape, the shape must exhibit all of the attributes of the shape.
- 3-D shapes can be combined to make other 3-D shapes.

**Topic 14:**

- When you compare by length or height, you are thinking about how long or tall objects are. Objects can be compared by length or height to see which is longer/taller and which is shorter.
- When you compare by capacity, you are thinking about how much objects hold. Objects can be compared by capacity to see which holds more and which holds less.
- When you compare by weight, you are thinking about how heavy objects are. Objects can be compared by weight to see which is heavier and which is lighter.
- Objects have measurable attributes that can be recognized and described.
- Good math thinkers are careful about what they write and say, so their ideas about math are clear.

**Interdisciplinary Connections**

Activities to connect math with other disciplines from the enVision 2.0 resources:

- Language Arts (RF.K.1, RI.K.1)
  - Problem solving reading mats and activities (Source: Problem-Solving Reading Activity Guide)
  - Interactive math stories (Source: Teacher's Resource Masters)
- Science (K-2-ETS1-2, K-PS2-1, K-PS3-2)
  - Math and science project (Source: Teacher Manual)
  - Math and science activities (Source: Teacher's Resource Masters)

In this unit plan, the following 21<sup>st</sup> Century themes and skills are addressed.

Check all that apply. 21 <sup>st</sup> Century Themes		Check all that apply. 21 <sup>st</sup> Century Skills	
<input type="checkbox"/>	Global Awareness	<input type="checkbox"/>	Creativity and Innovation
<input type="checkbox"/>	Environmental Literacy	<input checked="" type="checkbox"/>	Critical Thinking and Problem Solving
<input type="checkbox"/>	Health Literacy	<input checked="" type="checkbox"/>	Communication
<input type="checkbox"/>	Civic Literacy	<input checked="" type="checkbox"/>	Collaboration
<input type="checkbox"/>	Financial, Economic, Business, and Entrepreneurial Literacy		

**Student Learning Targets/Objectives (Students will know/Students will understand)**

- Topic 12
  - Name shapes as flat or solid.
  - Identify and describe circles, triangles, squares, other rectangles, and hexagons.
  - Describe and identify solid figures.
  - Describe shapes in the environment.
  - Describe positions of shapes in the environment.
- Topic 13
  - Analyze and compare 2-D and 3-D shapes.
  - Analyze, compare, and make different 2-D and 3-D shapes using math.
  - Make 2-D shapes using other 2-D shapes.
  - Build 2-D shapes that match given attributes.
  - Use materials to build 3-D shapes.
- Topic 14
  - Compare objects by length and height.
  - Compare objects by capacity.
  - Compare objects by weight.
  - Use attributes to describe different objects.
  - Use words to describe how an object can be measured.
  - Solve math problems about objects with measurable attributes by using precision.

**Assessments (Pre, Formative, Summative, Other)***Denote required common assessments with an \**

- Placement Test (Source: Assessment Book or online resources) - Pre-Assessment
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- \*Topic 13 Assessment (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- Topic 14 Assessment (Source: Assessment Book or online resources) - Summative Assessment
- Lesson Quick Checks (Source: Online resources) - Formative Assessment
- Topics 1-14 Cumulative Benchmark Assessment (Source: Assessment Book or online resources) - Summative Assessment
- Quizzes (Source: ExamView, Standards Practice Workbook) - Formative Assessment
- \*End of Year Test (Source: WTPS Assessment Pack in Google Folder) - Summative Assessment
- End of Year Test (Source: Online resources) - Summative Assessment
- Student Self-Assessment Tool (Source: Teacher's Resource Masters, Vol. 2) - Alternative Assessment
- Evaluate student work using the Cognitive Rigor Matrix for Mathematics (Source: Assessment Book) - Alternative Assessment
- Portfolio Assessment of student work - Alternative Assessment

**Teaching and Learning Activities**

<i>Activities</i>	enVision 2.0 lessons 12.1-12.8 enVision 2.0 lessons 13.1-13.7 enVision 2.0 lessons 14.1-14.6 <b>Lesson 12.4 - Supplement Activity (Located in the Google Drive Folder)</b>
<i>Differentiation Strategies</i>	- Reteaching Activities in Student Book - Leveled Center Games - Online Resources (today's challenge, accessible student edition of the text, games, another look activities and videos, reteaching activities) - Short Challenge Activities - Long Challenge Activities - Math Diagnosis and Intervention System - ELL Toolkit & ELL Activities within the Teacher Manual - Problem-Solving Reading Mats and Teacher Guide

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