Summit Public Schools
Summit, New Jersey
Grade Level: Kindergarten/ Content Area: Math

Course Description

In Kindergarten, instructional time should focus on four critical areas:

(1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20;
Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

(2) developing understanding of whole number relationships and place value, including grouping in tens and ones;
Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

(3) developing understanding of linear measurement and measuring lengths as iterating length units;
Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.

(4) reasoning about attributes of, and composing and decomposing geometric shapes; Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

Topic: Counting and Cardinality	
<u>enVision Math 2020 Units of Study</u> **Topic 1 - Number 0-5** **Topic 2 - Compare Numbers 0-5** **Topic 3 - Numbers 6-10** **Topic 4 - Compare Numbers 0-10** **Topic 9 - Count Numbers to 20** **Topic 11 - Count Numbers to 100**	**Recommended Texts to Support Topic:** ● **enVision Math 2020 Resources:** ○ Realize Online Platform ○ Student Editions
Big Ideas: *Course Objectives/Content Statement(s)* ● **Numerals are used to represent quantities and are used constantly in everyday life** ● **Extending the number names and counting sequence to 100**	
Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
● How can you show, count, and write numbers 0 to 5? ● How can building and comparing sets help you compare numbers? ● How can you show, count, and write numbers 6 to 9? ● How can you show and compare numbers to 10?How can building and comparing sets help you compare numbers? ● How can you show and compare numbers to 10? ● How can you show, count, and write numbers 1-10? ● How can you show, count, and write numbers 11 to 19? ● How can you show, count, and write numbers to 20 and beyond? ● How can counting by tens help me count to a large number like 100? ● How do I count forward from any number to a given number?	● Counting is used constantly in everyday life. ● Numerals are used to represent quantities. ● Objects can be counted and compared. ● Counting is a strategy for finding the answer to how many
Areas of Focus: Proficiencies **(New Jersey Student Learning Standards)**	**Key Concepts and Skills**
Students will: **K.CC.A.1** Count to 100 by ones and tens **K.CC.A.2** Count forward beginning from a given number within the known sequence (instead of having to begin at 1). **K.CC.A.3** Write numbers from 0 to 20. Represent a	● Know number names and the count sequence ● Count to tell the number of objects ● Compare numbers ● Write numbers

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.
K.CC.B.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.
K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals.

Mathematical Practices

- MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
- MP.1. Make sense of problems and persevere in solving them.
- MP.2. Reason abstractly and quantitatively.
- MP.3. Construct viable arguments and critique the reasoning of others.
- MP.4. Model with mathematics.
- MP.5. Use appropriate tools strategically.
- MP.6. Attend to precision.
- MP.7. Look for and make use of structure.
- MP.8. Look for and express regularity in repeated reasoning.

Career-Ready Practices
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.
CRP11: Use technology to enhance productivity.

Differentiation	Assessments
Technology Integration ● Students use Chromebooks to access SAVVAS Realize platform to practice and reinforce skills	**Formative Assessments:** ● Teacher Observation ● Individual Lesson Quick Checks

and concepts.
- Students will use Google Classroom to access links to: interactive activities and math games.
- Students will access various websites, such as iReady, Reflex Math, and Splash Learn to practice and reinforce math skills.

Supports for English Language Learners		
Sensory Supports	**Graphic Supports**	**Interactive Supports**
Real-life objects	Charts	In pairs or partners
Manipulatives	Graphic Organizers	In triands or small groups
Pictures	Tables	In a whole group
Illustrations, diagrams & drawings	Graphs	Using cooperative group
Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accommodations	**Interventions**	**Modifications**
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via computer or	Increase opportunities to engage in active	Individualized assessment tools based on student

- Daily Classwork
- Homework Pages per lesson/topic
- Student Activity Pages per lesson/topic

Summative Assessments:
- Topic Unit Tests 1, 2, 3, 4, 9, and 11

electronic device	academic responding	need
Audio Books	Utilize pre-reading strategies and activities previews, anticipatory guides, and semantic mapping	Modified assessment grading

Topic: Operations and Algebraic Thinking	
<u>enVision Math 2020 Units of Study</u> **Topic 6 - Understand Addition** **Topic 7 - Understand Subtraction** **Topic 8 - More Addition and Subtraction**	**Recommended Texts to Support Topic:** ● **enVision Math 2020 Resources:** ○ Realize Online Platform ○ Student Editions
Big Ideas: *Course Objectives/Content Statement(s)* ● **Addition can be represented using a variety of different approaches** ● **Subtraction can be represented using a variety of different approaches**	
Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
● How can you show addition? ● How can addition be represented in different ways? ● How can you show subtraction? ● How can subtraction be represented in different ways?	● Addition and subtraction can be represented using a variety of approaches. ● Quantities can be represented in a variety of ways. ● Numbers can be composed and decomposed in more than one way. ● Developing number sense leads to flexibility with numbers.
Areas of Focus: Proficiencies **(New Jersey Student Learning Standards)**	**Key Concepts and Skills**
Students will: **K.CC.A.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.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	● Addition and subtraction can be represented using a variety of approaches. ● Quantities can be represented in a variety of ways. ● Numbers can be composed and decomposed in more than one way.

a scattered configuration; given a number from 1–20, count out that many objects. **K.OA.A.1** Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings2 , sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. **K.OA.A.2** Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. **K.OA.A.4** For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. **K.OA.A.5** Demonstrate fluency for addition and subtraction within 5. **Mathematical Practices** ● MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. ● MP.1. Make sense of problems and persevere in solving them. ● MP.2. Reason abstractly and quantitatively. ● MP.3. Construct viable arguments and critique the reasoning of others. ● MP.4. Model with mathematics. ● MP.5. Use appropriate tools strategically. ● MP.6. Attend to precision. ● MP.7. Look for and make use of structure. ● MP.8. Look for and express regularity in repeated reasoning. **Career-Ready Practices** **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. **CRP11**: Use technology to enhance productivity.	● Developing number sense leads to flexibility with numbers.
Differentiation	**Assessments**
Technology Integration ● Students use Chromebooks to access SAVVAS	**Formative Assessments:** ● Teacher Observation

Realize platform to practice and reinforce skills and concepts.
- Students will use Google Classroom to access links to: interactive activities and math games.
- Students will access various websites, such as iReady, Reflex Math, and Splash Learn to practice and reinforce math skills.

Supports for English Language Learners		
Sensory Supports	**Graphic Supports**	**Interactive Supports**
Real-life objects	Charts	In pairs or partners
Manipulatives	Graphic Organizers	In triands or small groups
Pictures	Tables	In a whole group
Illustrations, diagrams & drawings	Graphs	Using cooperative group
Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accommodations	**Interventions**	**Modifications**
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via	Increase opportunities to	Individualized assessment tools

- Individual Lesson Quick Checks
- Daily Classwork
- Homework Pages per lesson/topic
- Student Activity Pages per lesson/topic

Summative Assessments:
- Topic Unit Tests 6, 7, and 8

computer or electronic device	engage in active academic responding	based on student need
Audio Books	Utilize pre-reading strategies and activities previews, anticipatory guides, and semantic mapping	Modified assessment grading

Topic: Numbers and Operations in Base Ten	
<u>enVision Math 2020 Units of Study</u> **Topic 10 - Compose and Decompose Numbers 11-19**	**Recommended Texts to Support Topic:** ● **enVision Math 2020 Resources:** ○ Realize Online Platform ○ Student Editions
Big Ideas: *Course Objectives/Content Statement(s)* ● **Understand place value by composing and decomposing of numbers 11-19**	
Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
● How can numbers be composed and decomposed in more than one way?	● Numbers can be composed and decomposed in more than one way. ● ● Teen numbers consist of a group of 10 ones and extra ones.
Areas of Focus: Proficiencies **(New Jersey Student Learning Standards)**	**Key Concepts and Skills**
Students will: **K.CC.B.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.NBT.A.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);	● Work with numbers 11-19 to gain foundations for place value.

understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Mathematical Practices

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Career-Ready Practices

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.
CRP11: Use technology to enhance productivity.

Differentiation	Assessments

Technology Integration

- Students use Chromebooks to access SAVVAS Realize platform to practice and reinforce skills and concepts.
- Students will use Google Classroom to access links to: interactive activities and math games.
- Students will access various websites, such as iReady, Reflex Math, and Splash Learn to practice and reinforce math skills.

Supports for English Language Learners		
Sensory Supports	**Graphic Supports**	**Interactive Supports**

Formative Assessments:

- Teacher Observation
- Individual Lesson Quick Checks
- Daily Classwork
- Homework Pages per lesson/topic
- Student Activity Pages per lesson/topic

Summative Assessments:

- Topic Unit Test 10

Real-life objects	Charts	In pairs or partners
Manipulatives	Graphic Organizers	In triands or small groups
Pictures	Tables	In a whole group
Illustrations, diagrams & drawings	Graphs	Using cooperative group
Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accommodations	**Interventions**	**Modifications**
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding	Individualized assessment tools based on student need
Audio Books	Utilize pre-reading strategies and activities previews, anticipatory guides, and semantic mapping	Modified assessment grading

<table>
<tr><th colspan="2">Topic: Measurement and Data</th></tr>
<tr><td><u>enVision Math 2020 Units of Study</u>
Topic 5- Classify and Count Data
Topic 14- Describe and Compare Measurable Attributes</td><td>Recommended Texts to Support Topic:
● enVision Math 2020 Resources:
○ Realize Online Platform
○ Student Editions</td></tr>
<tr><td colspan="2">Big Ideas: Course Objectives/Content Statement(s)

● Classify, count, and sorts objects into categories and then compare the objects in each category
● Objects can be directly compared by using measurable attributes</td></tr>
<tr><td>Essential Questions
What provocative questions will foster inquiry, understanding, and transfer of learning?</td><td>Enduring Understandings
What will students understand about the big ideas?</td></tr>
<tr><td>● How does sorting help you display information?
● How can using objects help me determine if a number is greater than, less than, or equal to
● How can we compare the size of objects when we can’t put them next to each other?
● How does sorting help you display information?</td><td>● Objects can be sorted by similarities.
● Objects can be counted and compared.
● Objects have distinct attributes that can be measured with appropriate tools.</td></tr>
<tr><td>Areas of Focus: Proficiencies
(New Jersey Student Learning Standards)</td><td>Key Concepts and Skills</td></tr>
<tr><td>Students will:

K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.MD.A.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.
K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count
K.CC.B.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.
K.CC.C.7 Compare two numbers between 1 and 10</td><td>● Describe and compare measurable attributes
● Classify objects and count the number of objects in each category</td></tr>
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presented as written numerals.

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CRP2: Apply appropriate academic and technical skills.
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CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.
CRP11: Use technology to enhance productivity.

Differentiation

Technology Integration

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Supports for English Language Learners

Sensory Supports	Graphic Supports	Interactive Supports
Real-life objects	Charts	In pairs or partners

Assessments

Formative Assessments:

- Teacher Observation
- Individual Lesson Quick Checks
- Daily Classwork
- Homework Pages per lesson/topic
- Student Activity Pages per lesson/topic

Summative Assessments:

- Topic Unit Tests 5 and 14

Manipulatives	Graphic Organizers	In triands or small groups
Pictures	Tables	In a whole group
Illustrations, diagrams & drawings	Graphs	Using cooperative group
Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accommodations	**Interventions**	**Modifications**
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
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<tr><th colspan="2">Topic: Geometry</th></tr>
<tr><td><u>enVision Math 2020 Units of Study</u>
Topic 12- Identify and Describe Shapes
Topic 13- Analyze, Compare, and Create Shapes</td><td>Recommended Texts to Support Topic:
enVision Math 2020 Resources:
Realize Online Platform
Student Editions</td></tr>
<tr><td colspan="2">Big Ideas: Course Objectives/Content Statement(s)

Identify, name, and describe shapes
Analyze, compare, and create shapes</td></tr>
<tr><td>Essential Questions
What provocative questions will foster inquiry, understanding, and transfer of learning?</td><td>Enduring Understandings
What will students understand about the big ideas?</td></tr>
<tr><td>How can you identify, name, and describe two-dimensional shapes?
How can identifying and describing shapes help you sort them?</td><td>Shapes are everywhere.
Shapes can be described and compared using their attributes.
Shapes can be combined to form new shapes. Geometric properties can be used to construct shapes. The position of an object can be described.</td></tr>
<tr><td>Areas of Focus: Proficiencies
(New Jersey Student Learning Standards)</td><td>Key Concepts and Skills</td></tr>
<tr><td>Students will:

K.G.A.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.
K.G.A.2 Correctly name shapes regardless of their orientations or overall size
K.G.A.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
K.G.B.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).
K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count
K.CC.A.1 Count to 100 by ones and tens</td><td>Shapes are everywhere.
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Supports for English Language Learners

Sensory Supports	Graphic Supports	Interactive Supports
Real-life objects	Charts	In pairs or partners
Manipulatives	Graphic Organizers	In triands or small groups

Assessments

Formative Assessments:

- Teacher Observation
- Individual Lesson Quick Checks
- Daily Classwork
- Homework Pages per lesson/topic
- Student Activity Pages per lesson/topic

Summative Assessments:

- Topic Unit Tests 13 and 14

Pictures	Tables	In a whole group
Illustrations, diagrams & drawings	Graphs	Using cooperative group
Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accommodations	**Interventions**	**Modifications**
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