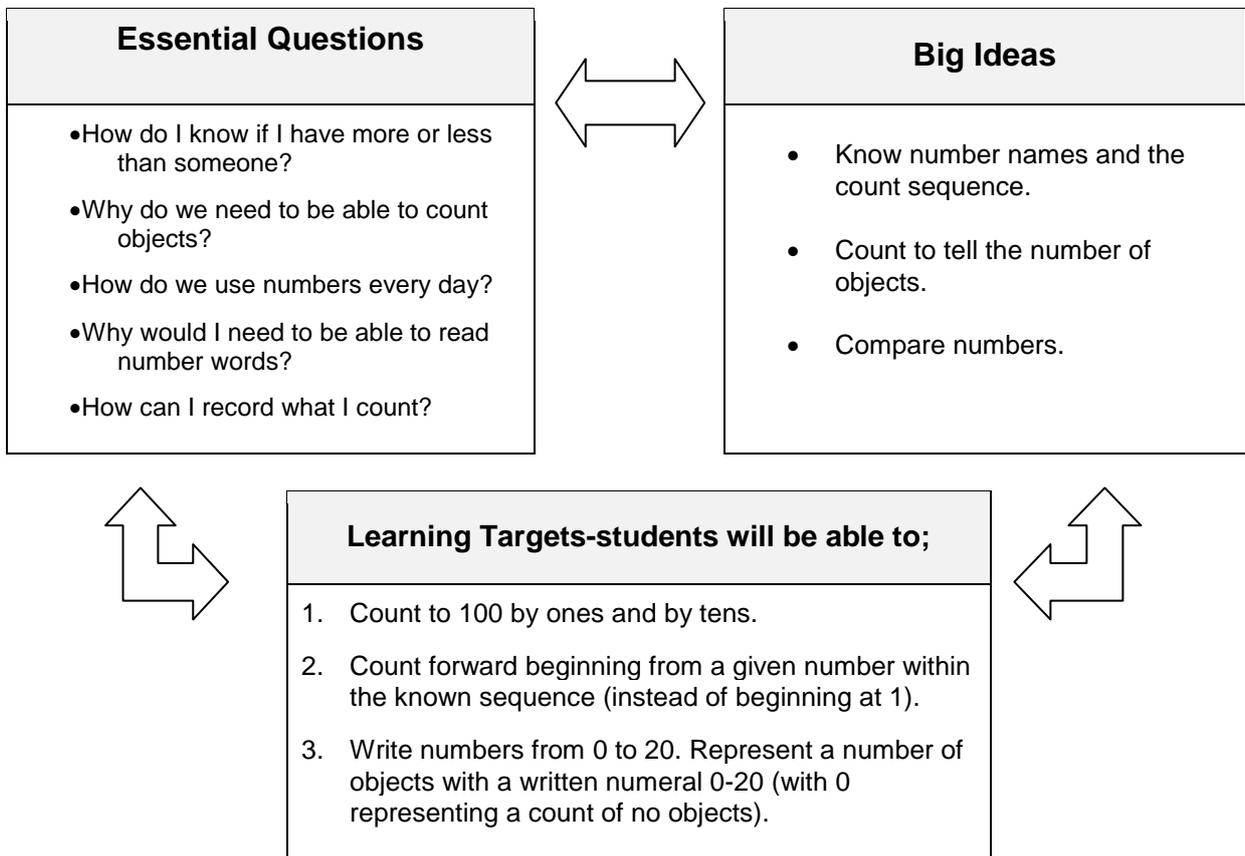


Grade K Math

Unit Title	Unit 1: Counting and Cardinality
Time frame	8 weeks
21 st Century Themes	Critical Thinking and Problem Solving Communication and Collaboration ICT (Information, Communications and Technology) Literacy Flexibility and Adaptability Initiative and Self-Direction Productivity and Accountability
Interdisciplinary focus and technology integration	Music: Sing number songs. Technology: Play math games on the computer. Art: Make a collage of numbers found in circulars, newspapers, and magazines. Science: Count objects found on a nature walk. Language Arts/Drama: Read and act out stories involving counting numbers.

Stage 1: Integrate essential questions, big ideas and learning targets, and ensure it can be differentiated and assessed



4. Understand the relationship between numbers and quantities; connect counting to cardinality.
 - a. 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.
 - b. 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.
 - c. Understand that each successive number name refers to a quantity that is one larger.
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.
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 presented as written numerals.

Assessment

- Formal and Informal Teacher Observations
- Formative checks for understanding and summative assessments
- Tests / Quizzes

Differentiation

- Hands-On Activities
- Diagnostic Assessment (based on content /skill pre-tests)
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Power Presentations (Activ Boards)
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities

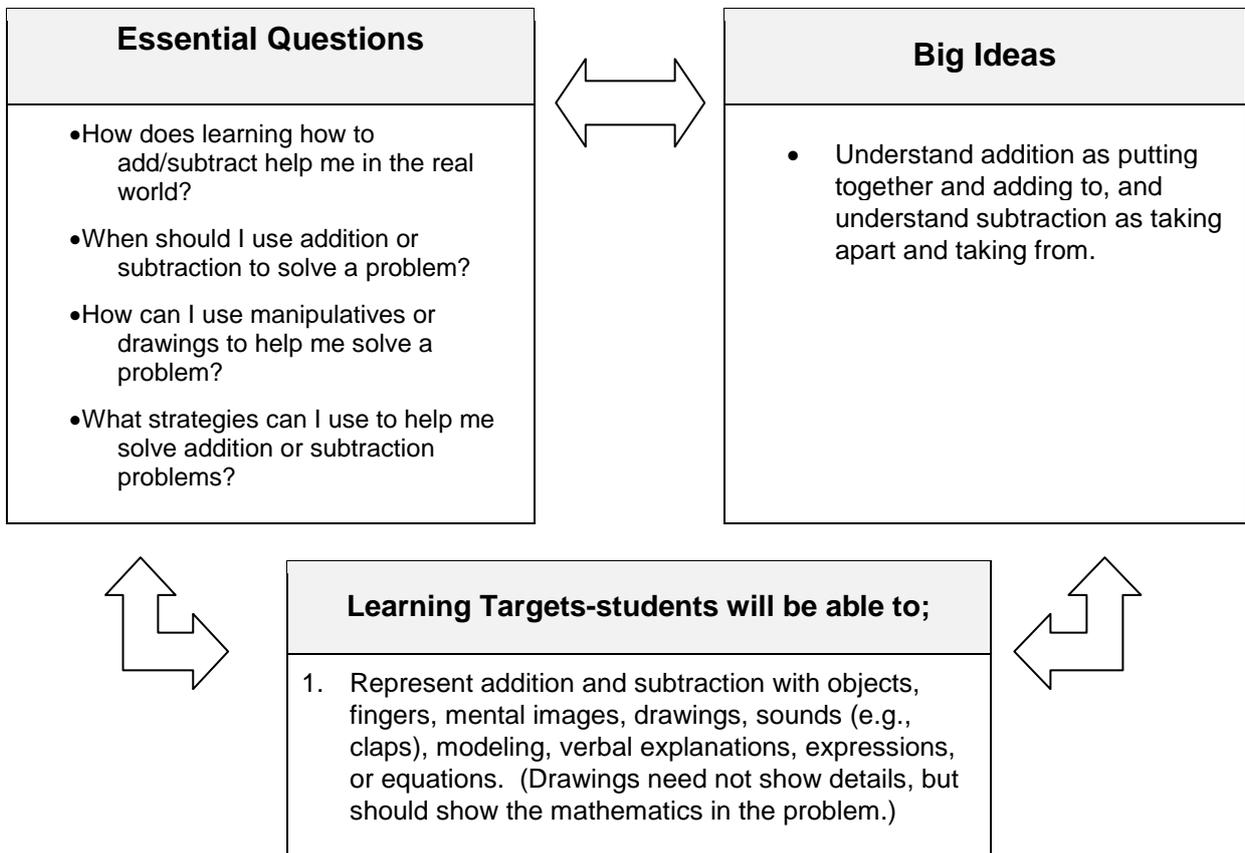
Stage 2: Backward planning: from the assessment to the learning activities through inquiry

Content Standards	
K.CC 1, 2, 3, 4, 5, 6, 7 Mathematical Practices 1, 2, 3, 4, 5, 6, 7, 8	
Approaches to Learning	
In this unit, students will acquire the knowledge to: <ul style="list-style-type: none"> • Count, write, and compare whole numbers. 	
Learning Experiences	Teaching Strategies
<ul style="list-style-type: none"> • Course of study • Presentation of examples • Hands-on activities and use of manipulatives • Practice by homework • Cumulative review exercises • Test prep questions • Problem solving activities 	<ul style="list-style-type: none"> • Direct instruction • Differentiated instruction • Interdisciplinary activities • Cooperative learning activities • Reinforcement and remediation
Resources	
<ul style="list-style-type: none"> • Scott Foresman – Addison Wesley Mathematics – Grade K 2005 • Touch Math Kindergarten Kit 1 	

Grade K Math

Unit Title	Unit 2: Operations and Algebraic Thinking
Time frame	8 weeks
21 st Century Themes	<p>Critical Thinking and Problem Solving</p> <p>Communication and Collaboration</p> <p>ICT (Information, Communications and Technology) Literacy</p> <p>Flexibility and Adaptability</p> <p>Initiative and Self-Direction</p> <p>Productivity and Accountability</p>
Interdisciplinary focus and technology integration	<p>Music: Sing number songs.</p> <p>Language Arts/Drama: Read stories involving numbers and act the stories out using manipulatives.</p> <p>Technology: Use a calculator and math games on the computer to practice addition and subtraction problems.</p> <p>Art: Draw pictures to represent addition and subtraction stories.</p> <p>Physical Education: Play games involving adding and subtracting numbers.</p>

Stage 1: Integrate essential questions, big ideas and learning targets, and ensure it can be differentiated and assessed



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 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 $5 = 4 + 1$).
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.
5. Fluently add and subtract within 5.

Assessment

- Formal and Informal Teacher Observations
- Formative checks for understanding and summative assessments
- Tests / Quizzes

Differentiation

- Hands-On Activities
- Diagnostic Assessment (based on content /skill pre-tests)
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Power Presentations (Activ Boards)
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities

Stage 2: Backward planning: from the assessment to the learning activities through inquiry

Content Standards

K.OA 1, 2, 3, 4, 5

Mathematical Practices 1, 2, 3, 4, 5, 6, 7, 8

Approaches to Learning

In this unit, students will acquire the knowledge to:

- Apply properties of addition and subtraction.

Learning Experiences

- Course of study
- Presentation of examples
- Hands-on activities and use of manipulatives
- Practice by homework
- Cumulative review exercises
- Test prep questions
- Problem solving activities

Teaching Strategies

- Direct instruction
- Differentiated instruction
- Interdisciplinary activities
- Cooperative learning activities
- Reinforcement and remediation

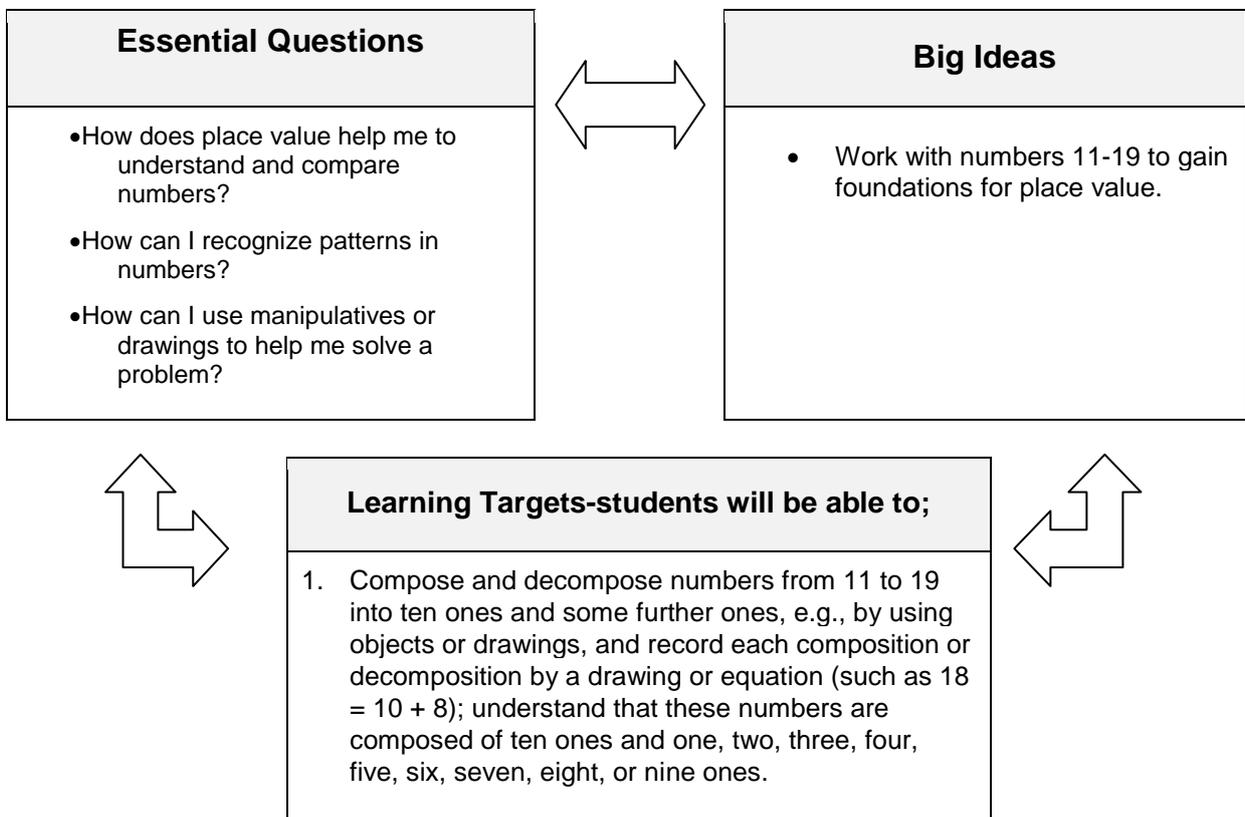
Resources

- Scott Foresman – Addison Wesley Mathematics – Grade K 2005
- Touch Math Kindergarten Kit 1

Grade K Math

Unit Title	Unit 3: Number and Operations in Base Ten
Time frame	8 weeks
21 st Century Themes	<p>Critical Thinking and Problem Solving</p> <p>Communication and Collaboration</p> <p>ICT (Information, Communications and Technology) Literacy</p> <p>Flexibility and Adaptability</p> <p>Initiative and Self-Direction</p> <p>Productivity and Accountability</p>
Interdisciplinary focus and technology integration	<p>Technology: Write numbers in rows of ten using the computer.</p> <p>Science: Count groups of items found in nature by tens and count on the extras.</p> <p>Social Studies: Count pennies by grouping in stacks of ten.</p> <p>Art: Use rubber stamps to create pictures showing groups of ten and extra ones.</p>

Stage 1: Integrate essential questions, big ideas and learning targets, and ensure it can be differentiated and assessed



Assessment

- Formal and Informal Teacher Observations
- Formative checks for understanding and summative assessments
- Tests / Quizzes

Differentiation

- Hands-On Activities
- Diagnostic Assessment (based on content /skill pre-tests)
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Power Presentations (Activ Boards)
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities

Stage 2: Backward planning: from the assessment to the learning activities through inquiry

Content Standards

K.NBT 1

Mathematical Processes 1, 2, 3, 4, 5, 6, 7, 8

Approaches to Learning

In this unit, students will acquire the knowledge to:

- Use place value and patterns to problem solve.

Learning Experiences

- Course of study
- Presentation of examples
- Hands-on activities and use of manipulatives
- Practice by homework
- Cumulative review exercises
- Test prep questions
- Problem solving activities

Teaching Strategies

- Direct instruction
- Differentiated instruction
- Interdisciplinary activities
- Cooperative learning activities
- Reinforcement and remediation

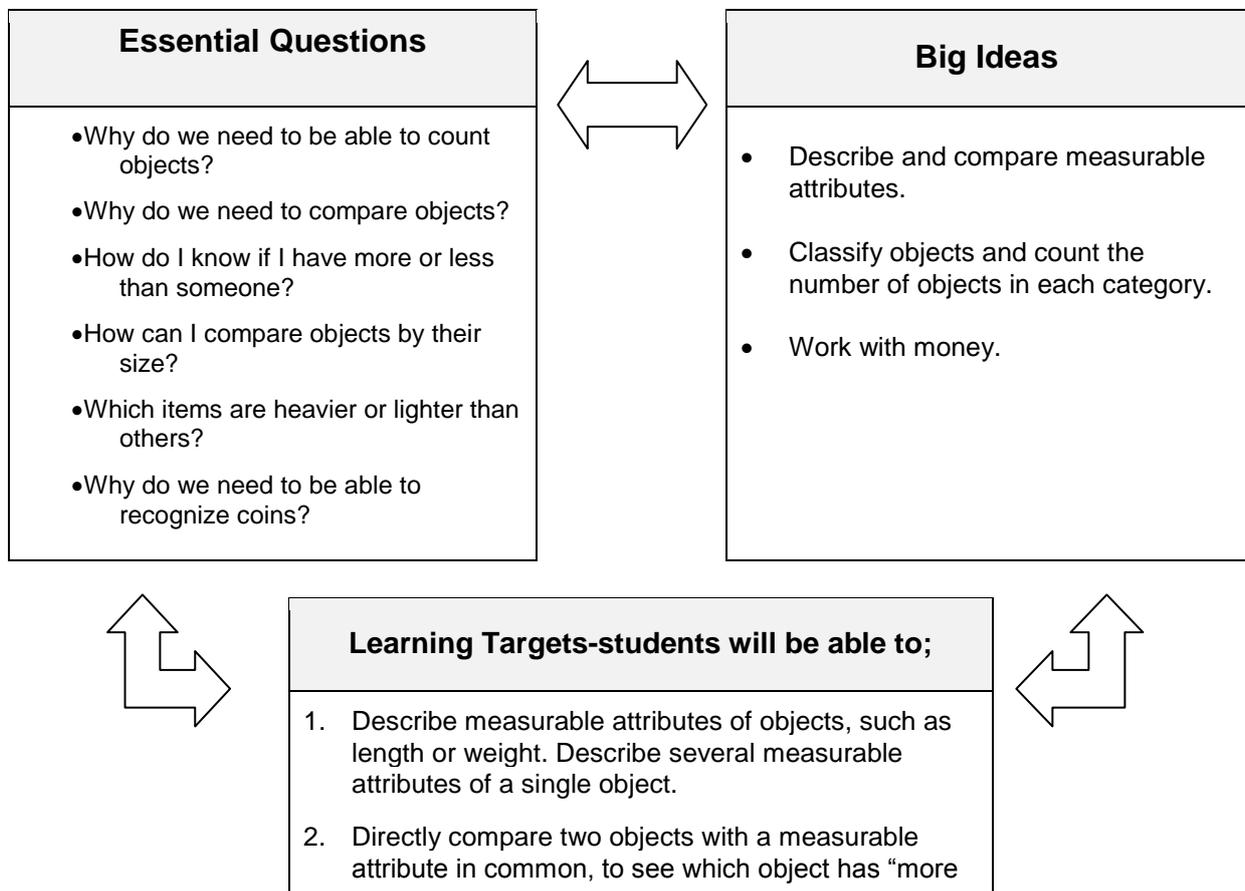
Resources

- Scott Foresman – Addison Wesley Mathematics – Grade K 2005

Grade K Math

Unit Title	Unit 4: Measurement and Data
Time frame	8 weeks
21 st Century Themes	<p>Critical Thinking and Problem Solving</p> <p>Communication and Collaboration</p> <p>ICT (Information, Communications and Technology) Literacy</p> <p>Flexibility and Adaptability</p> <p>Initiative and Self-Direction</p> <p>Productivity and Accountability</p>
Interdisciplinary focus and technology integration	<p>Science: Estimate which object is heavier and then use a balance to weigh the objects.</p> <p>Art: Compare and order family members by height.</p> <p>Language: Read <i>Chrysanthemum</i> by Kevin Henkes. Compare the number of letters in student names.</p> <p>Technology: Play math games on the computer.</p>

Stage 1: Integrate essential questions, big ideas and learning targets, and ensure it can be differentiated and assessed



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.*

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.)
4. Identify pennies, nickels, and dimes by names and value. Count combinations of coins up to 10 cents.

Assessment

- Formal and Informal Teacher Observations
- Formative checks for understanding and summative assessments
- Tests / Quizzes

Differentiation

- Hands-On Activities
- Diagnostic Assessment (based on content /skill pre-tests)
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Power Presentations (Activ Boards)
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities

Stage 2: Backward planning: from the assessment to the learning activities through inquiry

Content Standards

K.MD 1, 2, 3
Mathematical Practices 1, 2, 3, 4, 5, 6, 7, 8

Approaches to Learning

In this unit, students will acquire the knowledge to:

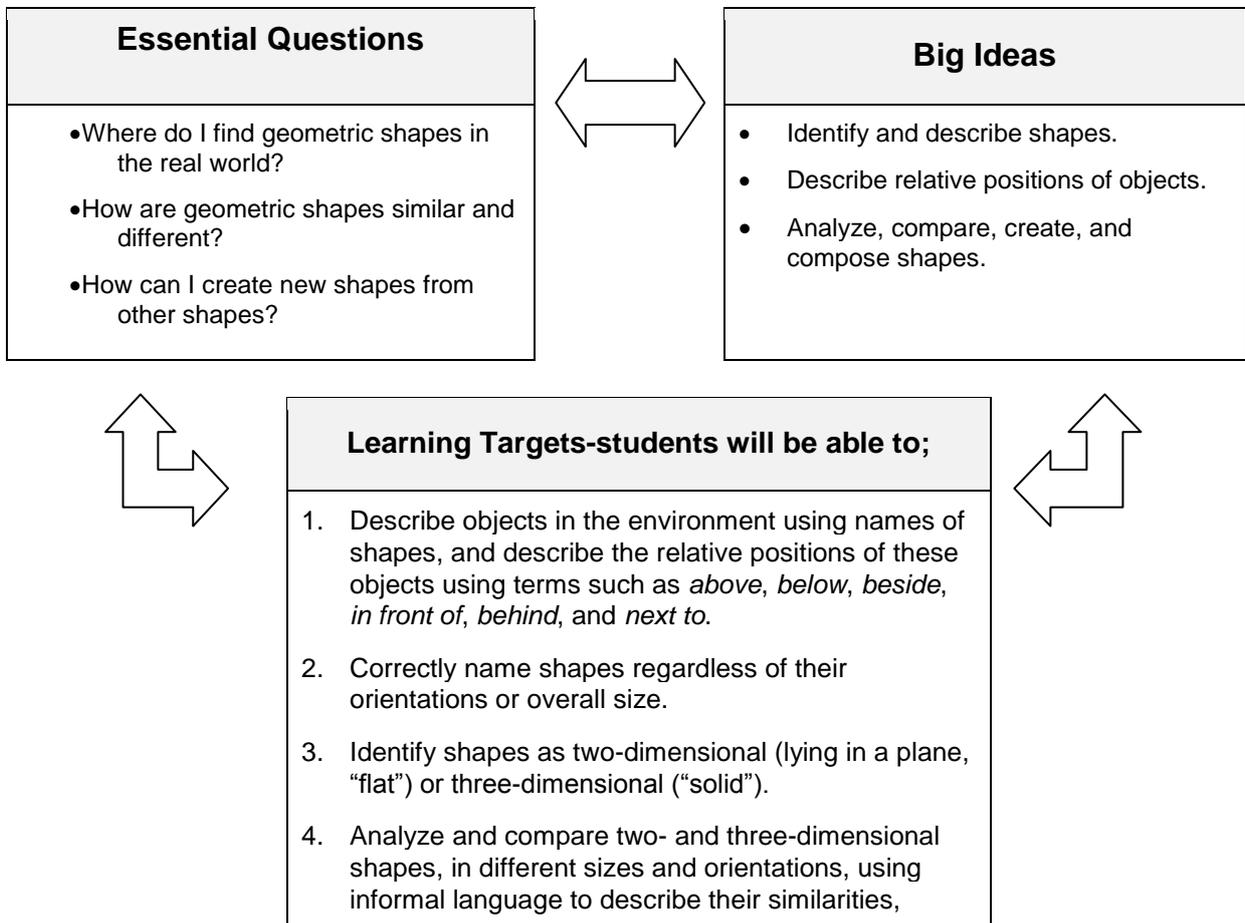
- Compare, categorize, and classify numbers and objects that represent numbers.

Learning Experiences	Teaching Strategies
<ul style="list-style-type: none"> • Course of study • Presentation of examples • Hands-on activities and use of manipulatives • Practice by homework • Cumulative review exercises • Test prep questions • Problem solving activities 	<ul style="list-style-type: none"> • Direct instruction • Differentiated instruction • Interdisciplinary activities • Cooperative learning activities • Reinforcement and remediation
Resources	
<ul style="list-style-type: none"> • Scott Foresman – Addison Wesley Mathematics – Grade K 2005 	

Grade K Math

Unit Title	Unit 5: Geometry
Time frame	8 weeks
21 st Century Themes	Critical Thinking and Problem Solving Communication and Collaboration ICT (Information, Communications and Technology) Literacy Flexibility and Adaptability Initiative and Self-Direction Productivity and Accountability
Interdisciplinary focus and technology integration	Physical Education: Play games using positional vocabulary. Social Studies: Identify shapes of traffic signs. Art: Use plane shapes to create a design and modelling clay to build solid shapes. Technology: Play math games on the computer.

Stage 1: Integrate essential questions, big ideas and learning targets, and ensure it can be differentiated and assessed



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?"*

Assessment

- Formal and Informal Teacher Observations
- Formative checks for understanding and summative assessments
- Tests / Quizzes

Differentiation

- Hands-On Activities
- Diagnostic Assessment (based on content /skill pre-tests)
- Kinesthetic Activities
- Re-teach and Enrichment Activities
- Power Presentations (Activ Boards)
- Cooperative Learning (Flexible Grouping)
- Peer Tutoring
- Tiered Activities

Stage 2: Backward planning: from the assessment to the learning activities through inquiry

Content Standards

K.G 1, 2, 3, 4, 5, 6

Mathematical Practices 1, 2, 3, 4, 5, 6, 7, 8

Approaches to Learning

In this unit, students will acquire the knowledge to:

- Identify, compare, contrast, and create geometric shapes.
- Understand relative position and dimensional terms.

Learning Experiences	Teaching Strategies
<ul style="list-style-type: none"> • Course of study • Presentation of examples • Hands-on activities and use of manipulatives • Practice by homework • Cumulative review exercises • Test prep questions • Problem solving activities 	<ul style="list-style-type: none"> • Direct instruction • Differentiated instruction • Interdisciplinary activities • Cooperative learning activities • Reinforcement and remediation
Resources	
<ul style="list-style-type: none"> • Scott Foresman – Addison Wesley Mathematics – Grade K 2005 	