SPARTA TWP. PUBLIC SCHOOLS

Kindergarten Math

Authored by:
Amy Lynn Dolan
Kaitlyn Bird

Adapted from:
New Jersey Student Learning Standards

Reviewed by:
Mr. Patrick McQueeney, Assistant Superintendent
Katie Arbolino, K-12 Mathematics Supervisor

Adopted:
August 2019

Last Updated:
July 2019

Sparta Township School District

18 Mohawk Avenue
Sparta, NJ 07871
www.sparta.org

VISION

The Sparta School district believes that the Sparta school system produces students who will exemplify mastery in mathematical practices. It is the responsibility of administrators, teachers, students, and parents to create learning opportunities to persevere in modeling mathematics precisely and strategically with reasoning, tools, and algebraic structure. Through this collaboration, students will develop into independent, competent, mathematical thinkers who are college and career ready.

BELIEF STATEMENTS

- Technology can enhance the learning process and prepare students to be 21st century learners.
- Student-centered learning activities will enable students to develop ownership for their education.
- A coherent K-12 curriculum will allow for authentic real-world learning opportunities.
- Our assessments will require students to demonstrate in-depth understanding rather than recalling simple facts and algorithms.
- Students will be confident in participating in higher level discussions that will assess and advance the understanding of concepts.
- The use of various resources, tools, and technology will engage students to solve mathematically rich, real-world problems that meet the needs of a diverse population of learners.
- Collaborative and hands-on learning activities will promote creative and critical thinking skills for all students.

COURSE OVERVIEW

The Sparta School District Kindergarten program has been constructed within a multi-faceted, standards-based philosophy. In this program, students will focus on the meaning of numbers and

describing shapes and space. Students will use numbers to represent quantities and model simple real-world problems. Students will fuse number sense and spatial reasoning by applying quantitative descriptions to geometric objects.

COMPONENTS OF THE COURSE

The Components of a successful Kindergarten program are:

- enVision 2.0
- Learnzillion
- Illustrative Mathematics

SCOPE AND SEQUENCE

(Pacing Guide)

Weeks Taught *(40 Total)*	**Units of Study**
3	Topic 1 - Numbers 0 - 5
3	Topic 2 - Compare Numbers 0 - 5
3	Topic 3 - Number 6 - 10
3	Topic 4 - Compare Numbers 0 - 10
3	Topic 5 - Classify and Count Data
3	Topic 6 - Addition
3	Topic 7 - Subtraction
3	Topic 8 - More Addition and Subtraction
3	Topic 9 - Number to 20
3	Topic 10 - Compose and Decompose Numbers 11 - 19
3	Topic 11- Numbers to 100
3	Topic 12- Identify and Describe Shapes
2	Topic 13- Analyze, Compare, and Create Shapes
2	Topic 14- Describe and Compare Measurable Attributes

CONTENT AREA:	Math	**GRADE LEVEL**	K

UNIT 1:	Numbers 0 - 5

UNIT SUMMARY

Topic 1 introduces counting as more than just a verbal skill. The principles associated with counting are crucially important throughout mathematics. In this topic, students count up to 5 objects in various arrangements, tell how many, and write the numeral.

NEW JERSEY STUDENT LEARNING STANDARDS

K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with representing a count of no objects).

K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.

K.CC.B.4.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.

K.CC.B.4.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.

K.CC.B.4.C Understand that each successive number name refers to a quantity that is one larger.

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.OA.A.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).

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 1.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

	NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
Students will understand that: ● Numbers can be counted in different arrangements. ● Numbers can be read and written ● There are different ways to make numbers.	● What strategies can you use to count, read, and write numbers 0 to 5?

UNIT LEARNING TARGETS (Students will know how to…)

- Count 1, 2, 3
- Count groups of 1, 2, and 3 objects shown in different ways.
- Read and write the numbers 1, 2, 3.
- Count 4 and 5 objects.
- Count groups of 4 and 5 objects shown in different ways.
- Read and write the numbers 4 and 5.
- Use zero to tell when there are no objects.
- Read and write the number 0.
- Show ways to make 5.
- Count up to the number 5.
- Use math to explain what you know about counting.

LEARNING ACTIVITIES: (Students will be able to…)

- Students represent a number with two different models.
- Students analyze the mathematical relationship between the two groups and find out that the arrangement of the counters does not change the number of counters in the group.
- Students communicate mathematical ideas using pictures, manipulatives, and symbols.
- Students become familiar with multiple representations of numbers.
- Students analyze the mathematical relationship between the two groups and find out that the arrangement of the counters does not change the number of counters in the group.
- Students begin to recognize groups of 4 and 5 by sight, not by counting.
- Students communicate mathematical ideas using multiple representations and find that the number 5 can be represented with pictures, counters and symbols.
- Students communicate mathematical ideas using multiple representations of the number zero.
- Students communicate mathematical ideas using multiple representation of the number zero.
- Students analyze the relationship between parts and wholes.
- Students find that they can show the same number of objects in different ways.

- Students use manipulatives to show the number that come just before and just after 4.
- Students construct mathematical arrangements to tell how many shapes are on the page.
- Students can use objects, such as counters, or words to express their answer, and then write the number.
- Students also explain how they know their answer is correct.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Envision2.0 Independent Practice 1-3, Quick Check questions • Envision2.0 Independent Practice 1-7, Quick Check questions	Envision2.0 Topic 1 Assessment: Numbers 0 to 5	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
• EnvisionMath2.0 Teacher Manual Volume 1 • EnvisionMath2.0 Student Textbook Volume 1 • Manipulatives: Teaching tools 3, 5, 6, 8, (Number cards, Dot cards) Counters, crayons, pencils, small non-food objects, paper, connecting cubes, blocks, plastic cups, two sided counters • Interactive Whiteboard (SMARTBoard)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html

DIFFERENTIATION:

Sparta Twp. Public Schools Differentiation Strategies

TEACHER NOTES:

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 2:	Compare Numbers 0 - 5		

UNIT SUMMARY

Topic 2 focuses on comparing numbers from 0-5. Students compare groups of objects as well as the corresponding numbers. This work allows for a deep understanding of the concepts greater than, less than, equal, and not equal.

NEW JERSEY STUDENT LEARNING STANDARDS

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.1

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

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 2.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that: ● Numbers can be ordered and compared in different ways. ● Numbers can be read and written.	● How can numbers from 0 to 5 be compared and ordered?

UNIT LEARNING TARGETS (Students will know how to…)

● Compare groups to see whether they are equal by matching.
● Tell whether one group is greater in number than another group.
● Tell whether one group is less in number in another group.
● Compare groups by counting.
● Compare numbers.

● Use objects, drawings, and numbers to compare numbers.
LEARNING ACTIVITIES: (Students will be able to…)
● Students compare quantities and reason that they are equal to each other because every object in one group can be matched to every object in another group. ● Students compare quantities and reason that one group is greater in number than the other because one group has extra objects that cannot be matched. ● Students compare quantities and reason that one group is less in number than the other because one group does not have enough objects to match the objects in the other group. ● Students demonstrate precision as they identify the exact number of objects in two groups and compare to determine which group has the greater number. ● Students reason by analyzing two numbers and their relationship in the counting sequence. ● Students then identify which number represents the quantity that is less than the other. ● Students use a model to show how they know which group is greater in number than the other group.

EVIDENCE OF LEARNING:		
FORMATIVE ASSESSMENTS	**SUMMATIVE ASSESSMENTS**	**ALTERNATIVE ASSESSMENTS**
● Envision 2.0 Independent Practice 2-3, Quick Check questions ● Envision 2.0 Independent Practice 2-8, Quick Check questions	Envision 2.0 Topic 2 Assessment: Compare Numbers 0 to 5	● IXL ● Student Presentation ● Teacher Observation ● Problem Based Activities
INSTRUCTIONAL MATERIALS/RESOURCES		**TECHNOLOGY RESOURCES**
● EnvisionMath 2.0 Teacher Manual Volume 1 ● EnvisionMath 2.0 Student Textbook Volume 1 ● Manipulatives: Teaching tools 3, 5, 6, 8, (Number cards, Dot cards) Two sided counters, crayons, pencils, small non-food objects, paper, connecting cubes, blocks, paper bags, ● Interactive Whiteboard (SMARTBoard)		● www.PearsonRealize.com ● www.illustrativemathematics.org ● www.corestandards.org ● www.pinterest.com ● www.teacherspayteachers.com ● www.abcya.com ● National Library of Virtual Manipulatives:

	http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 3:	Numbers 6 - 10		

UNIT SUMMARY

Topic 3 continues the counting sequence with the focus on numbers 6-10. It also highlights the principles necessary for accurate counting, as well as featuring a variety of representations including numeral writing?

NEW JERSEY STUDENT LEARNING STANDARDS

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.A.4 Count to tell the number of objects.

K.CC.B.4.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.

K.CC.B.4.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.

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.

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 3.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that: ● When counting numbers from 6-10, use counters to show how many objects are in a group, regardless of arrangement of the objects. ● Make whole numbers 6 - 10 in different ways ● Use unique number symbols to read and write numbers 6-10.	● How can numbers from 6-10 be counted, read and written?

UNIT LEARNING TARGETS (Students will know how to…)

- Count to the numbers 6 and 7.
- Read and write the numbers 6 and 7.
- Count to the numbers 8 and 9.
- Read and write the numbers 8 and 9.
- Count to the number 10.
- Read and write the number 10.
- Show how to make a group of 10.
- Use counting patterns to solve a problem.

LEARNING ACTIVITIES: (Students will be able to…)

- Students use counters to represent a groups of 6.
- Students use pictures, counters, and symbols as multiple representations of the number 6 and 7.
- Students work with multiple representations of the number 8.
- Students show multiple representations of the numbers 8 and 9 using pictures, counters and symbols.
- Students show multiple representations of the number 10.
- Students show multiple representation of the number 10 using pictures, counters and symbols.
- Students use reasoning to find multiple representations of the number 10 using parts and wholes.
- Students use counting patterns to organize representations of the number 3.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
● Envision 2.0 Independent Practice 3-2 Quick Check questions ● Envision 2.0 Independent Practice 3-3 Quick Check questions	Envision 2.0 Topic 3 Assessment: Compare Numbers 6-10	● IXL ● Student Presentation ● Teacher Observation ● Problem Based

		Activities
INSTRUCTIONAL MATERIALS/RESOURCES		**TECHNOLOGY RESOURCES**
• Envision Math 2.0 Teacher Manual Volume 1 • Envision Math 2.0 Student Textbook Volume 1 • Manipulatives: Teaching tools 3, 5, 6, 8, (Number cards, Dot cards) Two sided counters, crayons, pencils, small non-food objects, paper, connecting cubes, blocks, sticky notes • Interactive Whiteboard (SMARTBoard)		• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:		
Sparta Twp. Public Schools Differentiation Strategies		
TEACHER NOTES:		

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 4:	Compare Numbers 0 - 10		

UNIT SUMMARY

Topic 4 focuses on comparing numbers from 0 to 10. Students use the concepts of “greater than,” “less than,” “equal,” and “not equal” to compare groups of objects and numbers.

NEW JERSEY STUDENT LEARNING STANDARDS

K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

K.CC.B.4.C Understand that each successive number name refers to a quantity that is one larger.

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.1

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

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 4.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that: ● Compare numbers from 0-10 by comparing objects in two groups to tell which group is greater in number than the other group. ● Compare numbers 0-10 by ordering numbers.	● How can numbers from 0-10 be compared and ordered?

● Order numbers from 0- 10 by writing the number that is less in number than the other group.	

UNIT LEARNING TARGETS (Students will know how to…)

- Compare groups of up to 10 numbers
- Compare groups of numbers using numerals to 10
- Compare groups of numbers by counting
- Compare two numbers
- Count groups of numbers to 10
- Repeat something from one problem to help solve other problems

LEARNING ACTIVITIES: (Students will be able to…)

- Students reason about the mathematical relationship between groups
- Students use a problem- solving model that incorporates making sense of the problem, formulating a plan, solving the problem and justifying their solution
- Students compare two number quantities by counting using different materials
- Students use the number sequence 1 to 10 to reason which numbers are less than the number 7
- Students use manipulatives to show 1 more and 1 less
- Students use repeated reasoning to identify the total number

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
● Envision 2.0 Independent Practice 4-3, Quick Check questions ● Envision 2.0 Independent Practice 4-5, Quick Check questions	Envision 2.0 Topic 4 Assessment: Compare Numbers 0 to 10	● IXL ● Student Presentation ● Teacher Observation ● Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
● Envision Math 2.0 Teacher Manual Volume 1 ● Envision Math 2.0 Student Textbook Volume 1 ● Manipulatives: Teaching tools 3, 6, 7, 8, 22 Number cards, Counters, crayons, pencils, paper, connecting cubes, blocks, craft sticks, color tiles, ten frames, index cards, paper bags ● Interactive Whiteboard (SMARTBoard)	● www.PearsonRealize.com ● www.illustrativemathematics.org ● www.corestandards.org ● www.pinterest.com

	• www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 5:	Classify and Count Data		

UNIT SUMMARY

Topic 5 asks students to classify up to 10 objects into two given categories, count the number of objects in each of those categories, and then sort the categories by count (compare the number of objects in the categories).

NEW JERSEY STUDENT LEARNING STANDARDS

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.1

K.CC.C.7 Compare two numbers between 1 and 10 presented 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.

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 5.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
Students will understand that: ● Classify data into the two categories to find the answer ● Classify data into two categories to find the answer, and then find out which category is less in number than the other category. ● Classify data into two categories to find the answer, and then write the numbers to tell how many.	● How can classifying data help answer questions?

UNIT LEARNING TARGETS (Students will know how to…)	
● Classify data into the two categories to find the answer ● Classify data into two categories to find the answer, and then find out which category is less in number than the other category. ● Classify data into two categories to find the answer, and then write the numbers to tell how many.	
LEARNING ACTIVITIES: (Students will be able to…)	
● Students will reason quantitatively to start 5 animals into two categories using the attributes 4 legs. ● Students classify and count creatures in different categories. ● Students sort objects into two categories and count precisely the number in each category. ● Students tell whether a given statement make sense and provide reasons for their choice using numbers, pictures, or words to explain.	
EVIDENCE OF LEARNING:	
FORMATIVE ASSESSMENTS	**SUMMATIVE ASSESSMENTS** / **ALTERNATIVE ASSESSMENTS**
● Envision 2.0 Independent Practice 5-2, Quick Check questions ● Envision 2.0 Independent Practice 5-3, Quick Check questions	Envision 2.0 Topic 5 Assessment: Classify And Count Data ● IXL ● Student Presentation ● Teacher Observation ● Problem Based Activities
INSTRUCTIONAL MATERIALS/RESOURCES	**TECHNOLOGY RESOURCES**
● Envision Math 2.0 Teacher Manual Volume 1 ● Envision Math 2.0 Student Textbook Volume 1 ● Manipulatives: Teaching tools 3, 6, 26 (Number cards, Counters, crayons, pencils, paper, connecting cubes, blocks, sticky notes, index cards, chart paper, part/part mat, chart paper) ● Interactive Whiteboard (SMARTBoard)	● www.PearsonRealize.com ● www.illustrativemathematics.org ● www.corestandards.org ● www.pinterest.com ● www.teacherspayteachers.com ● www.abcya.com ● National Library of Virtual Manipulatives:

	http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 6:	Understanding Addition		

UNIT SUMMARY

Topics 6, 7 and 8 focus on deep understanding of addition as “put together” and “add to,” and subtraction as “take apart” and “take from.” Students learn how to represent and solve addition and subtraction word problems, decompose numbers through 10, and fluently add and subtract within 5.

NEW JERSEY STUDENT LEARNING STANDARDS

K.OA.A.1 Represent addition and subtraction with objects, fingers, mental images, drawings, 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.5 Fluently add and subtract within 5.

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 6.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that: ● Write numbers to tell how many in all. ● Write an equation for a story. ● Find the answer and write the numbers to tell how many.	● What types of situations involve addition?

UNIT LEARNING TARGETS (Students will know how to…)

- 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.

LEARNING ACTIVITIES: (Students will be able to…)

- Students determine the number of flowers in all.
- Students will join groups of connecting cubes to show an "add to" number story.
- Students use counters to show two groups in a number story.
- Students to communicate how they can solve an additional story.
- Students communicate the mathematical idea that the plus sign is used to show adding two groups together.
- Students use manipulatives to help them add groups and write an equation to show their work
- Students make sense of an addition word problem and solve and represent it in two ways.
- Students demonstrate their understanding of addition by explaining problem solutions in a variety of ways.
- Students will generate a list of addition equations with sums of 2.
- Students draw a picture to model the solution to the addition word problem.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Envision 2.0 Independent Practice 6-2 Quick Check questions • Envision 2.0 Independent Practice 6-5, Quick Check questions	Math 2.0 Topic 6 Assessment: Understand Addition	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES

• Envision Math 2.0 Teacher Manual Volume 1 • Envision Math 2.0 Student Textbook Volume 1 • Manipulatives: Teaching tools 3, 6, 7, 8, 22, 45 (Number cards, Counters, crayons, pencils, paper, connecting cubes, blocks) • Interactive Whiteboard (SMARTBoard)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 7:	**Understanding Subtraction**		

UNIT SUMMARY

Topics 6, 7 and 8 focus on deep understanding of addition as “put together” and “add to,” and subtraction as “take apart” and “take from.” Students learn how to represent and solve addition and subtraction word problems, decompose numbers through 10, and fluently add and subtract within 5.

NEW JERSEY STUDENT LEARNING STANDARDS

K.OA.A.1 Represent addition and subtraction with objects, fingers, mental images, drawings, 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.5 Fluently add and subtract within 5.

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 7.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
Students will understand that: ● Write numbers to tell how many are left. ● Write an equation for a story ● Find the answer and write the numbers to tell how many are left.	● How can representing taking apart and taking from in different ways help you learn about subtraction?

UNIT LEARNING TARGETS (Students will know how to…)

- Show numbers in many ways.
- Take apart a number and tell the parts.
- Represent subtraction as taking away from a whole.
- Separate numbers.
- Separate more numbers.
- Use the minus sign in an equation.
- Find the difference of two numbers.
- Find patterns in subtraction equations.
- Use tools to subtract numbers.

LEARNING ACTIVITIES: (Students will be able to…)

- Students use their fingers to represent the problem and to solve it.
- Students break apart numbers into parts and record numerals that express the quantities.
- Students make a plan, use pictures, and work through any difficulties to subtract and tell how many are left.
- Students represent the word problem using the correct numbers from the subtraction story and the minus sign.
- Students represent the word problem using the correct numbers and the minus sign from the subtraction story.
- Students demonstrate their understanding of subtraction by representing their solutions in a variety of ways.
- Students generate a list of subtraction equations within 5.
- Students use manipulatives to solve a subtraction problem.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Envision 2.0 Independent Practice 7-3, Quick Check questions • Envision 2.0 Independent Practice 7-5, Quick Check questions	Envision 2.0 Topic 7 Assessment: Understanding Subtraction	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
• Envision Math 2.0 Teacher Manual Volume 1 • Envision Math 2.0 Student Textbook Volume 1	• www.PearsonRealize.com

• Manipulatives: Teaching tools 3, 6, 7, 8, (Number cards, Counters, crayons, pencils, paper, connecting cubes, blocks, sentence strip, toy cars, chalk, kitchen timer, masking tape) • Interactive Whiteboard (SMARTBoard)	• www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 8:	More Addition and Subtraction		

UNIT SUMMARY

Topics 6, 7 and 8 focus on deep understanding of addition as “put together” and “add to,” and subtraction as “take apart” and “take from.” Students learn how to represent and solve addition and subtraction word problems, decompose numbers through 10, and fluently add and subtract within 5.

NEW JERSEY STUDENT LEARNING STANDARDS

K.OA.A.1 Represent addition and subtraction with objects, fingers, mental images, drawings, 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.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).

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 Fluently add and subtract within 5.

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 8.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**

Students will understand that:	● How can decomposing numbers in more than one way help you learn about addition and subtraction?
● Write different ways to break apart 8 and write the equation. ● Find the missing part of 10. ● Find the answer and write the equation to tell a different way to break apart.	

UNIT LEARNING TARGETS (Students will know how to…)

- 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 and 7.
- Write equations to show the parts of 8 and 9.
- Write equations to show the parts of 10.
- Write an addition equation to solve a word problem.
- Find number partners for 10.
- Find a missing part to make 10.

LEARNING ACTIVITIES: (Students will be able to…)

- Students come up with an alternate way to take apart 4 than the way shown on the page. Students explain how their way is different than the sample.
- Students use manipulatives to act out a problem and then match the problem to an addition or subtraction equation.
- Students use objects and tell a story to show an equation and communicate mathematical ideas.
- Students make sense of a word problem by identifying the information given in the problem and the picture.
- Students color in parts of a cube train in order to find a pair of numbers that equal 10.
- Students solve an addition equation and describe the steps they used, explaining how they know they have calculated the correct answer.
- Students show a different way to break apart 6 than the way shown on the page. Students explain how their way is different.
- Students model the way the 8 counters break apart with both a drawing and an equation. Students explain.
- Students model two different ways to break apart 10. They can use counters, and then draw a picture and represent their work with an equation.
- Students use drawings to show and solve a word problem. They consider the part they know and how this relates to the whole in the context of the problem.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS

• Envision 2.0 Independent Practice 8-2, Quick Check questions • Envision 2.0 Independent Practice 8-5, Quick Check questions	Envision 2.0 Assessment: More Addition and Subtraction	• IXL • Student Presentation • Teacher Observation • Problem Based Activities
INSTRUCTIONAL MATERIALS/RESOURCES		**TECHNOLOGY RESOURCES**
• Envision Math 2.0 Teacher Manual Volume 1 • Envision Math 2.0 Student Textbook Volume 1 • Manipulatives: Teaching tools 3, 6, 7, 8, 10, 22 (Number cards, Counters, crayons, pencils, paper, connecting cubes, blocks, ten frames, number cube, sentence strip, index cards, sticky notes, color tiles) • Interactive Whiteboard (SMARTBoard)		• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:		
Sparta Twp. Public Schools Differentiation Strategies		
TEACHER NOTES:		

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 9:	Numbers to 20		

UNIT SUMMARY

Topic 9 continues the counting sequence with a focus on numbers 11 to 20. It highlights the principles necessary for accurate counting as well as a variety of representations including numeral writing.

NEW JERSEY STUDENT LEARNING STANDARDS

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 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 a scattered configuration; given a number from 1-20, count out that many objects.

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 9.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
Students will understand that: ● Use uniques number symbols to read and write numbers 11-20 ● Count on from a number other than 1.	● How can numbers to 20 be counted, read, written and pictured to tell how many?

UNIT LEARNING TARGETS (Students will know how to…)

- Count and write the numbers 11 and 12.
- Count and write the numbers 13, 14, and 15.
- Count and write the numbers 16 and 17.
- Count and write the numbers 18, 19, and 20.
- Count forward from any number within 20.
- Count to find how many are in a group.
- Use reasoning to count and write numbers to the number 20.

LEARNING ACTIVITIES: (Students will be able to…)

- Students will produce multiple representations of the number 12.
- Students will become familiar with multiple representations of number 14.
- Students will become familiar with multiple representations of the number 16.
- Students use counters as they work to create representations of the number 18.
- Students write numbers to represent the number of counters on a double ten frame.
- Students use tools to represent and communicate the number of a objects on a tray.
- Students count objects to identify answers to a word problem.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Envision 2.0 Independent Practice 9-3, Quick Check questions • Envision 2.0 Independent Practice 9-4, Quick Check questions	Envision 2.0 Topic 9 Assessment: Numbers to 20	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
• Envision Math 2.0 Teacher Manual Volume 2 • Envision Math 2.0 Student Textbook Volume 2 • Manipulatives: Teaching tools 3, 4, 6, 8,22, 23 (Number cards, Counters, crayons, pencils, paper, connecting cubes, blocks, cotton balls. modeling clay, double, ten frame, small counting objects • Interactive Whiteboard (SMARTBoard)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives:

	http://nlvm.usu.edu/en/nav/vlibrary.html

DIFFERENTIATION:
Sparta Twp. Public Schools Differentiation Strategies
TEACHER NOTES:

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 10:	Compose and Decompose Numbers 11-19		

UNIT SUMMARY
Topic 10 builds a foundation for understanding place value by focusing on the composition and decomposition of numbers 11 to 19 into one group of 10 ones and some further ones. The operations of composition and decomposition are visualized with objects, drawings, and equations.
NEW JERSEY STUDENT LEARNING STANDARDS
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 (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
21st CENTURY LIFE AND CAREER READY PRACTICES
CRP1. Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 10.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

	NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
Students will understand that: ● Find the answer and write the number to tell how many. ● Compose the number as you join two numbers to make a single number with the same value, using ten as one of the addends. ● Decompose a number to make two numbers with the same total value, using 10 as one of the addends.	● How can composing and decomposing numbers from 11-19 into ten ones and some further ones help you understand place values?

UNIT LEARNING TARGETS (Students will know how to…)

- Use drawings and equations to make the numbers 11, 12, and 13.
- Make the numbers 14, 15, and 16.
- Make the numbers 17, 18, and 19.
- Find parts of the numbers 11, 12, and 13.
- Find parts of the numbers 14, 15, and 16.
- Find parts of the numbers 17, 18, and 19.
- Use patterns to make and find the parts of numbers to 19.

LEARNING ACTIVITIES: (Students will be able to…)

- Students draw pictures to represent the number of counters using a ten-frame.
- Students place counters in a double ten-frame to represent a number and write an equation to match.
- Students model and solve a problem using counters, double ten-frame, and an equation.
- Students place counters in a double ten-frame to represent the two parts that make a greater number.
- Students color boxes to model breaking apart a number into 10 ones and some more ones. Then they write an equation to match.
- Students look for place-value patterns to make and compare two numbers.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS

• Envision 2.0 Independent Practice 10-1, Quick Check questions • Envision 2.0 Independent Practice 10-3, Quick Check questions	Envision 2.0 Topic 10 Assessment: Compose and Decompose Number 11-19	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	**TECHNOLOGY RESOURCES**
• Envision Math 2.0 Teacher Manual Volume 2 • Envision Math 2.0 Student Textbook Volume 2 • Manipulatives: Teaching tools 6, 8, 10, 22, 23, 31 (Number cards, Counters, crayons, pencils, paper, connecting cubes, ten frame, double ten frame, number cube, index cards, hundreds chart) • Interactive Whiteboard (SMARTBoard)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html

DIFFERENTIATION:

Sparta Twp. Public Schools Differentiation Strategies

TEACHER NOTES:

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 11:	Numbers to 100		

UNIT SUMMARY

Topic 11 concludes the development of the count sequence. K.CC.A was also a focus of Topic 1, 2, and 9. This topic focuses on extending the number names and counting to 100. Students learn about the verbal patterns in the counting sequence, and they count by ones, by tens, and both tens and ones beginning from any number.

NEW JERSEY STUDENT LEARNING STANDARDS

K.CC.A.1 Count to 100 by ones and by tens.

K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 11.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that: ● Move right on a hundred chart to count by 1s. ● A quick way to count groups of objects is to count by 10s, and then count on by 1s. ● Number words follow patterns starting at 20.	● How can numbers to 100 be counted using a hundred chart?

UNIT LEARNING TARGETS (Students will know how to…)

- Use patterns to count to 30.
- 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 numbers to 100 by ones.
- Count by tens and ones from any number up to 100.
- Count on from any number counting by tens and by ones.

LEARNING ACTIVITIES: (Students will be able to…)

- Students will look and listen for both auditory and visual patterns as they count to 30.
- Students look for patterns on a partial hundred chart and identify the hidden numerals using counting patterns.
- Students use their knowledge of place value to identify and count numbers with 0 ones on a hundred chart.
- Students will reason and use prior knowledge to find a quicker way to a solutions.
- Students will apply previously learned skills to solve the problems on the hundred chart.
- Students use a hundred chart and their prior knowledge to determine which numbers come just after others when counting.
- Students use the structure of the base-ten system count on from a given number in two different ways.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Teacher anecdotal notes on individual students ability to count on from given number	• Teacher anecdotal notes on individual students ability to count on from given number.	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
• EnvisionMath 2.0 Teacher Manual Volume 2 • EnvisionMath 2.0 Student Textbook Volume 2 • Materials: Teacher 100 chart, individual hundred chart, magic number teacher chart, numbers to 100 • http://www.abcya.com/interactive_100_number_chart.htm • https://nj.pbslearningmedia.org/resource/cb245eb1-c825-4a29-9e99-5d9a516d60e5/hundreds-chart-interactive-smart-board-activity/#.WTWpPm8rLIU • Interactive Whiteboard (SMARTBoard)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com

	● National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 12:	Identify and Describe Shapes		

UNIT SUMMARY

Topic 12 formally introduces many geometric ideas by asking students to: (1) identify shapes as two- dimensional (flat) or three-dimensional (solid), (2) name squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres regardless of orientation and size, and (3) use terms such as “above,” “below,” “besides,” “next to,” “in front of,” and “behind” to describe the relative position of shapes in their environments.

NEW JERSEY STUDENT LEARNING STANDARDS

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").

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 12.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that: ● Name shapes by their attributes ● There are everyday objects that have the same shapes as flat shapes or solid figures. ● Describe the position of shapes.	● How can two- and three- dimensional shapes be identified and described?

UNIT LEARNING TARGETS (Students will know how to…)

- Name shapes as flat or solids.
- Identify and describe circles and triangles.
- Identify and describe squares and other rectangles.
- Describe and identify hexagons.
- Describe and identify solid figures.
- Describe shapes in the environment.
- Describe positions of shapes in the environment.
- Describe positions of shapes in the environment.

LEARNING ACTIVITIES: (Students will be able to…)

- Students look for common attributes as they sort a group of shapes
- Students analyze in their own words how triangles and circles are different.
- Students describe, identify and compare rectangles and squares based on their attributes.
- Students discuss which pieces of art contain six- sided shapes.
- Students use real object to draw a connection to three- dimensional solids
- Students identify a shape and look for an example of the shape in the environment.
- Students review what they know about shapes.
- Students give directions for finding an object.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Envision 2.0 Independent Practice 12-1, Quick Check questions • Envision 2.0 Independent Practice 12-3, Quick Check questions	• Envision 2.0 Topic 12 Assessment: Identify and Describe Shapes	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
• EnvisionMath 2.0 Teacher Manual Volume 2 • EnvisionMath 2.0 Student Textbook Volume 2 • Manipulatives: Teaching tools 6, 8, 32, 33, 34, 35, 36, 37, 39, 41, 46 (crayons, pencils, paper, 2-D Shapes, 3-D Shapes, circles, triangles, squares, rectangles, hexagons, scissors, magazine pictures, attribute blocks, pattern blocks, classroom objects of solid figures, two sided counters, connecting cubes, sticky notes) • Interactive Whiteboard (SMARTBoard)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com

	● National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 13:	Analyze, Compare, and Create Shapes		

UNIT SUMMARY

Topic 13 deepens geometric understandings of two- and three- dimensional shapes. Students analyze and compare attributes of shapes shown in different sizes and orientations. Students build shapes using concrete materials, and use them to draw other shapes. Students also compose simple shapes to form larger shapes.

NEW JERSEY STUDENT LEARNING STANDARDS

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.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

K.G.B.6 Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle*?"

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 13.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
ENDURING UNDERSTANDINGS	**ESSENTIAL QUESTIONS**
Students will understand that: ● Name shapes by their attributes ● There are everyday objects that have the same shapes as solids. ● Shapes can be identified and named by attributes	● How can solid figures be named, described, compared, and composed?

UNIT LEARNING TARGETS (Students will know how to…)

- Analyze and compare 2-D shapes.
- Analyze and compare 3-D shapes.
- 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.

LEARNING ACTIVITIES: (Students will be able to…)

- Students use logical reasoning to identify a two dimensional shape based on its attributes.
- Students plan a solution pathway to determine which of the given shapes to color.
- Students use geometric solids to help identify flat surfaces that are circles.
- Students analyze given information and formulate a plan to determine and justify a solution to the problem.
- Students combine two triangles to make a shape they know.
- Students construct an argument to explain how the two shapes they created are different from each other.
- Students use geometric solids to model a real-world object.

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Envision 2.0 Independent Practice 13-2, Quick Check questions • Envision 2.0 Independent Practice 13-3, Quick Check questions	• Envision 2.0 Topic 13 Assessment: Analyze, Compare, and Create Shapes	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
• EnvisionMath 2.0 Teacher Manual Volume 2 • EnvisionMath 2.0 Student Textbook Volume 2 • Manipulatives: Teaching tools 33, 40, 41, 46 (crayons, pencils, paper, attribute blocks, geometric solids, molding clay, three column chart illustrating roll, stack, and slide, triangles, pattern blocks, yarn, string, pipe cleaners, straw, tape, scissors, index cards, craft sticks, small cubes)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com

• Interactive Whiteboard (SMARTBoard)	• www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html
DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	

CONTENT AREA:	Math	**GRADE LEVEL**	K
UNIT 14:	Describe and Compare Measurable Attributes		

UNIT SUMMARY

Topic 14 introduces measurement by teaching students that objects can be directly compared by length, height, capacity, or weight. Students learn that objects can be described by measurable attributes and that some objects can be described by measurable attributes and that some objects can be described by more than one measurable attributes.

NEW JERSEY STUDENT LEARNING STANDARDS

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*.

21st CENTURY LIFE AND CAREER READY PRACTICES

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

TECHNOLOGY STANDARDS

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.
8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

CROSS CURRICULAR CONNECTIONS

Science: Students will make connections based on topics presented in unit 14.

READING ACROSS CONTENT AREAS	WRITING ACROSS CONTENT AREAS
RI.K.1. With prompting and support, ask and answer questions about key details in a text. RI.K.2. With prompting and support, identify the main topic and retell key details of a text. RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that: ● Objects can be compared to see which is longer/shorter, heavier/lighter, or which holds more/less. ● Objects have measureable attributes. ● Different tools can be used to tell about different attributes.	● How can objects be compared by length, height, capacity, and weight?

UNIT LEARNING TARGETS (Students will know how to…)

● 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 objects can be measured.
- Solve math problems about objects with measurable attributes by using precision.

LEARNING ACTIVITIES: (Students will be able to…)

- Students use real objects to solve problems about length.
- Students compare the capacities of real word objects.
- Students consider the relationship of two objects in terms of weight to determine which object is heavier and which object is lighter.
- Students use tools and describe the attributes of an everyday object.
- Students think about which attributes of an object they can measure.
- Students build cube trains using exactly the given number of cubes

EVIDENCE OF LEARNING:

FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ALTERNATIVE ASSESSMENTS
• Envision 2.0 Independent Practice 14-1, Quick Check questions • Envision 2.0 Independent Practice 14-3, Quick Check questions	• Envision 2.0 Topic 14 Assessment: Describe and Compare Measurable Attributes	• IXL • Student Presentation • Teacher Observation • Problem Based Activities

INSTRUCTIONAL MATERIALS/RESOURCES	TECHNOLOGY RESOURCES
• EnvisionMath 2.0 Teacher Manual Volume 2 • EnvisionMath 2.0 Student Textbook Volume 2 • Manipulatives: Teaching tools 8, 11 (crayons, pencils, paper, connecting cubes, cube trains, pencils of different lengths, objects of different and same lengths, different sized cups and mugs, balance scale, objects of same and different weights, measuring cups, scissors, sticky notes, classroom objects) • Interactive Whiteboard (SMARTBoard)	• www.PearsonRealize.com • www.illustrativemathematics.org • www.corestandards.org • www.pinterest.com • www.teacherspayteachers.com • www.abcya.com • National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html

DIFFERENTIATION:	
Sparta Twp. Public Schools Differentiation Strategies	
TEACHER NOTES:	