BOE Approved 8/18

Cliffside Park Public Schools Kindergarten

Mathematics

Topic Name: Topic 1: Numbers 0 - 5

Resource: EnVision Math 2.0, Pearson, 2016

Duration: September (13 days)

Enduring Understandings

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

Essential Questions

- If you start counting at a different button does the number of buttons change?
- How do you know the number of objects doesn't change when you rearrange the objects?
- Why does each number need its own symbol?
- Do you always have to start counting with the same objects in the same group?
- Does changing the way 5 counters are arranged change the number of counters? Explain.
- Why do you write every number in a different way?
- Is there a number you can say when there are none?
- Why is zero a special number?
- Is there more than one way to show 5?
- Can number be written any way you like? Do number represent a greater or lesser number as you count?

- How can you explain your answer to a math problem?

Focus of Standards

Student Outcomes	**Skills**	**Assessments**	**Resources**
Topic 1 ● I can count 1, 2, and 3 objects. ● I can count groups of 1, 2, and 3c objects shown in different ways. ● I can read and write the numbers 1, 2, and 3. ● I can count 4 and 5 objects. ● I can count groups of 4 and 5 objects shown in different ways. ● I can read and write the numbers 4 and 5. ● I can use zero to tell when there are no objects. ● I can read and write the number 0. ● I can show ways to make 5. ● I can count up to the number 5. ● I can use math to explain what I know about counting.	● Solving problems ● Understanding concepts ● Reasoning	**Formative** ● Diagnostic assessment ● Exit tickets ● Round robin group work ● Analysis of homework ● Class polls ○ Show of hands: 1 for all set, 2 for just ok, 3 for help ● One thing I learned/One thing I need work on **Summative** ● End topic tests ● Post group topic ● EOY tests ● SGO tests **Benchmark** ● Diagnostic Assessment ● Pearson benchmark tests **Alternative** ● Math diagnosis and	***Envision Math 2.0*** **Digital** ● *Student and Teacher eTexts* ● *Interactive Math story* ● *Home-School Connection* **Classroom Math Materials** ● Counters ● Small objects ● Number cards 0-5 ● Connecting cubes ● Container ● Blocks, basket,counters ● Two-color counters ● Dot cards ● Tape ● Colored pencils ● Crayons ● Construction paper

		intervention system 2.0 ● Reteaching Set ● Online Learning ○ Games ● Higher Order Thinking Problems ● Leveled homework and practice ● Center games ● One on one conferencing	● Plastic or paper cups

Vocabulary
Count, one, two, three, number, four, five, zero, part, whole, order

NJ Student Learning Standards: Math
Topic 1

Counting and Cardinality
K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.4a Understand the relationship between numbers and quantities; connect counting to cardinality. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
K.CC.B.4b Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
K.CC.B.5 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
K.CC.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.4c Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that each successive number name refers to a quantity that is one larger.
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.

Operations and Algebraic Thinking
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).

Standards for Mathematical Practice
MP1. Make sense of problems and persevere in solving them.
MP2. Reason abstractly and quantitatively.
MP3. Construct viable arguments and critique the reasoning of others.
MP4. Model with mathematics.
MP5. Use appropriate tools strategically.
MP6. Attend to precision.
MP7. Look for and make use of structure.
MP8. Look for and express regularity in repeated reasoning.

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.

NJSLS Technology Standards
8.1 Educational Technology

E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.
8.2 Technology Education, Engineering, Design, and Computational Thinking
E. Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.
8.2.2.E.1 List and demonstrate the steps to an everyday task.

Interdisciplinary Connections
NJSLS for ELA and Science are introduced, developed, and practiced in the context of learning math content and engaging in mathematical practices.
ELA

- RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- L.K.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

Science

- K-PS2-1 Scientists use different ways to study the world.
- K-LS1-1 Scientists look for patterns and order when making observations about the world.

NJSLS: 21st Century Life and Careers
Key Subjects and 21st Century: Themes Mastery of key subjects and 21st century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics. In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:
• Relate the following standards to careers that involve mathematics

9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals
9.2.4.A.4 Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes.

Integrated Differentiation/Accommodations/Modifications *(Alternate Modes of Instruction and Support)*		
Modifications to Support Gifted and Talented Students	**Modifications to Support English Language Learners**	**Modifications to Support Our Learners (Students with IEPs/504s and At-Risk Learners**
Provide appropriate challenge for wide ranging skills and development areas. Participate in inquiry and project-based learning units of study Assigning roles within partnerships Differentiated supports: content, process, product, environment	Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary) Pair visual prompts with verbal presentations Front load and immerse students in literacy and language experiences related to content Provide students with visual models, sentence stems, concrete objects, and hands-on materials. Model procedures for life skills. Collaboration between ELL and general education teacher to maximize learning	Review student individual educational plan and/or 504 plan. Establish procedures for accommodations and modifications for assessments as per IEP/504. Establish procedures for modification of classwork and homework as per IEP/504. Modify classroom environment to support academic and physical needs of the students as per IEP/504. Provide appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team. Differentiation through content, process, product, environment Provide Title I services to students not meeting academic standards in ELA and/or Math. Provide instructional adaptations and interventions in the general education classroom. Modify classroom environment to support student needs.

		Differentiated instruction Basic Skills Intensive individual intervention

Sources

New Jersey Student Learning Standards (2016) http://www.state.nj.us/education/cccs/2016/math/standards.pdf
New Jersey Student Learning Standards: Technology (2014) - http://www.state.nj.us/education/cccs/2014/tech/8.pdf
New Jersey Student Learning Standards: ELA (2014) - https://www.state.nj.us/education/cccs/2016/ela/k.pdf
New Jersey Science and Engineering Practices - https://www.state.nj.us/education/aps/cccs/science/resources/QRk2.pdf
New Jersey Career Awareness, Exploration, and Preparation -https://www.state.nj.us/education/cccs/2014/career/92.pdf
Pearson enVision 2.0 (2016) https://www.pearsonrealize.com/index.html#/