Pocantico Hills School District
Kindergarten Math Curriculum Draft

Content Strand

Number Sense and Operations

- Verbally count by ones to 20
- Count the items in a collection and know that the last counting word tells the how many items are in the collection (1-10)
- Count out a collection of a specified size (1-10)
- Represent collections with a finger pattern up to 10
- Numerically label a data set of 1 to 5
- Draw pictures or other informal symbols to represent how many in a collection up to 10
- Draw pictures or other informal symbols to represent a spoken number up to 10

Algebra

- Use a variety of manipulative to create patterns using attributes of color, size, or shape
- Recognize, describe, extend, and create patterns that repeat (AA, BB, ABAB)

Geometry

- Explore vertical and horizontal orientation of objects
- Describe characteristics and relationships of geometric objects
- Understand and use ideas such as over, under, above, below, on, beside, next to, and between

Statistics and Probability

- Identify more, less, and same amounts from pictographs or concrete models
- Gather data in response to questions posed by the teacher and students
- Represent data using manipulatives
- Help to make simple pictographs for quantities up to 10, where one picture represents 1
- Sort groups of objects by size and size order (increasing and decreasing)

Process Strands

Connections

- Recognize the presence of mathematics in their daily lives
- Recognize and apply mathematics to objects and pictures

Communication

- Use appropriate mathematical terms, vocabulary, and language
- Understand how to organize their thought processes with teacher guidance
- Share mathematical ideas through the manipulation of objects, drawings, pictures, and verbal explanations

Problem Solving

- Formulate problems and solutions from everyday situations (e.g., counting the number of children in the class, using the calendar to teach counting).
- Experience teacher-directed questioning process to understand problems
- Use manipulatives (e.g., tiles, blocks) to model the action in problems
- Compare and discuss ideas for solving a problem with teacher and/or students to justify their thinking

Reasoning and Proof

- Understand that mathematical statements can be true or false

Representation

- Use objects to show and understand physical phenomena (e.g., guess the number of cookies in a package)

Vocabulary

- *More*
- *Less*
- *Next*
- *Attributes*
- *Above*
- *Below*
- *Beside*
- *Between*

- *Next to*
- *On*
- *Over*
- *Rectangle*
- *Shape*
- *Size*
- *Sort*
- *Under*
- *Morning*
- *Afternoon*
- *Longer*
- *Same*
- *Pictograph*
- *Shorter than*
- *Longer than*
- *Data*
- *True & False*
- *Identify the problem*
- *Generate the solutions*
- *Model using manipulatives*
- *Make observations*
- *Pattern*
- *Tally Marks*
- *Collection*
- *Compare*
- *After*
- *Listen*
- *Share*
- *Act out*
- *Draw*
- *Count*

Content Strands

Number Sense and Operations

- Write numbers 1-10 to represent a collection
- Verbally count backwards from 10
- Use and understand verbal ordinal terms, first to tenth

Measurement

- Name, discuss, and compare attributes of length (longer than, shorter than)

- Compare the length of two objects by representing each length with string or a paper strip

Process Strands

Problem Solving
- Explore, examine, and make observations about a social problem or mathematical situation
- Explain to others how a problem was solved, giving strategies
- Use drawings/pictures to model the action in problems

Representation
- Use objects to show and understand social phenomena (e.g., count and represent sharing cookies between friends)
- Use standard and nonstandard representations

Connections
- Use counting strategies to solve problems in their daily lives

Reasoning and Proof
- Investigate the use of knowledgeable guessing as a mathematical tool
- Explore guesses, using a variety of objects and manipulatives
- Listen to claims other students make

Communication
- Listen to solutions shared by other students

Vocabulary

- *Explore*
- *Count backwards*
- *Ordinal numbers*
- *Numeral*
- *As long as*
- *Length*

Content Strands

Number Sense and Operations

- Visually determine how many more or less, and then using the verbal counting sequence, match and count 1-10
- Determine sums and differences by various means
- Solve and create addition and subtraction verbal word problems (use counting based strategies, such as counting on and to ten)

Measurement

- Relate specific times such as morning, noon, afternoon, and evening to activities and absence or presence of daylight

Geometry

- Manipulate two- and three-dimensional shapes to explore symmetry

Process Strands

Problem Solving

- Interpret information correctly, identify the problem, and generate possible solutions
- Act out or model with manipulatives activities involving mathematical content from literature and/or story telling
- Use informal counting strategies to find solutions

Communication

- Formulate mathematically relevant questions with teacher guidance

Representation

- Use objects to show and understand mathematical phenomena

(e.g. draw pictures to show a story problem, show number value using fingers on your hand)

Vocabulary

- *daylight*
- *evening*
- *noon*
- *symmetry*
- *interpret*
- *ask questions*
- *use the language of mathematics*
- *apply*
- *add*
- *all together*
- *sum*
- *take away*
- *solution*
- *fewer*
- *fewer than*
- *explain*
- *shorter*