

Pocantico Hills School District
Pre-Kindergarten Math Curriculum Draft

Number Sense and Operations

Count one to ten in books, finger plays, songs, rhymes, and dramatics

Count verbally one to ten in daily activities

Begin to match number concept with quantity of objects in a set, one to ten

Begin to recognize numbers one to ten randomly

Begin to match written number with corresponding number of objects in a set one to ten

Identify a set of objects

Explore numbers through art experiences (example: sand tracing and play dough)

Create own criteria when given a set of mixed objects

Classify same/different with blocks, pegs, etc.

Begin to put objects together to make a new amount using toy manipulatives, cooking, and cutting

Begin to take objects away to form a new amount, using toy manipulatives

Draw pictures to represent how many are in a set

Understand the meaning of a pair

Identify pairs of objects

Vocabulary:

count

number

next

more

less

all together

set

pair

Algebra

Explore and freely create patterns and sequences with concrete objects, such as beads

Identify and sort by colors, size, or shape

Verbalize a pattern unit...blue, red, etc.

Use a variety of manipulatives to create simple patterns using attributes of color, size, or shape

Identify ordinal position of objects first through third

Begin to organize numbers in proper sequence...first, second, etc.

Begin to extend and create patterns that repeat on their own

Vocabulary:

pattern

sort

create

Geometry

Describe characteristics of geometric objects

Sort groups of objects by size from biggest to smallest

Manipulate shapes to explore symmetry

Vocabulary:

shape

size

sort

Measurement

Associate days with specific activities (example: Days we go to gym)

Use non-standard units of measure and intuitive forms of measurement (example:

Will two cups of sugar fill up one bowl?)

Respond to questions like “Which one weighs more: an apple or a pumpkin?”

Estimate length and weight through daily observations and testing

Recognize measurement items (examples: clock, measuring cup, thermometer, scale)

Informally measure units through water play, science activities, & cooking

Name, discuss, and compare attributes of length (*longer than, shorter than*)
Compare the lengths of two objects by representing each with a piece of yarn

Vocabulary:

longer

shorter

Statistics and Probability

Gather data in response to a question asked by the teacher

Construct simple pictographs that represent birthdays, favorite colors, eye color, weather, etc.

Begin to read and interpret information from these simple graphs (example: How many have brown eyes?)

Begin to identify *more, less, and same* from graphs

Vocabulary:

count

number

more

less

graph

Problem Solving

Explore, examine, and make observations about a social problem or mathematical problem (example: How many children can play in the block area?)

Act out or model with manipulatives activities involving mathematical content from literature and/or storytelling (example: How many bowls of porridge will we need in Goldilocks?)

Begin to formulate problems and solutions from everyday situations (examples: counting who is in class today; using the calendar to teach how many days of the week there are)

Use informal counting strategies to find solutions

Use manipulatives like blocks to model the actions in problems

Use drawings/pictures to model the actions in problems

Begin to compare and start to be able to discuss ways of solving problems within groups

Begin to explain to others in the class how the problem was solved

Vocabulary:

draw

act out

explore

observe

compare

interpret

Reasoning and Proof

Investigate the use of knowledgeable guessing as a mathematical tool (example: estimation)

Explore guesses using a variety of manipulatives and objects

Listen to claims that other students make

Begin to understand that mathematical statements can be true or false

Vocabulary:

guess

listen

share

Communication

Share mathematical ideas through the manipulation of objects, drawings and pictures

Listen to others

Begin to ask questions that are relevant with teacher guidance

Begin to use appropriate mathematical terms, vocabulary, and language

Begin to understand how to organize thought processes with teacher guidance

Vocabulary:

draw

share

listen

ask questions

organize

Connections

Recognize that math is involved in their daily lives

Use counting strategies to solve problems in their daily lives

Recognize and apply mathematics to objects and pictures

Continue to apply math to objects and pictures

Vocabulary:

See mathematics in their daily lives

count

apply

Representation

Use objects to show and understand social phenomena (example: Count the toys and share.)

Use objects to show and understand physical phenomena (example: Guess how many jellybeans are in the bag.)

Use objects to show and understand mathematical phenomena (example: Show a number value, using fingers on your hand or by drawing, telling how many bears were in the Goldilocks story.)

Use nonstandard representations

Begin to use multiple representations that include verbal language, acting out or modeling a situation, or drawing pictures

Begin to use standard representations

Vocabulary:

act it out

draw

model a situation

