ACTON PUBLIC SCHOOLS

Kindergarten
Math Benchmarks

Strand 1: Number Sense and Operations

Broad Concepts

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- Make reasonable estimates.
- Explore meanings of addition and subtraction and ways in which they relate to one another.

Students engage in problem solving, communicating, reasoning, connecting, and representing:

Mastery Skills/Concepts (M)

- none identified

"Working On" Skills/Concepts (W)

- Match quantities up to at least 10 with numerals and spoken words. (K.N.1)
- Compare sets up to at least 10 concrete objects using appropriate language (e.g., none, more than, fewer than, same number of, one more than) and order numbers. (K.N.4)
- Count by ones to at least 20. (K.N.2)
- Use objects and drawings to model and solve related addition and subtraction problems to ten. (K.N.7)
- Identify positions of objects in sequences using ordinal numbers (e.g., first, second) up to fifth. (K.N.3)
- Estimate the number of objects in a group and verify results. (K.N.8)
- Understand the concepts of whole and half. (K.N.5)
- Money: Identify U.S. coins by name. (K.N.6)

Introductory/Exploratory Concepts and Skills

- Count by ones, beginning from any number in the counting sequence.
- Begin counting with understanding in small sequences, gradually increasing; e.g., 1-10, 10-20, 20-100.
- Represent quantities using concrete objects and investigate the partitioning of sets. Identify equal parts of groups.
- Create problems that can be solved using addition and subtraction. Use concrete materials to model addition and subtraction.
- Quantity to 100 (read/write, enumerate, compare)
- Place Value: Grouping by tens.

Strand 2: Patterns, Relations, and Algebra

Broad Concepts

- Understand patterns, relations, and functions.
- Recognize, describe, and extend patterns, such as sequences of sounds and shapes or simple numeric patterns, and translate from one representation to another.

Students engage in problem solving, communicating, reasoning, connecting, and representing:

Mastery Skills/Concepts (M)

- none identified

"Working On" Skills/Concepts (W)

- Identify the attributes of objects as a foundation for sorting and classifying; e.g., a red truck, a red block, and a red ball all look similar, as do a square block, a square cracker, and a square book. (K.P.1) I
- Sort and classify objects by color, shape, size, number, and other properties. (K.P.2) I
- Identify, reproduce, describe, extend, and create color, rhythm, shape, number, and letter-repeating patterns with simple attributes; e.g., ABABAB & count by 10s up to at least 50. (K.P.7 and K.P.3)

Introductory/Exploratory Concepts and Skills

- Explore skip counting by 2s & 5s.

Strand 3: Geometry

Broad Concepts

- Analyze characteristics and properties of two- and three-dimensional geometric shapes.
- Specify locations and describe spatial relationships.

Students engage in problem solving, communicating, reasoning, connecting, and representing:

Mastery Skills/Concepts (M)

- none identified

"Working On" Skills/Concepts (W)

- Name, describe, sort, and draw simple two-dimensional shapes. (K.G.1)
- Describe attributes of two-dimensional shapes; e.g., number of sides, number of corners. (K.G.2)
- Name, recognize, compare and describe some attributes of three-dimensional shapes. (K.G.3)
- Identify positions of objects in space and use appropriate language (e.g., beside, inside, next to, close to, above, below, apart) to describe and compare their relative positions. (K.G.4)

Introductory/Exploratory Concepts and Skills (I):
Investigate symmetry of two- and three-dimensional shapes and constructions.

Strand 4: Measurement

Broad Concept

- Understand measurable attributes of objects and the units, systems, and processes of measurement.
- Apply appropriate techniques, tools, and formulas to determine measurements.

Students engage in problem solving, communicating, reasoning, connecting, and representing:

Mastery Skills/Concepts (M)

- none identified

"Working On" Skills/Concepts (W)

- Recognize and compare the attributes of length, volume/capacity, weight, and time using appropriate language; e.g., longer, taller, shorter, same length, heavier, lighter, same weight; holds more, holds less, holds the same amount. (K.M.1)
- Use non-standard units to measure length, weight, temperature, and capacity. (K.M.3)
- Make and use estimates of measurement from everyday experiences. (K.M.2)

Introductory/Exploratory Concepts & Skills

- Explore and use units to measure and compare weight, volume/capacity, length, and time.
- Identify coins and their values. (also partly in NUMBER)
- Identify positions of events over time; e.g., earlier, later.
- Calendar
- Time to hour, 1/2 hour

Strand 5: Data Analysis, Statistics, and Probability

Broad Concept

- Formulate questions that can be addressed with data, and collect, organize, and display relevant data to answer them.

Students engage in problem solving, communicating, reasoning, connecting, and representing:

Mastery Skills/Concepts (M)

- none identified

"Working On" Skills/Concepts (W)

- Collect and organize data about themselves and their surroundings using concrete objects, pictures, and numbers. (K.D.1)
- Create and interpret simple bar graphs.
- Create and interpret simple pictographs.

Introductory/Exploratory Concepts & Skills

- Collect and organize data in lists, tables, and simple graphs.