**1st Grade Singapore**

**Math: Shapes, Length, Weight**

**Summary:** **Common Shapes** -In this domain, students will learn to recognize and name the four basic shapes and identify solid figures; circle, triangle, rectangle, square, sphere, cube, cone. Students will be able to predict the extension of a pattern and indicate which item does not belong in a given set.

**Length (comparing/measuring)** - In this domain, students are introduced to the concepts of length and height. They will use vocabulary to describe and compare lengths and heights. Students will learn how to use objects like paper clips, sticks, beads as non-standard units of length.

**Weight (comparing/measuring)** - Students are introduced to the concept of weight and the vocabulary to describe and compare different weights. They will be able to compare weights using a balance scale, and measure weight in non-standard units.

**The Big Idea:** Geometric terms can be used to describe orientation and relative position. Plane and solid figures can be identified based on their size and shape and other attributes. Length, height, and weight can all be measured using non-standard units of measurements (Singapore) and instruments (Core Knowledge).

**Colorado State Standards:**

|  |
| --- |
| K.1.1.c. Compare sets up to 10 objects and use language to describe more, less, or same  K.1.1.d. Compare two sets of objects to at least 25 using language such as “more,” “less,” or “the same”  K.4.1.b. Use relational vocabulary, such as above, below and next to, to describe spatial relationships |
| 1.1.1.e. Compare two sets of objects, including pennies, up to at least 25 using language such as "three more or three fewer" |
| 1.2.1.b. Extend a repeating pattern based on a rule  1.2.2.a. Duplicate a simple pattern  1.2.2.b. Extend a repeating two-element pattern using a variety of materials such as numbers, letters, shapes, and manipulatives  1.4.1.a. Recognize, describe, and make shapes according to given relationships, attributes, or properties  1.4.1.b. Sort geometric figures and describe how they are alike and different  1.4.1.c. Combine and take apart shapes to create new shapes and describe results |
| 1.4.2.a. Measure the length of common objects using nonstandard units such as created units, popsicle sticks, or paper clips  1.4.2.b. Compare and order objects by length and weight  2.4.1.a. Recognize, describe, and create geometric figures according to given quantifiable attributes such as number of sides and size  2.4.2.c. Use standard linear measuring tools to measure to the nearest whole unit  2.4.2.d. Identify common units of time, weight, and temperature and their appropriate use |

**Common Core Standards**:

**K.G 3.** Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

**K.G. 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.MD 1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

**K.MD 3**. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

**1.G1.** Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus nondefining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

**1.G2.** Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, halfcircles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

**1.MD 1.** Order three objects by length; compare the lengths of two objects indirectly by using a third object.

**1.MD 2.** Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

**2.MD 2.** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.

**4.OA 5.** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

**Singapore Unit:**

1. Shapes
   1. Describing shapes
   2. Basic geometrical shapes
   3. Attributes
   4. Repeated patterns
   5. Construction of shapes
2. Length
   1. Comparison of lengths
   2. Measurement of length
3. Weight
   1. Comparison of weight
   2. Measurement of weight

**Core Knowledge Language Arts:**

I. Listening and Speaking

A. Comprehension and Discussion of Read-Alouds – All Texts

* Describe illustrations.

**Previous Unit:** Numbers to 20

**Prior Knowledge:**

Kindergarten

* Length
* Weight
* Shapes

**Next: Unit:** Comparing Numbers

**What Students Will Learn in Future Grades:**

Second Grade

* Length
  + Part 1: Measuring Length in Meters
  + Part 2: Measuring Length in Centimeters
  + US Part 3: Measuring Length in Yards and Feet
  + US Part 4: Measuring Length in Inches
* Weight
  + Part 1: Measuring Weight in Kilograms
  + Part 2: Measuring Weight in Grams
  + US Part 3: Measuring Weight in Pounds
  + US Part 4: Measuring Weight in Ounces
* Geometry
  + Part 1: Flat and Curved Surfaces
  + Part 2: Making Shapes

**Cross Curricular Links:**

Science: Properties of Matter – Measuring length in centimeters, inches, feet

**Additional Resources:**

For Teachers:

* *Singapore Standard Edition Primary Mathematics Extra Practice,* Tay Choon Mong
* *New Enrichment Mathematics for Primary,* Pan Pacific Publications, Pauline Ong
* *Know Your Maths: Topical Exercises for Primary One*, Tinoh Chan