Unit 2 - Spatial Concepts (Shapes and Measurement)

Content Area: **Math**
Course(s):
Time Period: **Full Year**
Length: **November to January**
Status: **Published**

Unit Overview

Prekindergarten children should be able to recognize and name at least four basic shapes (circle, square, triangle, and rectangle). They should be able to compare, match, and sort shapes according to their attributes. Prekindergarten children should be able to describe simple patterns, predict what comes next in the arrangement, and represent patterns through symbols and/or movement. Prekindergarten children should be able to make comparisons of objects (shorter, longer, etc.) and recognize that objects have measurable properties (how long? how heavy?).

Enduring Understandings

• Students will walk around classroom to point out various shapes.

• Student will point out the tallest and smallest in the classroom.

Essential Questions

• Can you find (circle, square, rectangle) in our classroom?

• Who is the tallest student in our class? Who is the smallest?

Learning Objectives

• Identify Shapes

• Identify patterns

• Demonstrate awareness of the measurable attributes

• Use positional words

• Name and describe two-dimensional shapes

Standards: Content

4.3	Children begin to conceptualize measurable attributes of objects.
4.3.1	Sort, order, pattern, and classify objects by non-measurable (e.g., color, texture, type of material) and measurable attributes (e.g., length, capacity, height).
4.3.2	Begin to use appropriate vocabulary to demonstrate awareness of the measurable attributes of length, area, weight and capacity of everyday objects (e.g., long, short, tall, light, heavy, full).
4.3.3	Compare (e.g., which container holds more) and order (e.g., shortest to longest) up to 5 objects according to measurable attributes.
4.4	Children develop spatial and geometric sense.
4.4.1	Respond to and use positional words (e.g., in, under, between, down, behind).
4.4.2	Use accurate terms to name and describe some two-dimensional shapes and begin to use accurate terms to name and describe some three-dimensional shapes (e.g., circle, square, triangle, sphere, cylinder, cube, side point, angle).
4.4.3	Manipulate, compare and discuss the attributes of:
4.4.3.a	two-dimensional shapes (e.g., use two dimensional shapes to make designs, patterns and pictures by manipulating materials such as paper shapes, puzzle pieces, tangrams; construct shapes from materials such as straws; match identical shapes; sort shapes based on rules [something that makes them alike/different]; describe shapes by sides/angles; use pattern blocks to compose/decompose shapes when making and taking apart compositions of several shapes).
4.4.3.b	three-dimensional shapes by building with blocks and with other materials having height, width and depth (e.g., unit blocks, hollow blocks, attribute blocks, boxes, empty food containers, plastic pipe).

Standards: Interdisciplinary

6.2.1	Demonstrate understanding of rules by following most classroom routines.
6.2.3	Demonstrate appropriate behavior when collaborating with others.
0.4.5	Express needs verbally or nonverbally to teacher and peers without being aggressive (e.g., “I don’t like it when you call me dummy. Stop!”).
0.5.1	Play independently and cooperatively in pairs and small groups.
0.5.2	Engage in pretend play.
0.5.3	Demonstrate how to enter into play when a group of children are already involved in play.
0.5.4	Take turns.
0.5.5	Demonstrate understanding the concept of sharing by attempting to share.
1.4.1	Demonstrate the safe and appropriate use and care of art materials and tools.
1.4.2	Create two- and three-dimensional works of art while exploring color, line, shape, form, texture, and space.
1.4.3	Use vocabulary to describe various art forms (e.g., photographs, sculpture), artists (e.g. illustrator, sculptor, photographer) and elements in the visual arts.
1.4.6	Create more recognizable representations as eye-hand coordination and fine-motor skills develop.

RF.PK.3.a	Associates many letters (consonants and vowels as ready) with their names and their most frequent sounds.
RF.PK.3.c	Recognize their name in print as well as other familiar print in the environment.
SL.PK.5	Use drawings or visual displays to add to descriptions to provide additional detail.
L.PK.1.f	Begin to speak in complete sentences.
L.PK.1.g	Understands and can follow simple multi-step directions.
L.PK.2.c	Attempt to write a letter or letters by using scribble-writing, letter-like forms, letter-strings, and invented spelling during writing activities throughout the day.
L.PK.6	Use words and phrases acquired through conversations, activities and read alouds.

Assessment Evidence

Formative	• Teacher observations • Questioning • Discussions • Visual Representations • Student Conferences • Portfolio Check • Debriefing • Grade book
Summative	• Combine unit blocks to make new shapes • Sort tubs of shapes by color and then by color and shape • Identify shapes in the environment (e.g. roofs-triangles) • Sort people/animal figures/blocks by size, color and/or shape or other recognizable feature • Participate in weighing activities with balance scales using a variety of materials (manipulatives, sand, water, etc.) describing which is heavier/lighter • Engage in outdoor running games towards targets (a tree or a building) that are varying distances away; compare which was a longer/shorter distance • Description of their position in relation to objects in the room (over, under, beside, across, etc.)
Alternative & Benchmark	• Unit Benchmark Assessment
Assessment Evidence Resource	

Instructional Resources

Instructional Resource List

Curricular Mandates

Below are the curricular requirements as defined in NJ Administrative Code and Statute

	Amistad		Diversity, Equity, and Inclusion
	Holocaust		LGBT and Disabilities (Grades 6-12)

	Climate Change		Asian American & Pacific Islander

Social Emotional Learning (SEL) Competencies

NJ Social and Emotional Learning Competencies & Sub-Competencies

X	Self-Awareness	**X**	Relationship Skills
X	Responsible Decision-Making	**X**	Social Awareness
X	Self-Management		

21st Century Skills & Themes

	Global and Cultural Awareness		Technology Literacy		Planning and Budgeting
	Creativity and Innovation		Financial Institutions		Risk Management and Insurance
	Information and Media Literacy		Digital Citizenship		Economic and Government Influences
	Critical Thinking and Problem Solving		Credit Profile		Career Awareness and Planning
	Civic Financial Responsibility		Financial Psychology		