MATH

LENGTH OF TIME: One year

GRADE LEVEL: Kindergarten

COURSE STANDARDS:
Students will:
1. Know number names and write and recite the count sequence (CC.2.1.K.A.1)
2. Apply one to one correspondence to count the number of objects (CC.2.1.K.A.2)
3. Apply the concept of magnitude to compare numbers and quantities (CC.2.1.K.A.3)
4. Use place value to compose and decompose numbers within 19 (CC.2.1.K.B.1)
5. Extend concepts of putting together and taking apart to add and subtract within 10 (CC.2.2.K.A.1)
6. Identify and describe two and three dimensional shapes (CC.2.3.K.A.1)
7. Analyze, compare, create, and compose two and three dimensional shapes (CC.2.3.K.A.2)
8. Describe and compare attributes of length, area, weight, and capacity of everyday objects (CC.2.4.K.A.1)
9. Classify objects and count the number of objects in each category (CC.2.4.K.A.4)

RELATED COMMON CORE STANDARDS FOR MATHEMATICS
CC.2.1 Numbers and Operations
CC.2.2 Algebraic Concepts
CC.2.3 Geometry
CC.2.4 Measurement, Data, and Probability

PERFORMANCE ASSESSMENTS:
Students will demonstrate achievement of the standards by:
1. Performance on objective tests which use various medium, such as: counting, creating, and combining sets of objects to show understanding of number concepts, creating patterns, arranging the hour and minute hands on a clock to show a specified time on the hour, identifying numerals, shapes, coins, etc.
2. Oral, written, pictorial, and/or concrete presentations or responses to demonstrate solutions to problems, understanding of mathematical vocabulary and expressions, and concepts as observed by the teacher and discussed with the student.
3. Self and/or peer assessment of activities with self-correcting and/or peer assisted activities.
4. Student portfolio.
5. Demonstrations of problem solving.
6. Performance on class and/or homework assignments.

DESCRIPTION OF COURSE:

The mathematics curriculum in the kindergarten setting relies heavily on having a classroom environment where children naturally develop mathematical concepts through the use of manipulatives and real-life situations. We endeavor to create such an environment and consider it extremely important to give students time to explore, investigate, and create in order to develop mathematical understandings in the areas of number concepts, sorting and classifying, working with measurement (by describing and comparing attributes of length, area, and weight), patterns, geometry, collecting data, and displaying data in graph form and in problem solving. Teachers will help students to develop mathematical language and thought by providing them with the opportunity to describe the hands-on activities with which they are engaged, by asking questions, and by assisting them in determining strategies to solve problems. In addition, large and small group lessons in all of the above areas will be presented through a variety of formats to guide the students systematically through concrete, semi-concrete, and symbolic levels of learning.

TITLES OF UNITS:

All concepts are taught throughout school year

1.	Number and Numeration	122 lessons
2.	Operations and Computation	33 lessons
3.	Data and Chance	19 lessons
4.	Measurement and Reference Frames	54 lessons
5.	Geometry	22 lessons
6.	Patterns, Functions and Algebra	47 lessons

SAMPLE INSTRUCTIONAL STRATEGIES:

1. Daily routines
2. Individual and/or group explorations and investigations
3. Problem solving strategies
4. Use of technology for explorations and/or problem solving
5. Use of games and manipulatives
6. Take home books
7. Teacher and/or peer modeling
8. Teacher and/or student-led discussions and activities
9. Guided practice
10. Math center
11. Construction/Investigation centers
12. Drawing and writing

MATERIALS:

1. Common Core State Standards Everyday Mathematics: The University of Chicago School Mathematics Project, Everyday Learning Corporation, 2015, Chicago, Illinois.
2. Games and manipulatives

3. Teacher-made instructional materials
4. Calculators
5. Computers
6. Professional magazines
7. Equipment and supplies to create construction/investigation centers such as: block corner, sand/water table, woodworking bench, open-ended construction toys, etc.
8. Balance scales
9. Clock faces with hour and minute hands
10. Coins: pennies, nickels, dimes
11. Writing and drawing supplies
12. Charts and pictures
13. Base 10 blocks

METHODS OF ASSISTANCE AND ENRICHMENT:

Assistance

1. Cooperative Learning
2. Volunteers/tutors
3. Modified curriculum
4. Modified grouping
5. IST
6. Peer helpers
7. Extended instructional time
8. Reteaching with alternative strategies
9. Modified assessment and evaluation

Enrichment

1. Modified curriculum
2. Peer tutoring
3. Modified testing
4. IST
5. Mathematical investigations

PORTFOLIO DEVELOPMENT:

1. Observations
2. Investigations and/or projects
3. Writing/journals
4. Student reflections
5. Post district grade level assessment

METHODS OF EVALUATION:

1. Teacher/student checklist
2. Problem solving activities
3. Individual/group observations
4. Investigations and/or projects
5. Written and/or oral presentations

6. Self and/or peer evaluation
7. Pre and post district grade level assessments

INTEGRATED ACTIVITIES:

1. Concepts
   -demonstrations of the basic concepts and principles for the above mentioned Course Standards

2. Communication
   -appropriate use of mathematical concepts and language
   -written entries in journals
   -listen to, and understand, math presentations
   -oral presentations of strategies used for problem solving

3. Thinking/Problem Solving
   -make judgments using learned skills
   -make decisions and predictions based upon the application of learned skills
   -draw conclusions and show relationships in mathematical settings
   -apply the concepts of the above mentioned Course Standards to formulate and solve problems
   -recognize patterns to predict and solve problems
   -analyze data to make estimations, predictions, and to solve problems

4. Application of Knowledge
   -use learned skills to solve authentic problems
   -begin to exhibit skills with a calculator and computer
   -examine, evaluate, and solve routine and non-routine problems

5. Interpersonal Skills
   -work cooperatively with others on projects and investigations
   -work effectively with others on projects and investigations
   -communicate effectively using mathematical language