

Math Curriculum Parent Guide

School: Burke

Grade: **Kindergarten**

Mathematics

Course Description: This year your child will be developing the math readiness skills necessary for first grade. Children engage in hands-on activities that allow for active learning. Communicating mathematically is encouraged. Students are assisted in recognizing the mathematics they already know in their daily lives.

Unit	Concepts
Geometry	Recognize and sort basic shapes Name and compare three-dimensional shapes Identify positions of objects in space and use appropriate language (beside, inside etc)
Measurement	Recognize and compare attributes of length, volume, area, weight, time using appropriate language (longer, taller, lighter, etc) Use non-standard units to measure
Number Sense and Operations	Establish 1:1 correspondence Rote count to 20 Recognize and write numerals 0-20 Understand number value Solve simple verbal problems (addition or subtractions) Introduce number words from zero to ten Understand ordinal numbers and simple fractions (whole/half) Identify coins by name
Patterns, Relations and Algebra	Recognize and complete patterns Classify objects into sets Order objects Count by fives and tens to fifty
Data Analysis, Statistics and Probability	Collect, sort and organize data using manipulatives, graphs, numbers and pictures

Suggestions for Parental Involvement:

Using correct mathematical language will help your child learn the language of math. We recommend a handbook from Great Source called *Math to Know*. This resource will help you with concepts taught from kindergarten through fourth-grade using the “new” vocabulary. It is available online at www.greatsource.com. Reinforce skip counting: count by 5’s and 10’s while in the car! Allow your kindergartener to identify the coins when you receive change. Encourage children to make conjectures: this cookie is better because it is larger, has more chocolate chips, etc.

Course Description: Children will discuss mathematics and its connection to their daily lives, including other subject areas. The children learn strategies to solve and share mathematical situations through the use of various manipulatives, drawing pictures, discussion and technology that naturally touch the children's lives.

Unit	Concepts
Geometry	Name shapes: square, triangle, circle, rectangle;
Measurement	Use non-standard measures for linear and weights Tell time by hour and half-hour
Number Sense and Operations	Name and write numbers to 99 Use manipulatives to combine numbers Identify coins Add two coins Write, add and subtract through 18
Patterns, Relations and Algebra	Identify patterns on the hundreds chart Skip count by 2,5,10
Data Analysis, Statistics and Probability	Interpret bar graphs

Suggestions for Parental Involvement:

Reinforcement of the number facts, correct vocabulary for geometric figures and proper naming of large numbers: ex: 250 is "two-hundred fifty". Allow your child to count your change! A good parent resource is Great Source's *Math to Know*. This is available on-line at www.greatsource.com.

Course Description: Students will learn and practice strategies to solve and share mathematical situations using manipulatives, drawing pictures and discussion. Children will discuss mathematics as it is connected to their daily lives including other subject areas.

Unit	Concepts
Geometry	Identify two and three-dimensional figures : circle, square, rectangle, pentagon, hexagon, cube, rectangular prism, pyramid, sphere Identify attributes: number of sides, corners(vertices), edges, and faces
Measurement	Measure in inches, feet, yards, using $\frac{1}{2}$ “, $\frac{1}{4}$ “ Tell time by minute, 5 minute-interval, quarter hour, half hour, hour
Number Sense and Operations	Name and write numbers to 1000 Identify coin values Know subtraction/addition facts through 18 Subtract two 3-digit numbers; Add two 3-digit or three 2-digit numbers Identify odd and even numbers Solve problems using addition/subtraction
Patterns, Relations and Algebra	Know fact families Compare using $<$, $>$, $=$ Make coin and measurement trades
Data Analysis, Statistics and Probability	Create and interpret bar graphs Interpret circle graphs

Suggestions for Parental Involvement:

Reinforcement of the number facts, correct vocabulary for geometric figures and proper naming of large numbers: ex: 250 is “two-hundred fifty”. Play grocery store. A great parent resource is Great Source’s *Math to Know*, available on-line at www.greatsource.com.

Course Description: The ideas and concepts developed in grades k-2 are extended. The topics of whole numbers, fractions, time, measurement, geometry, statistics, probability, tables, graphs, charts, problem solving, estimation, patterns relations and functions are reinforced and extended. Multiplication and division are introduced.

Unit	Concepts
Geometry	Identify attributes and differences of two and three-dimensional figures: circle, square, rectangle, pentagon, hexagon, cube, rectangular prism, pyramid, sphere Identify the special quadrilaterals: rhombus, parallelogram, square, rectangle, and trapezoid
Measurement	Measure in inches, feet, yards, using $\frac{1}{2}$ " , $\frac{1}{4}$ " Tell time by minute, 5 minute-interval, quarter hour, half hour, hour
Number Sense and Operations	Subtraction/addition with regrouping up to 3 digits, with middle and end zeros Know multiplication facts up to 12×12 Multiply 1-digit by 3-digit number Identify multiplication and division as inverses Select and use appropriate operation to solve problems Round to nearest hundred
Patterns, Relations and Algebra	Know fact families Compare using $<$, $>$, $=$ Create, extend and describe numerical patterns
Data Analysis, Statistics and Probability	Create and interpret bar graphs Interpret circle graphs

Suggestions for Parental Involvement:

Reinforcement of the number facts for subtraction, addition and multiplication, correct vocabulary for geometric figures and proper naming of large numbers: ex: 250 is "two-hundred fifty". Great Source's *Math to Know* is a wonderful parent resource, available on-line at www.greatsource.com.

Course Description: The ultimate goal for fourth grade is that all learners value mathematics, develop self-confidence in their mathematical abilities, become problem solvers, learn to reason and communicate mathematically. This is an MCAS year.

Unit	Concepts
Geometry	Identify attributes and differences of two and three-dimensional figures: circle, square, rectangle, pentagon, hexagon, cube, rectangular prism, pyramid, sphere Identify the special quadrilaterals: rhombus, parallelogram, square, rectangle, and trapezoid
Measurement	Finding area, perimeter and volume using attributes of figures Calculate elapsed time
Number Sense and Operations	Identify place value up to millions Multiply a 3-digit number by 3-digit number Multiply using compatible numbers Divide a 3-digit number by a one-digit number with zeros and/or remainders (5-step method) Understand meaning of fractions, equivalence, and relative size of fractions Add/subtract fractions with like denominators Utilize multiplication and division as inverses Select and use appropriate operation to solve problems Round whole numbers
Patterns, Relations and Algebra	Know fact families for multiplication and division Compare using $<$, $>$, $=$ for whole and fractional numbers Create, extend and describe numerical patterns Graph points on the Cartesian plane
Data Analysis, Statistics and Probability	Create and interpret bar graphs Interpret circle graphs

Suggestions for Parental Involvement:

Reinforcement of the number facts for subtraction, addition and multiplication, correct vocabulary for geometric figures and proper naming of large numbers: ex: 250 is “two-hundred fifty”. Try to find natural opportunities for comparing relative size of fractions such as cooking, cutting up pizzas, etc. A wonderful parent resource is Great Source’s *Math to Know* available on-line

Course Description: The purpose of the fifth grade math program is to build computational competence through a variety of practice techniques and consistent reviews, to increase the students' ability to reason mathematically and improve problem solving techniques using a variety of strategies, to provide for frequent use of calculators and current technology, to enable students to incorporate mental math and estimation, and to make mathematics relevant to real life situations. Students will be encouraged to be actively engaged in sharing and communicating with other students as they think, talk, and write in mathematics.

Unit	Concepts
Geometry	Identify polygons by properties Identify three-dimensional shapes by properties
Measurement	Find area and perimeter of rectangles
Number Sense and Operations	Identify place value to billions and thousandths Represent and compare very large and very small numbers in expanded notation($9 \times 100 + 3 \times 10 + 5$) Find equivalent fractions, mixed numbers and decimals Locate fractions, mixed numbers and decimals on the number line Select and use appropriate operation to solve problems Accurately and efficiently add, subtract, multiply and divide (with double digit divisors) whole numbers Proficiently add and subtract fractions with like denominators Estimate reasonableness of answers.
Patterns, Relations and Algebra	Represent situations with concrete models, tables, graphs and rules (in words or symbols) Introduce letter and number substitutions
Data Analysis, Statistics and Probability	Find the mean, median and mode of data set Predict probability of simple outcomes (rolling a dice, etc) Interpret stem and leaf, line and circle plots

Suggestions for Parental Involvement:

Reinforcement of the number facts for subtraction, addition, multiplication and division,. Correct vocabulary for geometric figures and proper naming of small numbers: ex: 0.25 is "twenty-five hundredths". Great Source has wonderful parent resources on-line, *Math at Hand*, available at www.greatsource.com.