Math Expectations for 4th Grade

In 4th grade, your child will gain important new skills while continuing to build on what he or she learned the previous year. One of the main areas studied in 4th grade is arithmetic and applying it to solve problems. This is an important life skill, and your child should make significant strides in this area during the year. Your child will also build knowledge and skills with fractions to prepare for mastering this topic in 5th and 6th grades. These skills will help ensure your child is ready for algebra and advanced math.

Operations and Algebraic Thinking

By the end of fourth grade your student should be able to:

- ✓ Talk about a multiplication equation as a comparison such as 35 is 5 times as many as 7 and 7 times as many as 5 (35=5+5+5+5+5+5+5 or 35=7+7+7+7+7)
- ✓ Use multiplication and division to solve word problems
- ✓ Set up equations including variables (5 x n=35)
- ✓ Solve multi-step word problems using the four operations (+, -, x, ÷) and represent these problems using a letter for the unknown number
- ✓ Interpret remainders, estimate, and round off
- ✓ Find all factors pairs for a whole number 1 – 100 and tell if it is prime or composite
- ✓ Tell about a number or shape pattern that follows a given rule (3,6,9,12, Rule +3)

Number and Operations in Base Ten

By the end of fourth grade your student should be able to:

- ✓ Identify the value of digits in a multi-digit whole number less than or equal to 1,000,000
- ✓ Read, write, and compare (<, >, =) multi-digit whole numbers using…
  - o Base-ten numerals
  - o Number names
  - o Expanded form
- ✓ Round a multi-digit whole number to any place value
- ✓ Add and subtract multi-digit whole numbers easily
- ✓ Multiply, illustrate, and explain whole numbers
  - o Up to four digits by one digit
  - o Two digits by two digits
- ✓ Divide, illustrate, and explain whole numbers that have up to four digit dividends and one digit divisors (including remainders)

Number and Operations Fractions

By the end of fourth grade your student should be able to:

- ✓ Use fraction models to explain why fractions are equivalent and create equivalent fractions using multiplication (e.g. 1/3 =2/6)
- ✓ Compare two fractions with different numerators and denominators by converting to equivalent fractions with common denominators
- ✓ Add and subtract fractions with like denominators (2, 3, 4, 5, 6, 8, 10,12, 100)[e.g. 1/4 + 2/4 = ¾ or 5/7 – 2/7 = 3/7]
- ✓ Break a fraction down into its parts and explain it (e.g. 3/8 = 1/8 + 1/8 +1/8)
- ✓ Add and subtract mixed numbers with like denominators (e.g. 2 and 1/8 + 3 and 2/8 = 5 and 3/8)
- ✓ Add and subtract fractions with like denominators in word problems
- ✓ Understand a fraction as a multiple of 1 over its denominator (e.g. 5/4 = 5 x 1/4)
- ✓ Multiply a fraction by a whole number (e.g. 3 x 2/5 – 3 x 2/5 = 6/5)
- ✓ Multiply fractions in word problems
- ✓ Add equivalent fractions with denominators 10 or 100
- ✓ Compare two decimals to the hundredths place and prove my comparison

Measurement and Data

By the end of fourth grade your student should be able to:

- ✓ Express measurement using (km, m, cm) (kg, g) (lb, oz) (l, ml) and (hr, min, sec)
- ✓ Convert and record measurement from a larger unit into a smaller unit
- ✓ Add, subtract, multiply, or divide to solve word problems with measurement of all types (elapsed time, distance, liquid volumes, mass and money)
- ✓ Apply the area and perimeter formulas for rectangles
- ✓ Create line plots with fractions and use the information to solve addition and subtraction problems
- ✓ Recognize angles and understand how to measure them in degrees
- ✓ Measure and draw angles using a protractor
- ✓ Use the angle measurements of part of the figure to find the sum of the whole figure

Geometry

By the end of fourth grade your student should be able to:

- ✓ Draw and identify points, lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines, and parallel lines
- ✓ Classify two-dimensional figures based on their attributes (parallel, perpendicular, right angles)
- ✓ Find and draw lines of symmetry for two-dimensional figures