Fourth Grade Mathematics Indicators
Class Summary

Fourth Grade																								
	Assessment	**Type of Intervention**																						
Number, Number Sense and Operations Standard																								
Number and Number System																								
1																								
Identify and generate equivalent forms of fractions																								
and decimals. Ex:																								
a) Connect physical, verbal and symbolic																								
representations of fractions, decimals and whole																								
numbers; e.g., 1/2, 5/10, "five tenths," 0.5,																								
shaded rectangles with half, and five tenths.																								
b) Understand and explain that ten tenths is the same																								
as one whole in both fractions and decimal form.																								
2																								
Use place value structure of the base-ten number																								
system to read, write, represent and compare whole																								
numbers through millions and decimals through																								
thousandths.																								
3																								
Round whole numbers to a given place value.																								
4																								
Identify and represent factors and multiples of whole																								
numbers through 100, and classify numbers as prime																								
or composite.																								
5																								
Use models and points of reference to compare																								
commonly used fractions.																								

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	Assessment	Types of Intervention
Meaning of Operations		
6		
Use associative and distributive properties to simplify		
and perform computations; e.g., use left to right		
multiplication and the distributive property to find an		
exact number without paper and pencil, such as 5x47 =		
5x40 + 5x7 = 200+35 =235.		
7		
Recognize that division may be used to solve different		
types of problem situations and interpret the meaning		
of remainders; e.g., situations involving measurement,		
money.		
Computation and Estimation		
8		
Solve problems involving counting money and		
making change, using both coins and paper bills.		
9		
Estimate the results of computations involving whole		
numbers, fractions and decimals, using a variety of		
strategies.		
10		
Use physical models, visual representations, and		
paper and pencil to add and subtract decimals and		
commonly used fractions with like denominators.		
11		
Develop and explain strategies for performing		
computations mentally.		

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	Assessment	Types of Intervention																						
12																								
Analyze and solve multi-step problems involving addition, subtraction, multiplication and division using an organized approach, and verify and interpret results with respect to the original problem.																								
13																								
Use a variety of methods and appropriate tools for computing with whole numbers; e.g., mental math, paper and pencil, and calculator.																								
14																								
Demonstrate fluency in adding and subtracting whole numbers and in multiplying and dividing whole numbers by 1- and 2- digit numbers and multiples of ten.																								
Measurement Standard																								
Measurement Units																								
1																								
Relate the number of units to the size of the units used to measure an object; e.g., compare the number of cups to fill a pitcher to the number of quarts to fill the same pitcher.																								
2																								
Demonstrate and describe perimeter as surrounding and area as covering a two-dimensional shape, and volume as filling a three-dimensional object.																								

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	Assessment	Types of Intervention																						
3																								
Identify and select appropriate units to measure:																								
a) perimeter - string or links (inches or centimeters).																								
b) area - tiles (square inches or square centimeters).																								
c) volume - cubes (cubic inches or cubic centimeters).																								
Use Measurement Techniques and Tools																								
4																								
Develop and use strategies to find perimeter using																								
string or links, area using tiles or a grid, and volume																								
cubes; e.g., count squares to find area of regular or																								
irregular shapes on a grid, layer cubes in a box to																								
find its volume.																								
5																								
Make simple unit conversions within a measurement																								
system; e.g., inches to feet, kilograms to grams,																								
quarts to gallons.																								
6																								
Write, solve and verify solutions to multi-step																								
problems involving measurement.																								
Geometry and Spatial Sense Standard																								
Characteristics and Properties																								
1																								
Identify, describe and model intersecting, parallel and																								
perpendicular lines and line segments; e.g., use straws																								
or other material to model lines.																								

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	Assessment	Types of Intervention
2		
Describe, classify, compare and mode two- and three-		
dimensional objects using their attributes.		
3		
Identify similarities and differences of quadrilaterals;		
e.g., squares, rectangles, parallelograms and trapezoids.		
4		
Identify and define triangles based on angle measure		
(equiangular, right, acute and obtuse triangles) and		
side lengths (isosceles, equilateral and scalene		
triangles).		
Spatial Relationships		
5		
Describe points, lines and planes, and identify models		
in the environment.		
6		
Specify locations and plot ordered pairs on a coordinate		
plane, using first quadrant points.		
Transformations and Symmetry		
7		
Identify describe and use reflections (flips), rotations		
(turns), and translations (slides) in solving geometric		
problems; e.g., use transformations to determine if		
2 shapes are congruent.		

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	Assessment	Types of Intervention
Visualization and Geometric Models		
8		
Use geometric models to solve problems in other areas of mathematics, such as number (multiplication/ division) and measurement (area, perimeter, border).		
Patterns, Functions and Algebra Standard		
Use Patterns, Relations and Functions		
1		
Use models and words to describe, extend and make generalizations of patterns and relationships occurring in computation, numerical patterns, geometry, graphs and other applications.		
2		
Represent and analyze patterns and functions using words, tables and graphs.		
Use Algebraic Representation		
3		
Construct a table of values to solve problems associated with a mathematical relationship.		
4		
Use rules and variables to describe patterns and other relationships.		
5		
Represent mathematical relationships with equations or inequalities.		

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	Assessment	Types of Intervention
Analyze Change		
6		
Describe how a change in one variable affects the value		
of a related variable: e.g., as one increases the other		
increases or as one increases the other decreases.		
Data Analysis and Probability Standard		
Data Collection		
1		
Create a plan for collecting data for a specific purpose.		
2		
Represent and interpret data using tables, bar graphs,		
line plots and line graphs.		
3		
Interpret and construct Venn diagrams to sort and		
describe data.		
4		
Compare different representations of the same data to		
evaluate how well each representation shows important		
aspects of the data, and identify appropriate ways to		
display the data.		
5		
Propose and explain interpretations and predictions		
based on data displayed in tables, charts and graphs.		

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	Assessment	Types of Intervention
Statistical Methods		
6		
Describe the characteristics of a set of data based on a graphical representation, such as range of the data, clumps of data, and holes in the data.		
7		
Identify the median of a set of data and describe what it indicates about the data.		
8		
Use range, median and mode to make comparisons among related sets of data.		
Probability		
9		
Conduct simple probability experiments and draw conclusions from the results; e.g., rolling number cubes or drawing marbles from a bag.		
10		
Represent the likelihood of possible outcomes for chance situational e.g., probability of selecting a red marble from a bag containing 3 red and 5 white marbles.		
11		
Relate the concepts of impossible and certain-to-happen events to the numerical values of 0 (impossible) and 1 (certain).		

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	Assessment	Types of Intervention
12		
Place events in order of likelihood and use a diagram		
or appropriate language to compare the chance of each		
event occurring: e.g., impossible, unlikely, equal,		
likely, certain.		
13		
List and count all possible combinations using one		
member from each of several sets, each containing		
2 or 3 members; e.g., the number of possible outfits		
from 3 shirts, 2 shorts and 2 pairs of shoes.		