Third Grade Mathematics Indicators
Class Summary

Third Grade																								
	Assessment	**Type of Intervention**																						
Number, Number Sense and Operations Standard																								
Number and Number System																								
1																								
Identify and generate equivalent forms of whole																								
numbers; e.g., 36, 30 + 6, 9 x 4, 46-10, number of																								
inches in a yard.																								
2																								
Use place value concepts to represent whole numbers																								
and decimals using numerals, words, expanded notation																								
and physical models. Ex:																								
a) Recognize 100 means "10 tens" as well as a single																								
entity (1 hundred) through physical models and																								
trading games.																								
b) Describe the multiplicative nature of the number																								
system; e.g., the structure of 3205 as 3 x 1000																								
plus 2 x 100 plus 5 x 1.																								
c) Model the size of 1000 in multiple ways; e.g.,																								
packaging 1000 objects into 10 boxes of 100,																								
modeling a meter with centimeter and decimeter																								
strips, or gathering 1000 pop-can tabs.																								
d) Explain the concept of tenths and hundredths using																								
physical models, such as metric pieces, base ten																								
blocks, decimal squares or money.																								
3																								
Use mathematical language and symbols to compare																								
and order; e.g., less than, greater than, at most, at																								
least, <, >, =, <, >.																								

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Third Grade																								
	Assessment	**Types of Intervention**																						
4																								
Count money and make change using coins and paper																								
bills to ten dollars.																								
5																								
Represent fractions and mixed numbers using words,																								
numerals and physical models.																								
6																								
Compare and order commonly used fractions and mixed																								
numbers using number lines, models (such as fraction																								
circles or bars), points of reference (such as more or																								
less than 1/2), and equivalent forms found using																								
physical or visual models.																								
7																								
Recognize and use decimal and fraction concepts and																								
notations as related ways of representing parts of a																								
whole or a set of; e.g., 3 of 10 marbles are red can																								
also be described as 3/10 and 3 tenths are red.																								
Meaning of Operations																								
8																								
Model, represent and explain multiplication; e.g.,																								
repeated addition, skip counting, rectangular arrays and																								
area model. Ex:																								
a) Use conventional mathematical symbols to write																								
equations for word problems involving																								
multiplication.																								
b) Understand that, unlike addition and subtraction,																								
the factors in multiplicationand division may have																								
different units; e.g., 3 boxes of 5 cookies each.																								

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Third Grade																								
	Assessment	**Types of Intervention**																						
9																								
Model, represent and explain division; e.g., sharing																								
equally, repeated subtraction, rectangular arrays and																								
area model. Ex:																								
a) Translate contextual situations involving division																								
into conventional mathematical symbols.																								
b) Explain how a remainder may impact an answer in																								
a real-world situation; e.g., 14 cookies being																								
shared by 4 children.																								
10																								
Explain and use relationship between operations																								
such as:																								
a) Relate addition and subtraction as inverse																								
operations;																								
b) Relate multiplication and division as inverse																								
operations;																								
c) Relate addition to multiplication (repeated addition);																								
d) Relate subtraction to division (repeated subtraction).																								
11																								
Model and use the commutative and associative																								
properties for addition and multiplication.																								
Computations and Estimation																								
12																								
Add and subtract whole numbers with and without																								
regrouping.																								
13																								
Demonstrate fluency in multiplication facts through																								
10 and corresponding division facts.																								

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Third Grade																								
	Assessment	**Types of Intervention**																						
14																								
Multiply and divide 2- and 3- digit numbers by a																								
single-digit number, without remainders for division.																								
15																								
Evaluate the reasonableness of computations based																								
upon operations and the number involved; e.g.,																								
considering relative size, place value and estimated.																								
Measurement Standard																								
Measurement Units																								
1																								
Identify and select appropriate units for measuring:																								
a) length - miles, kilometers and other units of																								
measure as appropriate;																								
b)volume (capacity) - gallons;																								
c) weight - ounces, pounds, grams, or kilograms;																								
d) temperature - degrees (Fahrenheit or Celsius).																								
2																								
Establish personal or common referents to include																								
additional units; e.g., a gallon container of milk;																								
a postage stamp is about a square inch.																								
3																								
Tell time to the nearest minute and find elapsed time																								
using a calendar or a clock.																								
4																								
Read thermometers in both Fahrenheit and Celsius																								
scales.																								

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Third Grade																							
	Assessment	**Types of Intervention**																					
Use Measurement Techniques and Tools																							
5																							
Estimate and measure length, weight and volume																							
(capacity), using metric and U.S. customary units,																							
accurate to the nearest 1/2 or 1/4 unit as appropriate.																							
6																							
Use appropriate measurement tools and techniques to																							
construct a figure or approximate an amount of																							
specified length, weight or volume (capacity); e.g.,																							
construct a rectangle with length 2 1/2 inches and																							
width 3 inches, fill a measuring cup to the 3/4 cup																							
mark.																							
7																							
Make estimated for perimeters, area and volume																							
using links, tiles, cubes and other models.																							
Geometry and Spatial Sense Standard																							
Characteristics and Properties																							
1																							
Analyze and describe properties of two-dimensional																							
shapes and three-dimensional objects using terms such																							
as vertex, edge, angle, side and face,																							
2																							
Identify and describe the relative size of angles with																							
respect to right angles as follows:																							
a) Use physical models, like straws, to make different																							
sized angles by opening and closing the sides, not																							
by changing																							

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	Assessment	**Types of Intervention**																					
b) Identify, classify and draw right, acute, obtuse and straight angles.																							
Spatial Relationships																							
3																							
Find and name locations on a labeled grid or coordinate system; e.g., a map or graph.																							
Transformations and Symmetry																							
4																							
Draw lines of symmetry to verify symmetrical two-dimensional shapes.																							
Visualization and Geometric Models																							
5																							
Build a three-dimensional model of an object composed of cubes; e.g., construct a model based on an illustration or actual object.																							
Patterns, Functions and Algebra Standard																							
Use Patterns, Relations and Functions																							
1																							
Extend multiplicative and growing patterns, and describe the pattern or rule in words.																							
2																							
Analyze and replicate arithmetic sequences with and without a calculator.																							
3																							
Use patterns to make predictions, identify relationships, and solve problems.																							

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	Assessment	Types of Intervention																					
Use Algebraic Representations																							
4																							
Model problem situations using objects, pictures,																							
tables, numbers, letters and other symbols.																							
5																							
Write, solve and explain simple mathematical																							
statements, such as 7 + ☐ > 8 or ☐ = 8 = 10.																							
6																							
Express mathematical relationships as questions and																							
inequalities.																							
Analyze Changes																							
7																							
Create tables to record, organize and analyze date to																							
discover patterns and rules.																							
8																							
Identify and describe quantitative changes, especially																							
those involving addition and subtraction; e.g., the																							
height of water in a glass becoming 1 centimeter lower																							
each week due to evaporation.																							
Data Analysis and Probability Standard																							
Data Collection																							
1																							
Collect and organize data from an experiment, such																							
as recording and classifying observations or																							
measurements in response to a glass becoming 1																							
centimeter lower each week due to evaporation.																							

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	Assessment	**Types of Intervention**																						
2																								
Draw and interpret picture graphs in which a symbol																								
or picture represents more than one object.																								
3																								
Read, interpret and construct bar graphs with intervals																								
greater than one.																								
4																								
Support a conclusion or prediction orally and in																								
writing, using information in a table or graph.																								
5																								
Match a set of data with graphical representation																								
of the data.																								
6																								
Translate information freely among charts, tables,																								
line plots, picture graphs and bar graphs; e.g., create																								
a bar graph from the information in a chart.																								
7																								
Analyze and interpret information represented on																								
a timeline.																								
Statistical Methods																								
8																								
Identify the mode of a data set and describe the																								
information it gives about a data set.																								

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	Assessment	**Types of Intervention**																					
Probability																							
9																							
Conduct a simple experiment or simulation of a simple event, record the results in a chart, table or graph, and use the results to draw conclusions about the likelihood of possible outcomes.																							
10																							
Use physical models, pictures, diagrams and lists to solve problems involving possible arrangements or combinations of two to four objects																							