3rd Grade Math **Curriculum Focal Points**	**Grades 3, 4, 5** **Strategies**	Address these Focal Points in contexts of the Process Standards: problem solving, reasoning, communication, making connections, and designing and analyzing representations
Number and Operations: Develop an understanding of multiplication and division strategies for basic multiplication facts and related division facts. • Use properties of addition and multiplication (e.g., commutative, associative, and distributive properties) to multiply whole numbers	**<u>Number and Operations</u>** 3.a (4) Understand the place value structure of the base-ten number system and be able to represent and compare whole numbers up to 10,000 and decimals. 3.b (4, 5) Recognize equivalent representations for the same number and generate them by decomposing and composing numbers (e.g., fact family [8, 2, 4]). 3.c Develop understanding of fractions as parts of unit wholes, as part of a collection, as locations on number lines. 3.d (4) Use models, benchmarks, and equivalent forms to judge the size of fractions. 3.e Understand various meanings of multiplication and division. Multiplication is repeated addition of same number, division is repeated subtraction of same number (e.g., 2 sets of 3 or 3 sets of 2). 3.f (4, 5) Understand the effects of multiplying and dividing whole numbers. Interpreting remainders in division. Applying this to real life situations. 3.g (4, 5) Identify and use relationships between operations, such as the distributive property of multiplication over addition. 3.h (4, 5) Develop fluency with basic number combinations for multiplication and division, and use these combinations to mentally compute related problems, such as 30 x 50. 3.i (4, 5) Develop fluency in adding, subtracting, multiplying, and dividing whole numbers.	

3rd Grade Math **Curriculum Focal Points**	**Grades 3, 4, 5** **Strategies**	Address these Focal Points in contexts of the Process Standards: problem solving, reasoning, communication, making connections, and designing and analyzing representations
Number and Operations and Algebra: Develop an understanding of fractions and fraction equivalence. • Solve problems that involve comparing and ordering fractions. • Understand meaning and uses of fractions to represent parts of a whole, parts of a set, or points or distances on a number line.	**<u>Numbers and Operations (cont'd)</u>** 3.j (4, 5) Develop and use strategies to estimate the results of whole-number computations and to judge the reasonableness of such results. 3.k (4, 5) Select appropriate methods and tools for computing with whole numbers from among mental computation, estimation, calculators, and paper and pencil according to the context and nature of the computation and use the selected method or tool. **<u>Algebra</u>** 3.l (4, 5) Describe, extend, and make generalizations about geometric and numeric patterns. 3.m (4, 5) Represent and analyze patterns and functions, using words, tables, and graphs. 3.n (4, 5) Identify such properties as commutative, associative, and distributive and use them to compute with whole numbers. 3.o (4, 5) Express mathematical relationships using equations. 3.p (4, 5) Model problem situations with objects and use representations such as graphs, tables, and equations to draw conclusions	

3rd Grade Math **Curriculum Focal Points**	**Grades 3, 4, 5** **Strategies**	Address these Focal Points in contexts of the Process Standards: problem solving, reasoning, communication, making connections, and designing and analyzing representations
Geometry: Describe and analyze properties of two-dimensional shapes. • Investigate, describe, and reason about decomposing, combining, and transforming polygons to make other polygons. • Describe, analyze, compare, and classify two-dimensional shapes by their sides and angles to connect attributes to definition of shapes.	**<u>Geometry</u>** 3.q (4, 5) Identify, compare, and analyze attributes of two- and three-dimensional shapes and develop vocabulary to describe the attributes. 3.r (4, 5) Classify two- and three-dimensional shapes according to their properties and develop definitions of classes of shapes such as triangles and pyramids. 3.s (4, 5) Investigate, describe, and reason about the results of subdividing, combining, and transforming shapes. 3.t (4) Explore congruence and similarity. 3.u (5) Make and test conjectures about geometric properties and relationships and develop logical arguments to justify conclusions. 3.v Make and use coordinate systems to specify locations and to describe paths. 3.w (5) Build and draw geometric objects. 3.x (5) Create and describe mental images of objects, patterns, and paths. 3.y (4, 5) Use geometric models to solve problems in other areas of mathematics, such as number and measurement. 3.z (4, 5) Use geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom or in everyday life.	

3rd Grade Math Curriculum Focal Points	**Grades 3, 4, 5 Strategies**	Address these Focal Points in contexts of the Process Standards: problem solving, reasoning, communication, making connections, and designing and analyzing representations
	Measurement 3.aa (4) Understand such attributes as length, area, weight, volume, and size of angle and select the appropriate type of unit for measuring each attribute. 3.bb (4, 5) Carry out simple unit conversions, such as from centimeters to meters, within a system of measurement. 3.cc (4) Explore what happens to measurements of a two-dimensional shape such as its perimeter and area when the shape is changed in some way. 3.dd (4, 5) Develop strategies for estimating the perimeters, areas, and volumes or irregular shapes. 3.ee (4, 5) Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles. 3.ff (4, 5) Select and use benchmarks to estimate measurements. **Data Analysis and Probability** 3.gg (4, 5) Design investigations to address a question and consider how data-collection methods affect the nature of the data set. 3.hh (4, 5) Collect data using observations, surveys, and experiments. 3.ii (4, 5) Represent data using tables and graphs such as line plots, bar graphs, and line graphs.	

3rd Grade Math Curriculum Focal Points	**Grades 3, 4, 5 Strategies**	Address these Focal Points in contexts of the Process Standards: problem solving, reasoning, communication, making connections, and designing and analyzing representations
	Data Analysis and Probability (cont'd) 3.jj (4, 5) Describe the shape and important features of a set of data and compare related data sets, with an emphasis on how the data are distributed. 3.kk (4, 5) Compare different representations of the same data and evaluate how well each representation shows important aspects of the data – average (mean). 3.ll (4, 5) Propose and justify conclusions and predictions that are based on data and design studies to further investigate the conclusions or predictions.	