Cliffside Park Public Schools

	September	October	November	December	January	February	March	April	May	June

DISTRICT MAP OF MATH TOPICS

	September	October	November	December	January	February	March	April	May	June
GRADE K UNITS OF STUDY & BENCHMARKS	**Position & Classify** -identify: Top, middle, bottom Inside & Outside Left & Right Same & Different	**Sorting:** -by 1 & 2 attributes, -use more and fewer to compare groups of objects -sort basic shapes	**Data & Graphs:** -make picture graphs Make bar graphs **Patterns:** -finding, copying & extending patterns **Numbers:** -count, read and write numbers to 5 -compare and order numbers to 5	**Numbers to 10:** -count, read 7 write numbers to 10 -compare and order numbers to 10 -use ordinal numbers to 10^{th}	**Numbers to 20:** -count, read and write numbers to 20 -compare and order numbers to 20 -Skip counting: -by 2s & 5s to 50 -Place Value: -tens & ones -more & fewer	**Numbers to 100:** -count, read, and write numbers to 50 -compare and order numbers to 50 -count by 1s, 5s, 10s to 100 Estimation	**Money:** -identify coins & dollar bills -identify value **Measurement** – find longer & shorter of 2 objects -measure using nonstandard units -explore capacity, weight, & temperature **Time**: -identify months & days -to ½ hour and hour **Sequencing:** -to order events using logical reasoning	**Addition Concepts:** -to 10 – with and without pictures -horizontal & vertical addition	**Subtraction Concepts**: from 10 – with and without pictures -horizontal & vertical subtraction	**Geometry:** -sort solid figures -relate plane figures & solid figures -explore: equal parts, equal groups and halves **Review**

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GRADE 1 UNITS OF STUDY & BENCHMARKS	**Numbers to 20:** -to count, read and write numbers to 20 -compare numbers: more/fewer -compare data **Addition Concepts:** - to add sums to 8	**Addition Strategies and Facts to 12:** -Addition: 3 numbers Doubles Doubles + 1	**Subtraction Concepts:** -Subtract from 5,6,7,8 -Use subtraction to compare -use addition to check subtraction **Subtraction Strategies and Facts to12:** -count back to subtract -use doubles to subtract -subtract from 12 -fact families	**Data & Graphs:** -record and sort data -Represent data using picture and bar graphs -Use tally marks and tables	**Place Value & Patterns:** -use place value to 100 -read and write numbers to 100 -compare numbers to 100 -recognize odd & even numbers -use number patterns	**Addition & Subtraction Strategies and Facts to 20:** -add & subtract patterns based on 10 -add facts to 20 -subtract facts to 20 -add 3 numbers in any order	**Money:** -use mixed coins -make equal amounts using different groups of coins -add & subtract money **Time:** -tell time to the half hour -find elapsed times -read calendar (date, day of the week, month, year)	**Fractions:** -recognize fractions of a group, and fractions of the whole (½, ¼, 1/3, 1/6) -understand that fractions may make a whole -make simple predictions: "Certain, maybe, impossible"	**Addition and Subtraction 2-digit Numbers:** -with and without Regrouping -Relate addition and subtraction; use addition to check subtraction	**Measurement:** -measure length -measure capacity -measure weight and mass -measure temperature **Geometry:** -Position & Direction -identify cones, cubes, cylinders, pyramids, prisms, and spheres -categorize and classify 2 & 3-dimensional figures

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GRADE 2 UNITS OF STUDY & BENCHMARKS	**Addition & Subtraction Strategies** -to add and subtract facts to 12 without regrouping	**Addition & Subtraction :** -to add and Subtract facts to 20 without regrouping -to identify place Value -to count, read and write to show numbers to 100 -to Estimate -to identify Odd & Even Numbers	**Telling Time:** -to the hour -t o the half hour -to quarter hour - using 5 minute increments. -find elapsed time -to read a calendar	**Regroupjng:** -to add2-digit numbers with regrouping -to subtract 2-digit numbers with regrouping	**Money:** -to add coins using quarters, dimes and nickels	**Data & Graphs**: -to compare bar graphs, line graphs and picture graphs	**Measurement:** -to measure using customary: inch, foot, yard, cup, pint, quart, ounce, pound, perimeter, area, fahrenheit, -Metric: measure using centimeter, meter, gram, kilogram, celcius **Geometry:** using shapes	**Fractions:** -to identify fractional parts of a group and a whole **Probability:** - to identify likely & unlikely events	**Place Value:** -to identify place value to 1,000 **Addition & Subtraction of 3-digit Numbers** – to add and subtract correctly with and without regrouping	**Multiplication & Division:** -to multiply and divide numbers: 2,3,5 and 10 Review as needed

GRADE 3 UNITS OF STUDY & BENCHMARKS	**Place Value:** -to identify place value through 100,000 **Money:** -to count money -to make change -to compare values and order	**Addition & Subtraction:** -to add and subtract whole numbers -to identify and use the properties of addition & subtraction -to find patterns in the same --to estimate sums and differences -to add and subtract with regrouping	**Time:** -to convert time between simple units -to find elapsed time **Data & Graphs:** -to make & compare line plots -to read and make bar graphs -to read and make pictographs -to find coordinates	**Multiplication Concepts & Facts:** -to multiply facts to 10 -to multiply 2 digits by 1-digit	**Division concepts & Facts:** -to divide facts to 10 -to divide 2 & 3 digits by 1 digit	**Measurement:** -to estimate measure, order and compare in customary units (length, capacity) -to convert units of length, capacity and weight -to to estimate measure, order and compare units in metric system	**Geometry:** -to classify 2 & 3 dimensional objects, lines, segments, rays, angles, polygons, triangles, quadrilaterals, congruent, symmetry, area & volume	**Fractions:** -to identify fractions, mixed numbers and equivalent fractions - to add & subtract fractions with like denominators **Probability:** -to organize results of probability experiments -to predict occurrences in an event	**Decimals:** -to add and subtract decimals -to understand relationship between fractions and decimals -to order and compare decimals	**REVIEW**

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GRADE 4 UNITS OF STUDY & BENCHMARKS	**Place value:** -identify place value through million -round whole numbers **Money:** - round money values -count and make change **Addition and subtraction:** -understand properties of addition Add & subtract whole numbers and money amounts -estimate sums and differences	**Data, Statistics and Graphing:** -tell time -find elapsed time -collect and organize data using tallies and line plots -use a line plot and find range, median and mode -read and make pictographs, bar , coordinate graphs **Multiplication and Division**: -multiply and divide facts to 12-to demonstrate use of multiplication properties	**Multiplication:** -multiply by 1-digit -multiply by 2-digits	**Division:** -divide by 1-digit -divide by 2-digits	**Measurement:** -to measure (length, weight, mass & capacity)using customary and metric units -to convert measurements -to measure everyday objects and make comparisons **Geometry:** -to classify 2 & 3 dim. figures -identify lines, segments, rays, angles -to classify triangles & quadrilaterals -identify congruent & similar 2-dimensional figures -identify symmetrical objects with bilateral or rotational symmetry -use patterns to solve problems	**Fractions & Probability:** -identify, read and write fractions -compare, order and find equivalent and simpler fractions -find probability	**Fraction Operations:** -add & subtract fractions with like denominators - add & subtract fractions with unlike denominators -to use properties to add & subtract fractions	**Relate fractions and decimals:** -identify fraction & decimal equivalents -to read & write decimals to the thousandths -compare, order & round decimals	**Decimal Operations:** -add & subtract decimals to thousandths -use properties to find sums and differences -estimate decimal sums & differnces	Review

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GRADE 5 UNITS OF STUDY & BENCHMARKS	**Place Value, Add and Subtract Whole Numbers and Decimals:** -compare & order whole numbers and decimals -add and subtract whole numbers and decimals -estimate sums and differences	**Multiply Whole Numbers and Decimals:** -multiply whole numbers and decimals up to 5 digits -Estimate products of whole numbers and decimals -Evaluate expressions with decimals	**Geometry:** -measure, draw and clarify angles -name and describe geometric figures -identify similar figures and transformations -find unknown angles of figures	**Perimeter, Area and Volume:** -measure, draw and classify angles -name and describe geometric figures -identify similar figures and transformations Find unknown angle of a figure	**Divide Whole Numbers and Decimals:** -divide by 10, 100, 1000 -divide whole numbers and decimals -Estimate quotients	**Data, Statistics, and Graphs/ Number Theory and Fraction Concepts:** -read and interpret data -organize and display data Find range, median, mode Identify prime and composite numbers Find common factors and multiples -simplify fractions & mixed numbers -compare and order fractions and mixed numbers	**Add and subtract Fractions/ Multiply and Divide Fractions:** -add and subtract fractions and mixed numbers -use addition properties -estimate sums and differences of mixed numbers -multiply fractions and mixed numbers -estimate products of fractions and mixed numbers Use properties of multiplication -divide fractions and mixed numbers	**Multiply and Divide Fractions/ Measurement:** -multiply fractions and mixed numbers -estimate products of fractions and mixed numbers Use properties of multiplication -divide fractions and mixed numbers -change units of time and find elapsed time -estimate length, volume, weight, mass and temperature -measure length -change from one unit to another	**Integers/ Algebra: Expression and Equations:** -change units of time and find elapsed time -estimate length, weight, mass, and temperature -measure length -change from one unit to another -compare and order integers -add integers -subtract integers	**Ratio and Probability/ Percents:** -find equivalent ratios -use scale drawings and maps -find probability of an event -change numbers between percents, decimals, and fractions -find a percent of a whole number -find the percent one number is of another -interpret and make circle graphs

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GRADE 6 UNITS OF STUDY & BENCHMARKS	**Decimals:** -compare, order, round whole numbers & decimals -add & subtract, multiply & divide whole numbers & decimals -estimate sums and differences -write & evaluate expressions -use exponents -estimate products & quotients	**Data:** -read & interpret data in a graph Organize & display data in a table or graph Find range, median, mode for data **Number Theory & Fraction Concepts:** -Identify prime & composite numbers Find least common denominator of fractions Simplify fractions & mixed numbers Compare & order fractions & mixed numbers	**Fractions:** -add & subtract fractions & mixed numbers -use properties of addition -estimate sums and differences of mixed numbers -multiply fractions & mixed numbers -estimate products of fractions & mixed numbers -identify & use properties of multiplication	**Fractions:** -divide fractions & mixed numbers **Measurement:** -estimate length, capacity, weight, temperature & mass Choose appropriate units of measurement -measure length -change between units of length, capacity, weight, temperature and mass	**Algebra:** -write and evaluate algebraic expressions -use order of operations to evaluate expressions -represent situations -write and solve equations	**Geometry:** -measure, draw and classify angles -identify, classify , describe geometric figures -identify congruent and similar figures -identify transformations of figures -find the missing angle of a triangle or quadrilateral	**Perimeter, Area & Volume :** -find perimeter and circumferences -find area -find surface area -find volumes	**Ratios & Proportions:** -use rates and unit prices -use proportions **Percents:** -relate percents, fractions & decimals -find a percent of a number and what percent one number is of another -calculate sales tax, discounts, and interest -interpret and make circle graphs	**Using Percent:** -interpret and make circle graphs -find percents **Probability:** -find the probability of an event -find the probability that either of 2 events will occur -use tree diagrams and find probability that 2 events will occur	**Integers and Rational Numbers:** -compare and order integers & rational numbers -add, subtract, multiply & divide rational numbers -graph ordered pairs and functions in 4 quadrants – solve equations using integers
GRADE 7 UNITS OF STUDY & BENCHMARKS	Number & Numerical Operations: -To identify Rational Number, Percents (%), Exponents, Roots	Making Proportions and Percents -To estimate square and cube roots of numbers	Describe, extend and evaluate patterns involving: Rational numbers Whole numbers Integers Function Graphs: rates of change	Modeling: -To Analyze functional relationships to explain how a change in quantity results n a change of another using charts, pictures, graphs and equations Procedures: Solve simple linear equations	Polygons: -to understand and apply properties -to use a coordinate grid to model and quantify transformations	Calculate measurements in word problems -To Find perimeter and area of geometric figures	Measurement: -to find volume of prisms and cones	Data: -To select and useto make decisions Probability: -To interpret as ratios, percents and decimals	Permutations -To use vertex-edge graphs to represent and solve problems	Review As pre teacher re-commendation

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GRADE 8 UNITS OF STUDY & BENCHMARKS NJCCCC	Number System: Extend understanding of Compare and order numbers Write equivalent forms of the same number	Estimate square roots and cube roots Explain procedures for Calculators Solve problems using properties and percents	Pythagorean Theorem: Properties of polygons Tesselation Similarity Model and quantify transformations	Solve measurement problems Surface area and volume formulas	Recognize, extend and create patterns with whole numbers, rational numbers, integers using tables, rules, graphys, equations and expressions	Graph functions and relationships Analyze relationships to explain how a change in one can result in a change in another	Solve simple linear equations	Measures of central tendency, box and whisker plots, scatter plots, surveys and samplings Interpret probability; determine probability	Permutations, factorial notations Use vertex edge graphs and algorithmic thinking to find solutions to practical problems	Review As pre teacher re-commendation
ONGOING – ALL GRADES	**C O M P U T A T I O N A L F L U E N C Y** **S P I R A L I N G (Through daily review)** **P R O B L E M O F T HE D A Y (use strategies to solve problems)**									