Complete Grade 3

Scope and Sequence



Complete Math Grade 3

Complete Math for Grade 3 is a comprehensive (400+ activities) Mathematics program designed to give students all of the mathematical skills required for mastery to the end of Grade 3. Each component of the program uses hundreds of activities to build skills gradually and sequentially. Auditory instructions, help buttons and rule files ensure that students will navigate the activities easily, independently and at their own level of ability. A wide variety of reward and reinforcements keep the students engaged and motivated to succeed while they develop academic self confidence.



Teacher Dashboard

Using the Teacher Dashboard, a teacher can assign program pretests to individual students, or an entire class. Based on pretest results, the Teacher Dashboard will create an individualized program to target each student's skill deficits. It's completely automated and provides a highly efficient way to tailor instruction to meet specific learning needs. It provides individualized student instruction in a way that is not otherwise possible given limited time & resources.

- · Pretests automatically assess the skill and ability levels of each student
- Automatic creation of an individualized program for each student's specific needs
- Teachers also retain the ability to customize all programs to meet instructional needs
- New "Hot Spots" report quickly identifies areas of student difficulty
- New "Skills" report relates all activities to specific curriculum outcomes
- Stores student marks and progress in one central location for all programs
- · Creates and prints reports quickly and easily for sharing with parents and staff

Program Layout

Numeration
 Patterning
 Measurement
 Geometry
 Data Management
 Probability
 Problem Solving

Targeted Skills

Numeration Measurement Patterning Geometry Data Management Probability Problem Solving

1. NUMERATION

1 - Working with Numbers

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Where is the Number			
Find the Number			
Where is the Number Now	Click on the number you hear on the number line.	Locate whole numbers to 100 on a number line.	
Number Lines by 2's Number Lines by 5's Number Lines by 10's			
Number Patterns	Type the number that is missing in each sequence of numbers.	Complete basic patterns.	CCSS.Math.Content.2.NBT.A1 Understand that the three digits of a three-digit number represent amounts
Count by 1's to 1000	Type the missing numbers.	Count by 1's to 1000.	of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. CCSS.Math.Content.2.NBT.A.2 Count within 1000; skip-count by 5s, 10s, and
Find the Picture	Color the number squares in order to make a pattern or picture.	Count by 1's to 1000.	
Skip Count Forwards by 2, 5, 10, 25 & 100 Skip Count Backwards by 2, 5, 10, 25, 100	Type the missing numbers.	Count by 2's, 5's, 10's, 25's and 100's to 1000. Count backwards by 2's, 5's, 10's, 25's, and 100's from 1000.	100s. CCSS.Math.Content.2.NBT.A.3 Read and write numbers to 1000 using base- ten numerals, number names, and expanded form.
Find the Place Value Building Blocks Type the Number Building Numbers	Look at the number given and break it down by place value into 10's and 1's.	Represent two digit numbers in terms of place value - tens and ones.	
Number Match Type the Numeral Copy the Number Word Type the Number Word	Type the number word for each numeral.	Read and print number words 1 to 100.	

2 - Comparing

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Compare	Look at the number given and then click on the tens and ones boxes to make the number.	Represent two digit numbers in terms of place value - tens and ones for numbers 1 to 1000.	
Biggest Number	Click on the biggest number.		
Smallest Number	Click on the smallest number.	Compare numbers and identify which	
Pick the Middle Number	Click on the middle number.	number has the greatest or smallest value for numbers 1 to 1000.	CCSS.Math.Content.2.NBT.A.4
Find the in Between Number	Pick the number that belongs in between the other two.		Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and <
From Smallest to Biggest	Type the numbers in order from smallest to largest.		symbols to record the results of
Choose the Correct Sign			CCSS.Math.Content.3.NBT.A.1 Use place value understanding to round
Hungry Alligator	Compare the numbers and click on the correct sign.	Understand greater than, less than, and equal signs and apply them to	
Bigger, Smaller or Same As		pairs of numbers 1 to 1000.	
Rounding to 10s	Round the number to the nearest 10. Type the correct answer.	Understand the principles of rounding.	
Rounding to 100s	Round the number to the nearest 100. Type the correct answer.	Round basic numbers to 10s and 100s.	whole numbers to the nearest 10 or 100.

3 - Addition Facts

4 - Subtraction Facts

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Add / Sub Facts (9 activities - # 2-9 Facts)		Addition: 2 digits to 1 digit.	
Add / Sub Facts (10 activities - # 10-19 Facts)		Addition: 3 digits to 1 digit Addition: 2 digits to 2 digits.	
Two Digit Add / Sub Number Line (3 activities)		Addition: 3 digits to 2 digits.	CCSS.Math.Content.3.NBT.A.2 Fluently
Two Digit Add / Sub (3 activities)	Type the correct answer for various addition and subtraction problems.	Subtraction: 1 digit from 2 digit.	add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and
Three Digit Add / Sub Add 1, 2, 3 Digit Number (3 activities)		Subtraction: 1 digit from 3 digits. Subtraction: 2 digits from 2 digits.	subtraction.
Three Digit Add / Sub Regrouping 1, 2, 3 Digit Number (3 activities)		Subtraction: 2 digits from 3 digits Subtraction: 3 digits from 3 digits.	
Missing Term - Picture Term			CCSS.Math.Content.3.OA.D.8 Solve two-
Missing Term - Using Numbers	Type the missing number and press enter.	Determine the value of a missing term in a simple addition or subtraction equation.	step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

5 - Multiplication 6 - Division

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Multiplication / Division Review			CCSS.Math.Content.3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be
Multiply / Divide Machine			expressed as 5 × 7.
Multiply / Divide Chart	Type the answer for each question.	Multiplication and division facts to 49.	CCSS.Math.Content.3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.
Multiply / Divide Practice			CCSS.Math.Content.3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
Multiplication Order (3 activities)	Various activities on the commutative property of multiplication.	Understand the commutative property of multiplication.	CCSS.Math.Content.3.OA.B.5 Apply properties of operations as strategies
Multiplying Three Numbers	Follow the directions to learn to multiply three numbers.	Understand how to multiply three numbers together.	to multiply and divide.
Division Missing Term	Fill in the blanks in two sets of equations which show division and multiplication as opposites.	Understand that division and multiplication are opposites.	CCSS.Math.Content.3.OA.B.6 Understand division as an unknown-factor problem. CCSS.Math.Content.3.OA.B.5 Apply properties of operations as strategies to multiply and divide.
Learn to Multiply Bigger Numbers	Follow the steps to learn to multiply numbers by multiples of tens.	Understand how to multiply single digit numbers by	CCSS.Math.Content.3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies
Multiply Big Numbers	Practice multiplying numbers by multiples of tens.	multiples of tens.	based on place value and properties of operations.

7 - Money

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Building Sentences	Type the number of dollars and cents for the amount of	Understand decimal notation	
Building Prices	money shown.	for money.	
Click and Count the Coins	Click on the coins from least value to greatest in order to count them.		CCSS.Math.Content.2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies,
Count the Coins		Add and subtract money	using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3
Count the Loose Change		amounts for values up to \$10.00.	pennies, how many cents do you have?
Counting Money	Count the coins and click on the correct answer.		
Adding Money			

8 - Fractions

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Dividing into Equal Parts	Click on the checkmark if the shape is divided into equal parts.	Understand if a shane is divided into equal sections	
Which One Has Equal Parts	Click on the shape that is divided into equal parts.	Understand if a shape is divided into equal sections.	CCSS.Math.Content.3.NF.A.1
Making Fractions	Type how many equal parts are in each shape, then type how many parts are colored.	Understand how many sections a shape is divided into. Understand how many sections of a shape are highlighted.	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity
Adding Fractions	Type the denominator, then add the numerators of these two fractions.	Understand basic addition of fractions with like denominators.	formed by a parts of size 1/b.
Compare Fractions	Click on the correct sign that compares the two fractions.	Understand greater than, less than, and equal signs and apply them to pairs of basic fractions.	

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS	
Compare Decimals and Fractions	Click on the correct sign that compares the fraction to a decimal.	Understand greater than, less than, and equal signs and apply them to pairs of basic fractions and decimals.	CCSS.Math.Content.3.NF.A.2	
Compare Decimals	Click on the correct sign that compares the two decimals.	Understand greater than, less than, and equal signs and apply them to pairs of basic decimals.	Understand a fraction as a number on the number line; represent fractions on a number line diagram.	
Fractions to Decimals	Type the decimal number for each fraction.	Convert tenths decimals to fractions.		
Equivalent Fractions	Click on the fraction below that is equal to the fraction at the top.	Understand greater than, less than, and equal signs and apply them to pairs of fractions.	CCSS.Math.Content.3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	

2. PATTERNING

Patterning - 1 - What is Missing?

	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Fill in the Blanks 1	Tupo the missing numbers for each pattern		CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including
Fill in the Blanks 2	Type the missing numbers for each pattern.	Fill in a missing entry in a numerical	
Missing Number 1	Turo the mission much of far each addam	pattern.	
Missing Number 2	Type the missing number for each pattern.		
Missing Letter	Click on the letter that belongs where the X is in this pattern of letters.	Fill in a missing entry in a letter pattern in which two attributes change.	patterns in the addition table or multiplication table), and explain them using properties of operations.
Missing Shape	Look at the pattern and click on the shape that belongs in the red X.	Fill in a missing entry in a geometric pattern in which two attributes change.	

Patterning - 2 - What Comes Next?

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Arrow Patterns (2 activities)	Determine which direction arrows at various points after a given pattern will point.		
Block Patterns	Determine which colour a block would be at various points after a given pattern of blocks.	Determine the next entries for a given geometric pattern in which two attributes change.	
Clothing Pattern	Look at the pattern and select the item of clothing that comes next in the pattern.		
Number Patterns	If a pattern started at x and went down by y every time, what would the nth number be?	Datarmina a aposifia antry for a	CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including
Counting by Fives	If you are counting by fives/tens, which number	Determine a specific entry for a described numerical pattern.	patterns in the addition table or multiplication table), and explain them using properties of operations.
Counting by Tens	comes before/after x?		

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Pick the Set of Numbers	Which set of numbers follows this sequence?	Determine the next entries for a given numerical pattern.	
Next Shape	Pick the shape that comes next in the pattern.	Determine the next entry for a given geometric pattern.	
Next Number	Type the number that comes next in the pattern.	Determine the next entry for a given numerical pattern.	

Patterning - 3 - Make the Pattern

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Allowance (2 activities)	Fill in the missing values in the chart of week number and allowance amount.	Determine the next entries for a	
Eating Candy	Look at the chart of amount of candy eaten and determine how much candy is left on a given day.	given numerical pattern.	
Make a Number Pattern Part I	Enter the first five numbers of this described pattern.	Determine the first five numbers of a described numerical pattern.	CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
Make a Number Pattern Part II	Enter the lifst live numbers of this described pattern.		
Describe the Pattern 1	Match the pattern with its description by clicking on	Determine the proper description for a given numerical pattern.	
Describe the Pattern 2	the correct description for the highlighted pattern.		
Pattern Word Problems	Read the patterning word problem questions and select the correct answer.	Understand real world patterning problems and determine the proper responses.	

Patterning - 4 - Talking About Patterns

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Describe the Clothes	Pick the description that matches the pattern above.	Match a pictoral pattern with a given description.	
Pattern Match (3 activities)	Match the pattern with its description by clicking on the correct description for the highlighted pattern.	Match a numerical pattern with a given description.	
Up or Down by 10s		Determine which given numerical pattern goes up or down by 10s.	
Pick the Number Pattern	Pick the pattern that matches the description given above.	Determine which given numerical pattern matches a given description	CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including
Pick the Pattern (2 activities)			
Ratios	Complete the given ratio.	Understand the concept of a ratio and complete a given simple ratio.	patterns in the addition table or multiplication table), and explain them using properties of operations.
What is the Third Number?	Look at the description above and figure out which number would come third in the pattern.	Determine the third number in a described pattern.	
Pattern Descriptions	Pick the description that matches the pattern shown above.	Determine which description matches a given pattern.	
Which Operation?	Look at the pattern shown and pick the operation you would use to make that pattern.	Determine which operation is used to make a given numerical pattern.	
Allowance Problems	Fill in the chart below with the values that fit the description given at the top.	Read a chart depicting a numerical pattern and fill in the missing values.	

Patterning - 5 - Number Charts

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Complete the Chart	Look at the pattern on the number chart and click on the next five numbers of the pattern.	Read a numerical pattern from a hundreds chart and determine the next entries.	CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including
Word Problems	Look at the chart and answer various questions about continuing the given patterns.		patterns in the addition table or multiplication table), and explain them using properties of operations.

3. MEASUREMENT

1. Telling Time

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
How Many x in a x	Enter the number of time units that equals the other unit shown.	Understand the relationship between different units of measure	
How Many?	How many weeks, days, months, etc are in x weeks, days, months, etc.	for time and convert between them.	
Choose the Correct Time	Click on the correct time for each clock.	Pood on analog clock to the nearest	
Put the Time in the Digital Watch	Type the correct time into the digital watch.	Read an analog clock to the nearest five minutes.	CCSS.Math.Content.3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
What Time Will it Be In	Add the given time to the clock shown.	Add an amount of time to a given amount of time to the nearest five minutes.	
Word Problems	Various word problems involving adding increments of time to a given time.		
Time Charts	Fill in the chart by adding or subtracting the given time.		
Calendar	Read the calendar and answer various questions about the days of that month.	Read the day of the week, date and month from a calendar.	
What Day is It?	Type the full name of the day of the week, then type the date and month of the day that is checked on the calendar.		

2. Temperature

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Hear & Match	Click on the thermometer that matches the temperature that you hear.	Read a thermometer.	
Measure the Temperature	Type the temperature that you see.		CCSS.Math.Content.K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
What's the Difference in Temperature?	Read each of the two thermometers and identify the difference in temperature between them.	Read a thermometer and add or subtract a given number of degrees.	
Getting Warmer, Getting Colder	Add or subtract the number of degrees you hear, then click on what the new temperature should be.		

3. Length, Height & Distance

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Fill in the Blank	Enter the number of units for each unit equivalency.	Understand the relationship between different units of measure for length, height and distance and	
True or False	Answer true or false questions about the relationships between units of measure.		
Which is the Longest or Shortest?	Pick the longest or shortest measurement among different units.	convert between them.	CCSS.Math.Content.3.MD.B.4
Measure the Length	Type the correct length for each object.		Generate measurement data by measuring lengths using rulers
Track	Look at how far runners have gone on a track and answer questions about the distances between them.	Measure length using a ruler and standard units of measure.	marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—
Measure the Height	Answer questions about the height of different objects and the differences between them.	Measure height using a ruler and standard units of measure.	whole numbers, halves, or quarters.
Click the Height	Click on the shortest / tallest object.	Compare different heights.	
Travel the City	Find distances on a map.	Measure length using non-standard units.	

5 - Perimeter & Area

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Area or Perimeter	Click on the picture that shows area / perimeter.	Understand the difference between area and perimeter.	CCSS.Math.Content.3.MD.C.5 Recognize
What is the Perimeter?	What is the distance around this shape?	Measure perimeter in non-standard units.	area as an attribute of plane figures and understand concepts of area measurement. CCSS.Math.Content.3.MD.C.6 Measure
Around the Outside	Click on the perimeter of each object.	Measure perimeter in standard units.	areas by counting unit squares (square cm, square m, square in, square ft, and
Comparing Perimeters	Click on the object that has the largest perimeter.	Estimate and compare perimeters of various real world objects.	improvised units). CCSS.Math.Content.3.MD.C.7 Relate area to the operations of multiplication and addition.
Area	What is the area covered by each	Measure area in non-standard units.	CCSS.Math.Content.3.MD.D.8 Solve real
Guess the Area	shape?	Measure area in non-standard units.	world and mathematical problems involving perimeters of polygons, including finding the
Comparing Areas	Click on the object that has the most area.	Estimate and compare areas of various real world objects.	perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and
Word Problems	Calculate the area and perimeter of these objects.	Measure area in non-standard units. Measure perimeter in non-standard units.	different areas or with the same area and different perimeters.

6 - Capacity & Volume

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Order the Capacity	Click on the pictures in order from the smallest capacity to the greatest capacity.	Estimate and compare the capacities	volumes and masses of objects using standard units of grams (g),
Capacity	Click on the capacity of this object.	of various real world objects.	
Measure the Capacity	Type the amount of water in each measuring cup.	Measure capacity and volume using	kilograms (kg), and liters (l).1 Add, subtract, multiply, or divide to solve one-step word problems involving
Test Tube	Measure the amount of water in each test tube.	standard units.	drawings (such as a beaker with a measurement scale) to represent the problem.
Orange Juice	Compare the amounts of orange juice in each container.	Measure and compare volumes using standard units.	

7 - Mass

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Order the Weights	Click on the pictures from the lightest to the heaviest.	Estimate and compare the masses	CCSS.Math.Content.3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).1 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.
Guess the Weight	How much do you think this object weighs?	Of various real world objects.	
Measure the Weight	How much does this object weigh?		
How Much Does it Weigh?			
Heavier or Lighter	Does this object weigh more than x standard units?	Use a tipping scale to measure whether an object weighs more or less than a given number of standard units.	
Choose the Appropriate Unit of Weight	What is the appropriate unit of measure to measure the mass of this object.	Understand the relationships between different units of measure for mass.	

8. Measurement Review

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Measure the Length	Use the ruler and type the correct length for each object.	prrect	CCSS.Math.Content.3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
Measure the Temperature	Use the thermometer and type the correct temperature.		
Measure the Weight	Use the scale and type the correct mass for each object.		
Measure the Capacity	Use the measuring cup and type the correct volume for each cup.	Measure length, temperature, weight and capacity using standard units.	CCSS.Math.Content.3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).1 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

9 - Units of Measure

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Equal Measurements	Match the measurements in the left column with an equal measurement in the right column.		CCSS.Math.Content.3.MD.B.4 Generate measurement data by
Match the Units	Press the spacebar when you the measurement on the left equals the measurement on the right.	Understand the relationships between units of measure and	
Click the Biggest	Click on the largest unit of measure for each set.	compare different measurements.	measuring lengths using rulers marked with halves and fourths of an
Which is the Longest Measurement?	Click on the longest measurement.		 marked with haives and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters. CCSS.Math.Content.3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g),
Symbols	Match the unit symbols in the right column to the unit in the left column.	Understand the symbols of various units of measure.	
How Would You Measure?	Click in the correct column that matches the unit of measure for each word that you hear.		
Which Type of Measurement?	Click on the correct type of measurement (weight, time, volume) that matches the unit word you hear.	Understand which unit of measure is used to measure either weight, time, capacity, length, height or volume. Subtract, one-ster masses of the sa drawing	kilograms (kg), and liters (l).1 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in
Which Unit Would You Use?	Chapped the best unit of measurement to measure		the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.
Which is the Appropriate Unit of Measurement?	Choose the best unit of measurement to measure the stated measurement.		
Fill in the Missing Measurement	Complete the unit equivalency problem.	Convert a measurement from one unit of measure to another.	

4. GEOMETRY

Geometry - 1 - 2D Shapes

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Four Siders	Click on all the parallelograms / rhombuses / trapezoids.	Identify parallelograms, rhombuses and trapezoids.	CCSS.Math.Content.2.G.A.1 Recognize and draw shapes having
Shape Riddles	Click on the shape name that answers the riddle.	Recognize the properties of 2D shapes.	specified attributes, such as a given number of angles or a given number of equal faces.1 Identify triangles,
Find the Pentagons	Click on all of the pentagons.		quadrilaterals, pentagons, hexagons, and cubes.
Find the Hexagons	Click on all of the hexagons.		CCSS.Math.Content.3.G.A.1 Understand that shapes in different
Find the Octagons	Click on all of the octagons.	Identify 2D shapes.	categories (e.g., rhombuses, rectangles, and others) may share
Name the Shapes	Click on the name of the shape you see.		attributes (e.g., having four sides), and that the shared attributes can
How Many Sides	How many sides does a (hexagon, pentagon, octagon, square, trapezoid, triangle, rhombus, parallelogram) have?	Recognize the number of sides that a printed shape name has.	define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

Geometry - 2 - 3D Figures

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
What Figure is This?	Click on the name of the figure that you see.	Identify 3D figures.	CCSS.Math.Content.2.G.A.1
How Many Vertices?	How many vertices does this figure have?	Count the number of vertices of 3D figures.	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
How Many Edges?	How many edges does this figure have?	Count the number of edges of 3D figures.	

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Riddles	Click on the figure that answers the riddle.	Recognize the properties of 3D figures.	CCSS.Math.Content.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses,
Building a Figure	Which geometric shape can be made using each net?		rectangles, and others) may share attributes (e.g., having four sides),
Taking it Apart	Which net can be made by taking each geometric shape apart?	Understand that 3D figures are made up of 2D shapes and determine what	and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize
Name the Built Figure	Which geometric shape can be made using each net?	shapes are needed to build a given figure.	rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
Shapes to Figures	Look at the shapes you see. What figure could you build from these shapes?		

Geometry - 3 - Symmetry

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Is it Symmetrical?	Is this object symmetrical?		CCSS.Math.Content.3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape. CCSS.Math.Content.4.G.A.3 Recognize a line of symmetry for a
Find the Symmetrical Objects	Click on all of the symmetrical objects.	Recognize whether a given object is	
Symmetrical Letters	Is this letter symmetrical?	symmetrical or not.	
Symmetrical Letters II	Click on all of the symmetrical letters.		
Lines of Symmetry		Count the number of lines of symmetry that a given object has.	
Lines of Symmetry II	How many lines of symmetry does this object have?		two-dimensional figure as a line across the figure such that the figure
Place the Line of Symmetry	Click on the spot on each picture where you can put	Determine where a line of symmetry	can be folded along the line into matching parts. Identify line- symmetric figures and draw lines of symmetry.
Place the Line of Symmetry II	a line so that the picture will be divided symmetrically. You can rotate the line by clicking on the rotate button.	should lie on a given picture.	

Geometry - 4 - Congruence

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Are they Congruent?	Are the two shapes congruent?		CCSS.Math.Content.2.G.A.1
Are They Congruent? II	Are the two shapes congruent?		Recognize and draw shapes having specified attributes, such as a given number of angles or a given number
Pick the Congruent Shape	Click on the shape that is congruent to the colored shape.	Understand concept of congruence. Determine whether shapes are congruent or not.	of equal faces.1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. CCSS.Math.Content.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

Geometry - 5 - Mapping

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Shapes in Order	Various questions about where shapes lie in relation to each other - to the left, to the right, etc.	Describe the spatial relationship between given objects - to the left, to the right.	CCSS.Math.Content.5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate
Fun on the Grid	Which object is in a given co-ordinate? What co-ordinate is a given object in?	Read co-ordinates from a grid and	system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given
Read the Map	Various questions about which towns on the map lie in which co-ordinates and how far these squares are apart.	determine distance between given co-ordinates.	point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Rooms in the House	Look at the plan of the house and determine which room will you be in if you follow these directions from a given room?	Follow directions on a given map to determine a journey - turn right, turn left, walk forward, etc.	of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x- coordinate, y-axis and y-coordinate). CCSS.Math.Content.5.G.A.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Geometry - 6 - Flips, Slides and Turns

	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Are They Slides?	Are the shapes to the right of each colored shape slides?		
Click on the Flip (Reflection)	Click on the shape that is a flip of the colored shape.		CCSS.Math.Content.8.G.A.3 Describe the effect of dilations,
Click on the Slide	Click on the shape that is a slide of the colored shape.	Determine whether a given transformation is a flip, a turn or a slide.	
Click on the Turn	Click on the shape that is a turn of the colored shape.		translations, rotations, and reflections on two-dimensional figures using coordinates.
Flip (Reflection), Turn or Slide?	Is the gray shape a flip, a turn or a slide of the colored shape?		
Which Turn?	How far would you have to turn the red letter to the right to get the grey letter?	Determine the degree of a given turn - quarter, half, three quarters.	

5. DATA MANAGEMENT

Data Management - 1.1 - Surveying

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Good and Bad Questions	Which of the following questions will give you results that you could place on a graph?	Determine good questions for generating a finite number of responses.	CCSS.Math.Content.3.MD.B.3 Draw
Campers	Various questions about the number of campers with specific attributes in a given picture.	Gather data from pictoral evidence based on one attribute.	a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar
Drink Orders	Various questions about the number of drink orders with specific attributes in a given picture.		
Favorite CDs	Various questions about how the number specific CDs in a pile of CDs.		graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.
Fruit Survey	Various questions about the number of fruit totaled up on a tally chart.	Gather data from a tally chart.	

Data Management - 1.2 - Sorting

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Puppies	Sort the puppies into four groups.		
Shoes	Sort the shoes into four groups.	Use two attributes to sort objects.	
Cars	Sort the cars into six groups.	Use three attributes to sort objects.	CCSS.Math.Content.3.MD.B.3 Draw a scaled picture graph and a scaled
Stamps	Selena organized her stamp collection into four different categories shown in the picture. What are the attributes she used to organize the stamps this way?	Identify two attributes that were	bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using
Buttons	Look at each group of buttons and decide how they were sorted.	used to sort presorted groups.	information presented in scaled bar graphs. For example, draw a bar

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Sort into Venn Diagram	Click on the shapes and drag them to their correct locations in the Venn Diagram.	Place given objects into their	bar graph might represent 5 pets.
Numbers into Venn Diagram	Click on the numbers and drag them to their correct locations in the Venn Diagram.	appropriate spots on a Venn Diagram.	

Data Management - 1.3 - Graphing

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Favorite Days	Various questions about comparing data from a tally chart.	Read data from a tally chart.	
What is the Best Graph?	Pick which type of graph would be best for a specific surveying situation.	Determine the appropriate graph for a given situation.	CCCC Math Contant 2 MD D 2 Draw
Cars	Various questions about reading and comparing data	Read pictographs with many-to-one	CCSS.Math.Content.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar
Home Runs	from a pictograph.	correspondence.	
Favorite Seasons	Various questions about reading and comparing data	Read bar graphs with many-to-one correspondence.	
Sports Equipment	from a bar graph.		graphs. For example, draw a bar
Tally Charts	Compare the graph with the tally chart. Does the tally chart match the graph?	Determine whether a given tally chart matches a given bar graph.	graph in which each square in the bar graph might represent 5 pets.
Complete the Graph	Read the information below the graph, then drag the bars at the bottom of the screen to their proper locations on the graph.	Build a bar graph from its separate parts.	

Data Management - 1.4 - Venn Diagrams

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Pirates	Various questions about which pirate shown belongs at a certain spot in a Venn Diagram.	Read Venn Diagrams and determine where given pieces of data belong.	CCSS.Math.Content.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using
Class BBQ	Various questions about counting data on a given Venn Diagram.		
Dogs and Cats			
Glasses and Hair			information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

6. PROBABILITY

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Dice	Various questions about calculating the probability in rolling dice.	Express simple probability calculations in numerical form.	
Spinners - Which Color?	Various questions about certainty in simple spinner games.	Count and group given pictoral data as a basis for probability experiments. Predict the probability that an event will occur.	
Spinners - Should You Play?	Various questions about calculating the probability of	Express simple probability calculations	
Spinners - Chances	spinner games.	in numerical form.	CCSS.Math.Content.3.OA.D.
Fun and Games - Guess the Number	Various questions about certainty in different 'guess the number' games.		8 Solve two-step word problems using the four operations. Represent these
Fun and Games - Birthday Cake	Various questions about certainty and chance relating to a pie graph.	Count and group given pictoral data as a basis for probability experiments.	with a letter standing for the unknown quantity. Assess
Fun and Games - Sports	Various questions about certainty and chance in different sports scenarios.	Predict the probability that an event will occur.	the reasonableness of answers using mental computation and estimation
Fun and Games - Starry Sky	Various questions about certainty and chance about two people looking at the same star in the night sky.		strategies including rounding.
Eyes Closed! - Dolls	Various questions about calculating the probability of picking a certain doll from a given group.	Express simple probability calculations in numerical form.	
Eyes Closed! - Halloween Candy	Various questions about certainty and chance of picking a certain candy from a given combination of candies.	Count and group given pictoral data as a basis for probability experiments.	
Eyes Closed! - Letters	Various questions about certainty and chance of picking a certain letter out of a given bag of letters.		
Eyes Closed! - What are the Chances	Various questions about certainty and chance in different games of chance.	Predict the probability that an event will occur.	

7. PROBLEM SOLVING

1. Data Management & Probability

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS	
Basketball Probability	Various word problems about probability in a basketball game, based on player statistics.	Read word problems as a basis for probability experiments. Predict the probability that an event will occur.	CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity.	
Follow the Directions	Students have to follow directions on a given flow chart and pick from a series of destinations.	Read data from a flow chart.	Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	
How We Spend Our Days	Various questions about reading and comparing data from a bar graph with two series.	Read multiple series bar graphs with one-to-one correspondence.	CCSS.Math.Content.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories.	
Read Stem and Leaf	Various questions about reading data from a stem and leaf plot.	Read data from a stem and leaf plot.	Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example,	
Make Stem and Leaf	Students have to construct a stem and leaf plot from a given set of data.	Create a stem and leaf plot from a given set of data.	draw a bar graph in which each square in the bar graph might represent 5 pets.	
Bag of Marbles	Various problems about calculating the probability of pulling a marble out from a described bag of marbles, after a certain amount of marbles have been taken out.	Count and group given pictorial data as a basis for probability experiments. Predict the probability that an event will occur.	CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	
The Book Fair	Students have to read a chart of information about a number of books and answer a series of questions.	Read data from a simple text based data chart.	CCSS.Math.Content.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories.	
Weather Problems	Various questions about the number of rainy or sunny days over two months.	Calculate a data set from a given word problem. Compare pieces of data from this calculated set.	Solve one- and two-step "how many more" ar "how many less" problems using information presented in scaled bar graphs. For example draw a bar graph in which each square in the bar graph might represent 5 pets.	

2. Geometry

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS	
Animal Grid	Look at a given grid and describe the contents of a given co-ordinate.	Understand grid geometry.	CCSS.Math.Content.5.G.A.1 Use a pair of perpendicular number lines, called	
Math on the Grid II	From a given grid, fill in numbers from co-ordinates to solve simple math problems based on those entries.	Understand grid geometry. One digit addition & subtraction. Multiplication & division facts to 81.	axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two	
Friend Map	On a map with a grid and a compass, calculate how far a series of houses is apart, in specific directions.	Understand grid geometry. Understand the cardinal directions.	axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	
Toothpicks and Marshmallows	How many marshmallows	Understand the number of	CCSS.Math.Content.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having	
Toothpicks and Marshmallows II	and toothpicks would you need to construct a given 3D figure.	vertices and edges that various 3D figures have.	four sides), and that the shared attributes can define a larger category (e.g quadrilaterals). Recognize rhombuses, rectangles, and squares as example of quadrilaterals, and draw examples of quadrilaterals that do not belong t any of these subcategories.	
How Big is That Angle?	From a real world picture, a given angle is highlighted. Students have to determine whether the angle is greater than, less than or equal to 90 degrees.	Determine whether a given angle is greater than, less than or equal to 90 degrees.	CCSS.Math.Content.4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	
Tangrams	Click on the shapes to fit them into each tangram pattern.	Build a complex large shape from a series of given shapes.	CCSS.Math.Content.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	

3. Measurement

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Money Problems I	Various word problems involving addition and subtraction of money.	Add and subtract money up to \$50.00	CCSS.Math.Content.2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
Temperature Change	Read a thermometer and calculate what the temperature will be if it changes by a given number of degrees.	Read a thermometer to the nearest degree. Calculate a temperature change.	CCSS.Math.Content.K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
Area & Perimeter Problems	Various word problems involving area and perimeter.	Calculate perimeter in standard units. Calculate area in standard units.	CCSS.Math.Content.3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). CCSS.Math.Content.3.MD.C.7 Relate area to the operations of multiplication and addition. CCSS.Math.Content.3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Lunch House Money Problems	Given a menu, students have to answer various questions about the total cost for various combinations of items.	Count values of money and make change for up to \$25.00	CCSS.Math.Content.2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
Measure the Yard	Students have to determine the perimeter of the different parts of the yard based on a given map.	Calculate perimeter in standard units. Determine the length of various items from a map based on other items and given measurements.	CCSS.Math.Content.3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
Money Problems II	Various word problems involving addition and subtraction of money.	Add and subtract money up to \$50.00	CCSS.Math.Content.2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
Time Problems	Various word problems involving starting time and several time intervals, where students have to calculate the end time.	Add several amounts of time to a given time to calculate the ending time.	CCSS.Math.Content.3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
Time Riddles	Various riddles about equivalencies of units of time.	Understand the units of measurement for time.	
Mixed-up Measurements	Various word problems involving comparing measurements with different units.	Understand the units of measurement for time. Compare given measurement combinations.	

4. Numeration

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Big Numbers	Match entries in a column of written numbers to entries in a column of numbers.	Understand how to write numbers 1-10000.	CCSS.Math.Content.2.NBT.A1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
Numeration Tool Kit	Various word problems about names of operations and other mathematical terms.	Understand basic mathematical terms.	
Rounding Riddles	Various riddles which involve rounding numbers.	Round numbers to the nearest 10, 100 and 1000.	CCSS.Math.Content.3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.
Add & Subtract Problems	Various real-world problems which involve addition and subtraction.	3 digit addition and subtraction.	CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
Multiply & Divide Problems	Various real-world problems which involve multiplication and division.	Multiplication and division facts to 81.	CCSS.Math.Content.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. CCSS.Math.Content.3.OA.B.6 Understand division as an unknown- factor problem.

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Name Fractions	Calculate a fraction which describes the proportion of	Understand the components of fractions.	
	vowels in a given student's name.	Create a fraction from given data.	CCSS.Math.Content.3.NF.A.1
Fraction Problems	Various real-world problems which involve fractions.	Addition and subtraction of fractions.	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.
Decimal Problems	Various real-world problems which involve decimals.	Addition and subtraction of decimals to the tenths and hundredths.	
Equivalent Fractions & Decimals	Click on the fraction equivalent to a given decimal.	Calculate an equivalency between a fraction and a decimal.	
Guess the Number (3 activities)	In 11 guesses, the student must pick a mystery number. They are told if their guesses are too big or too small.	Use addition and subtraction logic to find a mystery number.	CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
Number Mysteries	Various word problems which involve determining a		
Number Riddles	mystery number from given clues.		
Tim's Science Project	Help Tim in his science project by putting a series of decimals in order.	Understand the value of decimals to the tenth, hundredth and thousandth.	
The Data You Need	Read given word problems and determine which piece of data you do not need to solve the problem.	Determine which data is irrelevant in a given problem.	

5. Patterning & Algebra

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Algebra Word Problems	Various real-world problems which involve missing terms from simple algebraic problems.	Solve real-world problems of simple algebra.	CCSS.Math.Content.3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. CCSS.Math.Content.3.OA.B.5 Apply properties of operations as strategies to multiply and divide.
Patterning Problems	Various real-world problems which involve determining	Understand real world patterning	

ACTIVITY NAME	INSTRUCTION	SKILLS	COMMON CORE STANDARDS
Patterning Problems 2	the first and subsequent entries in a given pattern.	problems and determine the proper responses.	CCSS.Math.Content.3.OA.D.9
Patterns of Area	Fill in the area column on a given chart with a column of side length of a square pig pen.	Complete the pattern in a given numerical chart.	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain
Ticket Matching	Pick a ticket from a given group which has a multiplication problem on it which is equivalent to a given addition problem.	Determine equivalencies in pairs of multiplication and addition/ subtraction equations.	them using properties of operations.