

PADUCAH INDEPENDENT SCHOOL DISTRICT

COMMUNITY TUTORING

ELEMENTARY MATHEMATICS CURRICULUM

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The school system sponsors several software programs to address individual learning needs of children in language arts and mathematics curricula. These can be accessed via the district website under *Resources*. This section includes *Accelerated Reader*, Compass Learning's *Odyssey* and *Renaissance Place*. Students should know their identity and password information to enter their websites.

FRACTION STRIPS

1 Whole

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$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$
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$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
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$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$
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$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
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$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
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$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
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$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$
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Grade K Objectives	Grade K Description	Grade K Sample Resources/Activities
Number Properties and Operations		
Identify numerals 0 – 20.	Child will name numerals in random order 0 – 20 when shown a number.	Read counting books. Examples: <u>Counting Wildflowers</u> by McMillan <u>Annie’s one to Ten</u> by Owen Play Number Bingo. Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten
Write numerals 0 – 20.	Child will form numerals correctly and write them in their appropriate order 0 – 20.	Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten
Match objects to numbers 0 – 20.	Child will count a set of objects and circle or write the correct number.	Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten www.playkidsgames.com/games/seahorse/default.html
Count by 1’s, 5’s, and 10’s to 100.	Child will count and recognize numbers to 100. Child will count by 5’s and 10’s to 100.	Read counting books. Examples: <u>How Many Seeds in a Pumpkin?</u> by Margaret McNamara <u>The Icky Bug Book</u> , Jerry Pallotta <u>Underwater Counting</u> , Jerry Pallotta Reproducible books: <u>Dot – to - Dot 2’s – 5’s – 10’s</u> , (FS – 8522) <u>Dot to Dot 1 to 100</u> , (FS8521) <u>Skip Counting</u> , (TCR 5984) Hundred Number Classroom Kit, EAI 9MF-560095

Grade K Objectives	Grade K Description	Grade K Sample Resources/Activities
		Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten
Count by 2's to 20.	Child will count by 2's to 20.	Reproducible books: Dot – to - Dot 2's – 5's – 10's, (FS – 8522) Skip Counting, (TCR 5984) Hundred Number Classroom Kit, EAI 9MF-560095 Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten
Identify ordinal numbers first to fifth.	First, second, third, fourth, fifth The heart is in the third figure in the row. 	Internet web sites http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten
Identify more and less; also greater than and less than.	Child will identify which group of objects has more or less (Greater than/less than) another group.	Play Top It game. This is a game for 2 players. Shuffle the deck of cards and divide the deck so that each child has 20 cards. Children place their stacks face down. They then turn over their top cards and read the numbers aloud. Whoever has the larger number keeps both cards. IF the cards have the same number, children put them aside and turn over the next two cards until someone wins the round and takes all the cards for that round. When children have used all the cards from both stacks, play ends. (You may know this game as War.) Internet website: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten

Grade K Objectives	Grade K Description	Grade K Sample Resources/Activities
Add concrete objects to a group.	<p>Child will use manipulatives to add two numbers together. (Child can perform: We put out 3 blocks, and we add 4 blocks to those. Count how many blocks are there altogether.)</p> <p>3 blocks plus 4 blocks equals 7 blocks 3+4=7</p>	<p>Read books about addition. Examples: <u>Rooster's Off to See the World</u>, Eric Carle</p> <p>Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten www.playkidsgames.com/mathGames.htm</p>
Subtract concrete objects from a group.	<p>Child will use manipulatives to subtract numbers. (Child can perform: We have 6 blocks, and we move two blocks away. Count how many blocks are left.)</p>	<p>Read books about subtraction. Examples: <u>Rooster's Off to See the World</u>, Eric Carle</p> <p>Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten www.playkidsgames.com/mathGames.htm</p>
Measurement		
Compare lengths using a variety of non standard objects.		<p>Read: <u>Inch By Inch</u>, Leo Lionni <u>How Big is a Foot?</u>, Myller <u>Inchworm and a Half</u>, Pinczes <u>Twelve Snails and One Lizard</u> <u>Me and the Measure of Things</u></p> <p>How Long Is It Measurement Center – Lakeshore Learning, LL 409 How Much Does It Weigh Measurement Center - Lakeshore Learning, LL 407</p> <p>Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten</p>

Grade K Objectives	Grade K Description	Grade K Sample Resources/Activities
<p>Identify coins: penny, nickel, dime, and quarter.</p>	<p>Child will name coins when shown to them and state value of the coin. He/she will also count groups of coins. They will know that the coin's assigned value determines which one is worth more; that the value of the coin is not due to its size.</p>	<p>Introduction of Coins – pass out coins and a small magnifying glass to each pair of students. Discuss the size, shape, color, markings, and value of each coin.</p> <p>Read: <u>Henry's Pennies</u> by McNamara <u>Arthur's Funny Money</u> by Hoban <u>Bunny Money</u> by <u>Benny's Pennies</u> <u>The Story of Money</u> <u>The Monster Money Book</u> by Leedy <u>How the Second Grade Got \$8,205.50 to Visit the Statue of Liberty</u></p> <p>Play <u>Coins in the Classroom</u>. Provide pennies, nickels, dimes, and quarters. The money may be real (preferable) or play. Children can sort money into muffin tins or egg cartons to make a "bank"</p> <p>Make crayon rubbings of coins.</p> <p>Recite Coin Poems:</p> <p style="text-align: center;">Penny, Penny, Easily Spent, Copper Brown And Worth One Cent.</p> <p style="text-align: center;">Nickel, Nickel, Thick and Fat, You're Worth Five Cents I Know That.</p> <p style="text-align: center;">Dime, Dime, Little and Thin,</p>

Grade K Objectives	Grade K Description	Grade K Sample Resources/Activities
		<p style="text-align: center;">I Remember, You're Worth Ten.</p> <p style="text-align: center;">Quarter, Quarter, Big and Bold, You're Worth Twenty-Five, I am Told.</p> <p>Reproducible books: <u>Money</u>, (TCR 3318) <u>Money</u>, (REM 536A)</p> <p>Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten</p>
Tell time to the hour and half-hour.	Child will state time to the hour and half hour on a digital and analog clock.	<p>Read books about time. <u>Examples:</u> <u>The Grouchy Ladybug</u> by Eric Carle <u>A Second is a Hiccup</u> by Pat Hutchins <u>Pigs on a Blanket: Fun with Math & Time</u> <u>Knots on a Counting Rope</u> by Bill Martin <u>Clocks and More Clocks</u> by Pat Hutchins <u>Me Counting Time:</u> <u>Bats Around the Clock</u></p> <p>Make paper plate clocks with moveable hands to practice demonstrating hour and half hour times.</p> <p>Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten</p>

Grade K Objectives	Grade K Description	Grade K Sample Resources/Activities
Geometry		
Identify shapes: circle, square, triangle, rectangle, oval, and rhombus (diamond).	Child will name shapes shown to them.	Read shape books. Examples: <u>Icky Bug Shapes</u> Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten
Locate objects in specified positions: top, bottom, middle, right, left, above, and below.	Child will identify specified positions.	Play Simon Says using positional words. Simon says, "Put your hand above your head." Simon says, "Wave your right hand." Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten
Data Analysis and Probability		
Use and understand bar graphs and pictographs.		Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten http://www.superteacherworksheets.com/pictograph/elm-street-picto.pdf http://nces.ed.gov/nceskids/createagraph/default.aspx?ID=ce7efe2787d940b8bd5143fa5d78c722
Algebraic Thinking		
Demonstrate an understanding of patterns.	Child will: 1. Recognize and read patterns. 2. Duplicate a given pattern. 3. Add on to a pattern already begun. 4. Insert missing parts into a pattern.	Read pattern books. Examples: <u>Pattern Fish</u> , Trudy Harris <u>Pattern Bugs</u> , Trudy Harris Internet Web Sites: http://compass.paducah.k12.ky.us/childu/index.html www.ixl.com/math/grade/kindergarten

Grade 1 Objectives	Grade 1 Description	Grade 1 Sample Resources/Activities
<p>These websites can help students practice all of these math skills. Most of them use GAMES to promote practice!!</p> <p>http://www.kidsnumbers.com/ http://www.funbrain.com/brain/MathBrain/MathBrain.html http://www.primarygames.com/math.htm http://www.mrnussbaum.com/mathcode.htm http://www.myskillstutor.com http://www.aaaknow.com/grade2.htm http://www.brainpopjr.com/math/ www.dositey.com</p>		
Number Properties and Operations		
Count, read/write numbers	By 1's, 2's, 5's, 10's, 20's, 25's to 100.	Use 100's chart, www.dositey.com has some animated activities to aide teaching these skills. Skip count
Understand math terms	Same as, more than, less than; add, plus sign+, addend, and sum; subtract, minus, subtraction sign-, and difference	By 1's: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14100 By 2's: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ...100 By 5's: 5, 10, 15, 20...100 By 10's: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 By 20's: 20, 40, 60, 80, 100 By 25's: 25, 50, 75, 100
Number line	Use a number line	Find a given number on a number line, ruler or yard stick.
Place value	Identify ones and tens place value	For example: In the number 25, the 2 is in the tens place and the 5 is in the ones place. You have 2 "10s" and 5 "ones". The best way to practice this is to give students a number and ask them what place value each digit is. For example: in the number 37, How many tens? (3) How many ones (7). It is best for students to see the number written out to be able to visualize the places of each digit. Here is another way to practice: What number has a 4 in the ones place and 2 in the tens place? (24) What does tens and ones mean?
	Identify even and odd numbers	Make a poster with odd and even numbers and the ending digit; even (0, 2, 4, 6, 8) odd (1,3,5,7, 9) Even numbers must be divisible by 2.

Grade 1 Objectives	Grade 1 Description	Grade 1 Sample Resources/Activities
Measurement		
Calendar	Identify parts of a calendar, days of the week, and months of the year	Use a real calendar daily pointing out the month, date and day of the week. www.dositey.com Ask students to tell about the date in a complete sentence. "Today is Monday, April 5, 2010."
Coins: Penny Nickel Dime Quarter	Identify penny, nickel, dime, quarter, and dollar bill; use and count coins up to \$1.00; use a cent sign and decimal to represent money.	Use play or real coins to identify unique parts to each coin (penny - one cent, dime – 10 cents, nickel - five cents, etc.) Identify color, faces, and backs of coins. Count coin combinations to \$1.00. www.dositey.com
Clocks: Digital Analog	Identify digital and analog clocks. Use them to tell time to the hour and half hour.	Use real clocks, www.dositey.com
Ruler Inches Centimeter	Use a ruler to measure in inches and centimeters; Understand short/shorter/shortest/long/longer/longest	Be sure that as students measure they allow for matching the end of the ruler to the object. Be sure they know that looking at the measure from an angle distorts the measurement taken so always look at it head on.
Geometry		
Identify: Cone Cube Cylinders Pyramids Rectangular prism Sphere	Apply to real world problems Display/show real world items that are the shapes (cans, blocks)	www.dositey.com www.myskillstutor.com
Lines of Symmetry	Identify and draw lines of symmetry in simple shapes such as circle, square, triangle. Fold cut out shapes to show symmetry.	Give cut outs of simple items and have them draw line of symmetry. www.dositey.com

Grade 1 Objectives	Grade 1 Description	Grade 1 Sample Resources/Activities
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Data Analysis and Probability

Data on a bar graph, line graph, and pictograph

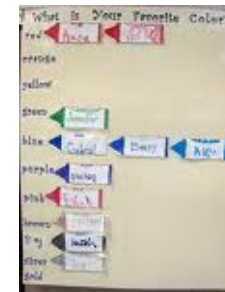
Question, collect, organize & display data

Insert data into a type of graph (bar, line, picture)

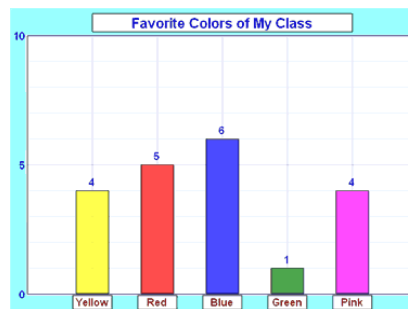
Use pictures from magazines or to create a pictograph on large piece of paper. Create more than one type of graph (Bar, Line, Picture) using favorite colors, shapes, animals or some other given choice. Collect the information by using tally marks and/or counting and numerals. Ask questions about the data represented.

Pictograph Examples:

Favorite Pets		
Pet	Tally Marks	Number
		10
		4
		6



Bar Graph Example:



Line Graph Example:



<http://theapple.monster.com/nfs/theapple/static/pdfs/scigr34colorgraph.pdf>


Grade 1 Objectives	Grade 1 Description	Grade 1 Sample Resources/Activities
		(The above links to a worksheet for inserting collected data) http://www.shodor.org/interactivate/activities/BarGraphSorter/ Interactive site to create bar graphs.
Algebraic Thinking		
Patterns	Extend a pattern with numbers or shapes	<p>Given a pattern using shapes complete the pattern. (example: circle, triangle, square, circle, triangle, ?. what goes in the place of the ?)</p> <p>Use pattern blocks to give several examples, let children complete patterns using pattern blocks.</p> <p>Given a number pattern 1, 2, 3, ?, 1, 2, 3, 4, 1 and have them complete pattern and answer questions.</p> <p>Use colors as a pattern (red, red, blue, red, red, ? what complete the pattern where the ? mark is.</p>

Grade 2 Objectives	Grade 2 Description	Grade 2 Sample Resources/Activities
<p>These websites can help students practice all of these math skills. Most of them use GAMES to promote practice!!</p> <p>http://www.kidsnumbers.com/ http://www.funbrain.com/brain/MathBrain/MathBrain.html http://www.primarygames.com/math.htm http://www.mrnussbaum.com/mathcode.htm http://www.myskillstutor.com http://www.aaaknow.com/grade2.htm http://www.brainpopjr.com/math/</p>		
Number Properties and Operations		
<p>Identify place value of whole numbers to hundreds. i.e.: ones, tens and hundred places.</p>	<p>Students should know that the “place” a number in represents its “value”.</p>	<p>For example, in the number 25: the 2 is in the tens place, and the 5 is in the ones place. You have 2 “10s” and 5 “ones”. The best way to practice this is to give students a number and ask them what place value each digit is. For example: in the number 137, how many hundreds are there? (1) How many tens? (3) How many ones (7). It is best for students to see the number written out to be able to visualize the places of each digit. Here is another way to practice: What number has a 4 in the ones place, 2 in the tens place, and 7 in the hundreds place? (724)</p>
<p>Use the number line to skip count and solve problems.</p>	<p>Skip counting is counting by 2’s, 3’s, 4’s, 5’s, etc. Generally, skip counting by 2’s, 5’s, and 10’s tends to be the easiest for students to do. Using the number line helps them skip count without getting confused since they have the number line as a reference to keep them on track.</p>	<p>A number line can be easily made, or even a ruler, yardstick, or measuring tape can be used for adding and subtracting. Students “count up” to add, and “count down” to subtract. Students seem to better understand counting up and down when a number line is written horizontally, or up and down, (starting with 0 at the bottom and the highest number on top), on a chalkboard, whiteboard, poster, paper, etc. I often have students write the numbers this way along the side of their paper for quick reference.</p>

Grade 2 Objectives	Grade 2 Description	Grade 2 Sample Resources/Activities
Recall basic addition and subtraction facts to 20.	Be able to quickly recall addition and subtraction problems up to sums of 20. (Recall means students can automatically tell you the answer from their memory, rather than counting up/down to add or subtract numbers each time they hear the problem).	Flash cards are the best way to practice addition and subtraction facts for recall. The more they practice, the better they will become at “recalling” these addition and subtraction facts. Flash cards can be purchased or very easily made. Make sure the flash card shows only the addition or subtraction problem, (not the answer-which can be put on the back of the card for quick reference). Another way to practice is using dice. Have students roll two dice and add the numbers. Do the same for subtraction, but make sure students know that they “take away” the smaller number from the bigger number. (if they roll a 6 and a 1 on the dice, they would subtract 6-1, not 1-6)
Understand/solve word problems.	Know key words/phrases: how many in all, altogether, difference, how many more?	Complete word problems with students. Have students create their own word problems and illustrate them. Share and have children solve each other's word problems. Example: Jane had 12 apples. She gave 3 apples away. How many are left? Example 2: Jane has 12. Her sister has 5 apples. How many apples do they have altogether?
Understand terms: subtract, minus, subtraction sign (-), difference, add, altogether, plus sign (+)	Know symbols for addition (+) and subtraction (-)	Quiz students and have them identify these symbols. Or have them show you the correct symbols for adding and subtracting. Also have them tell you what operation to use if a problem asks for the difference between two numbers, (subtract), or how many there are altogether (add). Word problems can be made up very easily.

Grade 2 Objectives	Grade 2 Description	Grade 2 Sample Resources/Activities
Measurement		
Add amounts of money using proper notation.	Proper notation: \$6.75, 83¢ It is very important that students line up the numbers correctly or their answer will be wrong.	Present students with amounts of money to add. You can give them a piece of paper that already has problems on it, or have them practice writing the correct notation by telling them the money amounts and have them write them correctly on a piece of paper. Check that students have written the amounts correctly before they add it.
Know odd and even numbers.	Odd numbers are 1, 3, 5, 7, 9. Even numbers are 0, 2, 4, 6, 8. Students should also know that 2 or 3 digit numbers, such as 27 or 158 are odd or even depending on the digit in the ones place. 27 is odd because the digit in the ones place (7) is odd. 158 is even because the digit in the ones place is even (8).	Practice saying even numbers, then odd numbers. Say a number and ask students to identify whether the number is odd or even. You can also turn this around by asking students to give you an odd number. Then ask them to give you an even number.
Use a clock, (digital and traditional), to tell time	Students should know that the small hand is the hour hand, and the long hand is the minute hand.	Know parts of a clock, (face, minute hand, hour hand, numbers). Students can make a clock out of paper plates and pipe cleaners. Name a time, and have students show it on their clock. If no practice clocks are available, have them read the time on a clock.
Choose and use appropriate tools to measure.	Students should know that to measure length, (how long something is), they would use a ruler, yardstick, etc. To measure weight, (how heavy something is), they would use a scale. To measure temperature they would use a thermometer.	<p>Show students these objects, or a picture of these objects: ruler, scale, thermometer, clock. Ask, which would you use to measure how much something weighs? how hot or cold something is? how much time has passed? how long or tall something is?</p> <p>Reverse these questions and ask what you would measure with a ruler, thermometer, scale, clock.</p> <p>Practice using the tools to take accurate measures.</p>

Grade 2 Objectives	Grade 2 Description	Grade 2 Sample Resources/Activities
Use standard measurements to measure	Students should be able to measure small objects with a ruler. Make sure they know to line up the edge/beginning of the ruler with the edge/beginning of the object they're measuring so that their measurement is accurate.	Give students rulers and have them measure small objects. Model this for them before they try themselves, (especially lining up the edge).
Geometry		
Classify objects by shape	Use 2 dimensional objects: circle square, triangle, square, etc. and 3 dimensional objects: Cube, sphere, cube, etc.	Sort/group objects with similar shapes. (basketball, orange, baseball-round; book, board eraser, folder-rectangle, etc.)
Data Analysis and Probability		
Collect, organize, and display data	Students collect data by gathering information. They have to organize the information/data when they collect it, (for example: using tally marks). They then use that information to create a graph	Ask students what their favorite _____ is. (Animal, food, toy, game, song, etc.) Use tally marks to keep track of 'votes' and have students create a graph using the information. Label the graph correctly. Also, practice 'reading' a graph, (looking at a graph and being able to figure out the information it is showing.)
Algebraic Thinking		
Model real world problems with simple number sentences	Students can understand math better when they can relate or apply it to their everyday lives. See the sample given. Use objects that students might have at home and create a word problem that is something students may have actually done/experienced.	Have students create math problems using any available objects, (paperclips, crayons, pencils, etc.) Write simple number sentences for the problems, (Bob had 4 pencils. He lost 1 pencil. How many pencils are left? $4-1=3$)

Grade 3 Objectives	Grade 3 Description	Grade 3 Sample Resources
Number Properties & Operations		
<p>Number Sense:</p> <p>Read and Write Numbers</p> <p>Identify Place Value</p> <ul style="list-style-type: none"> • Ones • Tens • Hundreds • Thousands <p>Compare & Order Numbers</p> <p>Estimating</p> <ul style="list-style-type: none"> • Round numbers to the nearest ones, tens, hundreds, thousands 	<ul style="list-style-type: none"> • Be able to read a number correctly • Be able to write a number that someone reads to them • Identify the number in the ones, tens, hundreds, thousands and tell its value For example: 5,498 The 4 is in the hundreds place and its value is 400. • Put numbers in order from least to greatest, greatest to least • Tell which number is less than or greater than using the correct symbol. > is greater than < is less than • Be able to round a number to the nearest tens, hundreds, thousands 	<ul style="list-style-type: none"> • Use flash cards to practice reading numbers • Always have students read problems and answers aloud • Use a place value mat • Make numbers using base ten blocks • Use a picture of Pac man to promote understanding of symbols -Pac man wants to always eat the greater number Example: 32  99 The actual answer would be $32 < 99$ The students would read this as, 32 is less than 99 • Website: http://www.aaamath.com/cmp22_x2.htm Interactive practice • Draw a number line with sidewalk chalk, call out a number, have the students stand on the number it rounds to

Grade 3 Objectives	Grade 3 Description	Grade 3 Sample Resources
		<ul style="list-style-type: none"> Use a song to help students remember the rules of rounding. <p>"If You're Rounding and You Know It" Sung to the tune of "If You're Happy and You Know It..." If it's 5 or greater you go up. (clap)(clap) If it's 5 or greater you go up. (clap)(clap) If it's 5 or greater, if it's 5 or greater, if it's 5 or greater you go up.</p> <p>If it's 4 or less leave it alone.(clap)(clap) If it's 4 or less leave it alone.(clap)(clap) If it's 4 or less, if it's 4 or less, if it's 4 or less leave it alone.</p> <p>Everything to the left stays the same. (clap)(clap) Everything to the left stays the same. (clap)(clap) Everything to the left, everything to the left, everything to the left ...</p> <ul style="list-style-type: none"> Website: http://www.tlsbooks.com/mathworksheets.htm Many worksheets available for practice
Word Problems:	<ul style="list-style-type: none"> Real life word problems promote understanding Find solutions by using pictures, numbers, operation and words 	<ul style="list-style-type: none"> Website: http://www.superteacherworksheets.com/word-problems.html Examples of word problems
Operations: Skip Counting Math Vocabulary	<ul style="list-style-type: none"> Count by 2's, 5's, 10's, 100's Use math vocabulary in all areas 	Website: http://www.jefferson.k12.ky.us/Students/Vocab/ESMathVocabulary.pdf Vocabulary list with definitions Website: http://www.mrsmcgowan.com/math/math_and_literature.htm

Grade 3 Objectives	Grade 3 Description	Grade 3 Sample Resources
Addition/Subtraction	<ul style="list-style-type: none"> • Should know facts with accuracy and speed • Add & subtract up to 4 digits with and without regrouping • Relate addition & subtraction using fact families 	<p>List of literature to use with teaching math concepts</p> <ul style="list-style-type: none"> • Flash Cards • Website: www.myskillstutor.com <p>Promotes accuracy and speed with games</p> <ul style="list-style-type: none"> • Board races • Website: http://cityteacher.wordpress.com/2007/09/09/using-triangles-to-teach-fact-family/ <p>Explanation of fact families for teachers</p> <ul style="list-style-type: none"> • Website: http://www.education.com/files/65301_65400/65302/file_65302.pdf
Multiplication/Division	<ul style="list-style-type: none"> • Understand multiplication concepts, relate to addition • Know facts through 12's • Relate multiplication to division 	<p>Fact family worksheet</p> <ul style="list-style-type: none"> • Use manipulatives to show how multiplication works For example: $3 \times 4 = 12$ Show 3 groups of 4 and count each one • Start with 1's and move up from there • Give one minute timed test at each level: 1's, 2's, 3's, etc • Count by which ever number you are learning <ul style="list-style-type: none"> • Use fact family website stated above

Grade 3 Objectives	Grade 3 Description	Grade 3 Sample Resources
Measurement		
Money	<p>Tell the value of each coin and tell the value of a group of coins</p> <ul style="list-style-type: none"> • Add & Subtract amounts of money • Order & Compare money 	<p>Use play money Website: http://www.apples4theteacher.com/math.html#moneygames Interactive money games</p> <ul style="list-style-type: none"> • Example: $\\$12.50 - \\$2.75 =$ OR $\\$4.30 + \\$6.50 =$ • Practice counting money then putting it in order from greatest to least or least to greatest. • Using play money have students make the same value with different kinds of coins. How many combinations can you come up with for one amount? • Practice with flash cards telling which amount is greater than or less than
Fractions	<ul style="list-style-type: none"> • Write a fraction as a part of a whole OR part of a set • Be able to divide something in $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$ 	<ul style="list-style-type: none"> • Cut an apple, orange, cookie, piece of cheese • Website: http://www.mathcats.com/grownupcats/ideabankfractions.html
Odd & Even numbers	<ul style="list-style-type: none"> • Identify odd and even numbers with more than one place value Ex.: 1,254 is an even number because there is a 4 in the ones place • Understand a.m. and p.m. 	<p>Literature and ideas to teach fractions</p> <ul style="list-style-type: none"> • Website: http://www.crickweb.co.uk/assets/resources/flash.php?&file=npmenu <p>Interactive number sort (a great idea for a paper version also)</p>

Grade 3 Objectives	Grade 3 Description	Grade 3 Sample Resources
<p>Telling Time Read a Calendar</p>	<ul style="list-style-type: none"> • Units of time (ex. 60 min. = 1 hour) Students should know how many seconds, minutes, hours, days, weeks, months, etc • Elapse time: Be able to tell what time it will be in 10 min. or in 2 hours. Also tell how much time has passed, like from 2:30 to 5:00. • Be able to tell the month, date, year, and what the date will be in two weeks 	<ul style="list-style-type: none"> • Talk about a daily schedule, use vocabulary such as midnight and noon • Use a clock with an hour and minute hand to tell time • Website: http://classroom.jc-schools.net/basic/math-time.html Lots of resources and games for teaching time • Use a yearly calendar (some local businesses could donate) to practice reading a calendar
Geometry		
<p>2-D shapes 3-D shapes Understand symmetry</p>	<ul style="list-style-type: none"> • Draw and identify shapes • Be able to identify the number of sides and angles • Identify the shape and the number of edges, vertices, and faces for each shape • Be able to draw a line of symmetry 	<ul style="list-style-type: none"> • Use toothpicks to create shapes such as triangle, square, rectangle, quadrilateral, pentagon, hexagon, etc. Discuss why you can't make a circle. • Use patterns to make these 3-D shapes: sphere, cylinder, pyramid, cube, cone • Fold a piece of paper in half, pour paint on one side, then have the children fold the paper in half squishing the paint in the center, open the paper to find a perfectly symmetrical picture • Website: http://teachers.net/lessons/posts/3436.html Symmetry project • Website:

Grade 3 Objectives	Grade 3 Description	Grade 3 Sample Resources										
Identify congruent figures	Be able to identify and create shapes of equal size	http://www.linkslearning.org/Kids/1_Math/2_Illustrated_Lessons/4_Line_Symmetry/index.html Video <ul style="list-style-type: none"> Website: http://www.learner.org/courses/teachingmath/grades3_5/session_02/section_02_a.html Lesson for students with explanations and game for assessment										
Data Analysis and Probability												
Graphs	<ul style="list-style-type: none"> Be able to collect and organize data and display it in a graph 	<ul style="list-style-type: none"> Website: http://www.internet4classrooms.com/skill_builders/data_analysis_math_third_3rd_grade.htm Lots of resources on graphs										
Algebraic Thinking												
<ul style="list-style-type: none"> Input/Output tables Solve number sentences with variables (ex. $4+b=10$) 	<ul style="list-style-type: none"> Be able to tell the rule of a input/output table Example: <table border="1" data-bbox="709 933 1066 1141"> <thead> <tr> <th data-bbox="709 933 886 976">Rule: <i>add 5</i></th> <th data-bbox="892 933 1066 976"></th> </tr> <tr> <th data-bbox="709 980 886 1019">Input</th> <th data-bbox="892 980 1066 1019">Output</th> </tr> </thead> <tbody> <tr> <td data-bbox="709 1024 886 1063">5</td> <td data-bbox="892 1024 1066 1063">10</td> </tr> <tr> <td data-bbox="709 1068 886 1107">15</td> <td data-bbox="892 1068 1066 1107">20</td> </tr> <tr> <td data-bbox="709 1112 886 1151">25</td> <td data-bbox="892 1112 1066 1151">30</td> </tr> </tbody> </table>	Rule: <i>add 5</i>		Input	Output	5	10	15	20	25	30	<ul style="list-style-type: none"> Website: http://www.studyzone.org/testprep/math4/d/functiontable4.cfm Teaching input/output lesson <ul style="list-style-type: none"> Website: http://www.shodor.org/interactivate/activities/WholeNumberCruncher/ A input/output machine <ul style="list-style-type: none"> Website: http://teams.lacoe.edu/documentation/classrooms/amy/algebra/3-4/activities/functionmachine/functionmachine3_4.html Interactive Input/Output machine
Rule: <i>add 5</i>												
Input	Output											
5	10											
15	20											
25	30											

Grade 4 Objectives	Grade 4 Description	Grade 4 Sample Resources/Activities
Number Properties & Operations		
Place Value: Identify place value of <ul style="list-style-type: none"> • Ten thousand • Hundred thousand or more Round whole numbers to nearest <ul style="list-style-type: none"> • Tens • Hundreds • Thousands 	<ul style="list-style-type: none"> • Know place value ones, tens, hundreds, thousands, ten thousands, hundred thousand and millions. • Say large numbers correctly such as 263,581. • Round whole numbers by looking at place value given, such as round 26,392 to the nearest hundreds place. 	<ul style="list-style-type: none"> • Read book Sir Cumference and All the King's Tens: A Math Adventure by Cindy Neuschwander • Earth Day- Hooray by Stuart Murphy • Playing card games (see attached) • Rounding poem: <i>Find your number. Look right next door. 4 or less just ignore. 5 or more, add 1 more.</i> • <i>Worksheets Website:</i> http://www.superteacherworksheets.com/ • Website: www.mrnussbaum.com/math Game: Place Value Pirates Rounding Masters Half-Court Rounding
Addition: <ul style="list-style-type: none"> • Add numbers of 4 digits or more vertically with regrouping 	<ul style="list-style-type: none"> • Add large numbers with regrouping : $\begin{array}{r} 25,649 \\ + 6,421 \\ \hline 32,070 \end{array}$ 	<ul style="list-style-type: none"> • Read books: Anno's Counting Book by Mitsumasa Anno The Grapes of Math by Greg Tang Pigs will be Pigs: Fun with Math and Money by A. Axelrod • Website: www.mrnussbaum.com/math Game: War Pretzels Buffalo Math Math Fries • <i>Worksheets Website:</i> http://www.superteacherworksheets.com/ • http://www.tlsbooks.com/mathworksheets.htm

Grade 4 Objectives	Grade 4 Description	Grade 4 Sample Resources/Activities
<p>Subtraction:</p> <ul style="list-style-type: none"> Subtract numbers requiring regrouping. <p>Subtract numbers that require borrowing across zero.</p>	<ul style="list-style-type: none"> Subtract larger numbers that require regrouping : $\begin{array}{r} 4,261 \\ - \quad 348 \\ \hline 3,913 \end{array}$ Subtract larger numbers that contain zero in the top number: $\begin{array}{r} 8,040 \\ - \underline{6,132} \\ \hline 1,908 \end{array}$ 	<ul style="list-style-type: none"> Read books: <u>A Fair Bear Share</u> (regrouping) by Stuart Murphy <u>Subtraction Action</u> by L. Leedy Worksheets Website: http://www.superteacherworksheets.com/ Website: www.mrnussbaum.com/math Game: War Pretzels Math Fries Buffalo Math
<p>Multiplication:</p> <ul style="list-style-type: none"> Know basic multiplication facts 0-10 Multiply two or more digits numbers by a 1 digit number. <p>Multiply two digit and 3 digit numbers by a 2 digit number.</p>	<ul style="list-style-type: none"> $\begin{array}{r} 53 \\ \times 4 \\ \hline 212 \end{array}$ $\begin{array}{r} 638 \\ \times 6 \\ \hline 3,828 \end{array}$ $\begin{array}{r} 46 \\ \times 24 \\ \hline 184 \\ + 920 \\ \hline 1,104 \end{array}$ $\begin{array}{r} 257 \\ \times 35 \\ \hline 1285 \\ + 7710 \\ \hline 8,995 \end{array}$ 	<ul style="list-style-type: none"> Read books: <u>Amanda Beans Amazing Dream</u> by Cindy Neuschwander <u>The Best Of Times</u> by Greg Tang (Author), Harry Briggs (Illustrator) <u>A Grain of Rice</u> by Helena Clare Pittman <u>One Hundred Hungry Ants</u> by Elinor Pinczes <u>Each Orange Had Eight Slices</u> Paul Giganti Website: www.mrnussbaum.com/math Game: Around the World Worksheets Website: http://www.superteacherworksheets.com/drills.com/multiplication.shtml http://www.tlsbooks.com/mathworksheets.htm

Grade 4 Objectives	Grade 4 Description	Grade 4 Sample Resources/Activities
Division: <ul style="list-style-type: none"> • Divide numbers without remainders using up to 2 digit divisors. • Divide numbers with remainders using up to 2 digit divisors. 	$20 \div 5 = 4$ $255 \div 5 = 51$ $21 \div 5 = 4 \text{ r}$ $255 \div 4 = 63 \text{ r } 3$	<ul style="list-style-type: none"> • Read books: <u>A Remainder of One</u> by Elinor J. Pinczes • <u>One Hundred Hungry Ants</u> by Elinor J. Pinczes • <u>Doorbell Rang</u> by Pat Hutchins • <u>Spaghetti and Meatballs for All</u> by Marilyn Burns • Worksheets Website: http://www.superteacherworksheets.com/ • http://www.tlsbooks.com/mathworksheets.htm
Fractions: <ul style="list-style-type: none"> • Write fractions as equal parts of a whole. • Write fractions as equal parts of a set. • Write equivalent fractions. • Compare fractions using <, >, = • Convert improper fractions to whole or mixed numerals. 		Read books: <ul style="list-style-type: none"> • <u>Fraction Fun</u> by David A. Adler • <u>Hershey's Milk Chocolate Bar Fractions Book</u> by Jerry Pallotta • <u>Apple Fractions</u> by Elinor J. Pinczes • Worksheet Websites: http://www.superteacherworksheets.com/ • http://www.tlsbooks.com/mathworksheets.htm
Decimals: <ul style="list-style-type: none"> • Add and subtract numbers with place value to thousandths. • Read and write numbers to tenths and hundredths place 		<ul style="list-style-type: none"> • Worksheets Website: http://www.superteacherworksheets.com/ • http://www.tlsbooks.com/mathworksheets.htm

Grade 4 Objectives	Grade 4 Description	Grade 4 Sample Resources/Activities
Measurement		
<p>Time:</p> <ul style="list-style-type: none"> • Understand minutes to and past. • Understand before, after and between the hours. • Tell time to nearest 5 minutes. • Determine elapsed time to the nearest quarter hour. 		<p>Read books:</p> <ul style="list-style-type: none"> • <u>Pig on a Blanket</u> by Amy Axelrod • <u>Game Time</u> by Stuart J. Murphy • Worksheets Website: http://www.superteacherworksheets.com/ • http://www.tlsbooks.com/mathworksheets.htm • Website: www.mrnussbaum.com/math Games: Clock Maker Bedtime Bandits Clockworks
<p>Length:</p> <ul style="list-style-type: none"> • Use a ruler to measure to the nearest inch, half-inch, quarter inch 	<ul style="list-style-type: none"> • Use rulers that measure to the nearest $\frac{1}{8}$ inch. 	<p>Read books:</p> <ul style="list-style-type: none"> • <u>How Big Is a Foot?</u> by Rolf Myller • <u>Inch by Inch</u> by Leo Lionni • <u>Super Sand Castle Saturday</u> by Stuart J. Murphy • Website: www.mrnussbaum.com/math Games: Sal's Sub Shop
<p>Temperature:</p> <ul style="list-style-type: none"> • Read and record temperatures to the nearest degree. 	<ul style="list-style-type: none"> • Use Fahrenheit measurements. 	<p>Worksheet Websites:</p> <ul style="list-style-type: none"> • http://www.tlsbooks.com/mathworksheets.htm

Grade 4 Objectives	Grade 4 Description	Grade 4 Sample Resources/Activities
Geometry		
<p>Basic Geometric Elements:</p> <ul style="list-style-type: none"> • Know the basic elements of geometry. 	<p>Basic elements:</p> <ul style="list-style-type: none"> • Point • Rays • Lines • Line segments • Perpendicular lines • Parallel lines • Intersecting lines • Angles: right, obtuse & acute 	<p>Read books:</p> <ul style="list-style-type: none"> • <u>Sir Cumference and The Great Knight of Angleland</u> by Cindy Neuschwander • <u>Hamster Champs</u> (angles) by Stuart J. Murphy • Worksheets Website: http://www.superteacherworksheets.com/
<p>Basic 2 Dimensional Shapes:</p> <ul style="list-style-type: none"> • Identify, describe and give examples of basic two-dimensional shapes. 	<p>2-D Shapes:</p> <ul style="list-style-type: none"> • Circles (identify the center, chord, diameter & radius of a circle) • Triangles (identify right, acute, obtuse & equilateral triangles) • Squares • Rectangles • Trapezoids • Rhombuses (◊ diamond shape) • Pentagons (5 sides) • Hexagons (6 sides) • Octagons (8 sides) 	<p>Read books:</p> <ul style="list-style-type: none"> • <u>The Greedy Triangle</u> by Marilyn Burns • <u>A Cloak for a Dreamer</u> by Aileen Friedman • <u>Sir Cumference and the First Round Table</u> by Cindy Neuschwander • <u>Sir Circumference and the Dragon of Pi</u> by Cindy Neuschwander • Worksheets Website: http://www.superteacherworksheets.com/ • Website: www.mrnussbaum.com/math Games: Shape Invaders & the Golden Hexagons.

Grade 4 Objectives	Grade 4 Description	Grade 4 Sample Resources/Activities
<p>Basic three-dimensional Shapes:</p> <ul style="list-style-type: none"> • Identify, describe and give examples of three-dimensional shapes. 	<p>3-D Shapes:</p> <ul style="list-style-type: none"> • Sphere • Cube • Cone • Cylinder • Pyramids • Prisms (rectangular & triangular) 	<p>Read books:</p> <ul style="list-style-type: none"> • <u>Mummy Math An Adventure in Geometry</u> by Cindy Neuschwander • <u>Sir Cumference and the Sword in the Cone A Math Adventure</u> by Cindy Neuschwander • <u>Captain Invincible & the Space Ship (3-D Shapes)</u> by Stuart J. Murphy • Worksheets Website: http://www.superteacherworksheets.com/
<p>Perimeter/ Area:</p> <ul style="list-style-type: none"> • Know the formula for area: $A = L \times W$ • Know add all the sides of a figure to find the perimeter. 		<p>Read books:</p> <ul style="list-style-type: none"> • <u>Spaghetti and Meatballs for All</u> by Marilyn Burns • <u>Room for Ripley</u> by Stuart Murphy • <u>Racing Around</u> by Stuart Murphy • <u>Racing Around</u> (perimeter) by Stuart J. Murphy • <u>Bigger, Better, Best!</u> (area) by Stuart J. Murphy • Worksheets Website: http://www.superteacherworksheets.com/

Grade 4 Objectives	Grade 4 Description	Grade 4 Sample Resources/Activities
<i>Data Analysis & Probability</i>		
Data Display: <ul style="list-style-type: none"> • Interpret and construct data displays • Determine the median, mode, and range of a set of data 	Data displays: <ul style="list-style-type: none"> • Pictographs • Bar graphs • Time plots • Venn diagrams • Tables 	Read books: <ul style="list-style-type: none"> • <u>The Best Vacation Ever</u> by Stuart J. Murphy • <u>Lemonade for Sale</u> (bar graphs) by Stuart J. Murphy • <u>Get Up & Go</u> (time lines) by Stuart J. Murphy • <u>Tally O' Malley</u> (tallying) by Stuart J. Murphy
Probability: <ul style="list-style-type: none"> • Determine all possible outcomes of an event with up to 6 possible outcomes. 	<ul style="list-style-type: none"> • Likelihood of an event 	Read books: <ul style="list-style-type: none"> • <u>Probably Pistachio</u> (probability) by Stuart J. Murphy

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Number Properties and Operations (Websites include lessons and games to practice skills.)		
Order random numbers from least to greatest. (Whole Numbers, Fractions and Decimals)	When given list of numbers, put them in desired order (L-G or G-L)	http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=8f6d013a-2fb6-4656-92d8-ee5346e1c688 http://www.mathsisfun.com/decimals-menu.html http://www.mathsisfun.com/ordering-numbers.html
Identify place value of Ten thousands Hundred thousands or more Hundred millions or more.	Student will identify value of digits up to hundred millions place.	http://www.321know.com/plc41ax3.htm http://www.beaconlearningcenter.com/WebLessons/ThereMustBeThousands/default.htm
Explain how the base-10 number system relates to place value.	Student will understand that to move to the next place, you must multiply by 10 (base 10).	http://www.eyepleezers.com/aaamath/nam.htm#topic10
Read, write and rename whole numbers, fractions and decimals to the thousandths, and apply to real-world and mathematical problems.	Students will read numbers correctly using and for decimals and appropriate vocabulary for fractions as well.	http://www.321know.com/plc51cx2.htm http://www.eyepleezers.com/aaamath/est.htm http://www.mystfx.ca/special/mathproblems/grade5.html (word problems) http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=0ad4ce3c-a03f-4396-89d1-1f2db06e8a63
Compare (<, >, =) and order whole numbers), fractions and decimals to the thousandths, and explain the relationships (equivalence, order) between and among them.	Students will demonstrate how to compare different units by changing them to the same type of unit..i.e. all decimals, or all fractions.	http://player.discoveryeducation.com/views/hhView.cfm?guidAssetId=131d3072-cc5a-4519-b742-afe30d2351ce&play=true&skin= http://www.321know.com/pro42bx1.htm http://www.coolmath4kids.com/fractions/index.html

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Write fractions as equal parts of a whole, as equal parts of a set, to complete a set.	Students will use diagrams and models to find equal fractions.	http://math.rice.edu/~lanius/fractions/index.html http://www.visualfractions.com/ http://media.emgames.com/emgames/demosite/demolevel3.html
Write equivalent fractions.	Students will use mult. Or div. to find equivalent fractions.	http://math.rice.edu/~lanius/fractions/index.html http://www.funbrain.com/cgi-bin/fob.cgi http://math.rice.edu/~lanius/Patterns/
Supply a missing numerator or denominator in ratios.	Students will use knowledge of equivalent fractions to complete ratios using 3 forms. (Fraction, Colon, To)	http://www.321know.com/cmp43ax2.htm http://www.visualfractions.com/ http://www.mathplayground.com/mv_proportions.html (video lesson)
Convert improper fractions to whole or mixed numerals.	Students will use mult. And div. to convert mixed to whole and vice versa.	http://math.rice.edu/~lanius/fractions/index.html http://nlvm.usu.edu/en/nav/category_g_2_t_1.html
Add, subtract, multiply, and divide by 1-digit or 2-digit whole number with place value up to the thousandths place. Understand equivalent relationships between simple fractions and decimals (0.25 = $\frac{1}{4}$).	Know how to use long division with 1 and 2 digit divisors. Write fractions as decimals and vice versa.	http://www.321know.com/pro42bx1.htm http://www.eyepleezers.com/aaamath/cmp.htm http://media.emgames.com/emgames/demosite/demolevel3.html
Subtract numbers requiring regrouping: Use inverse operations to check work in subtraction and multiplication.	Know how to subtract whole numbers and decimals with borrowing.	http://www.321know.com/sub34ax2.htm

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Understand Reciprocals and their role in dividing fractions.	Write reciprocals of whole and mixed numbers	http://www.mathsisfun.com/fractions-menu.html
Multiply multiple digit numbers up to the 10,000 place by 1-3 digit numbers.	Multiply number using traditional method and lattice method.	http://www.mrnussbaumpremium.com/generator/Mathworksheet/source/index.php (worksheet generator) http://www.coolmath4kids.com/times-tables/times-tables-lesson-lattice-multiplication-1.html
Identify the greatest common factor (GCF).	Use prime factorization to find greatest common factor...ladder method preferred.	http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=cfe5830e-2a3e-4656-8201-61a4ec722c37 http://enlvm.usu.edu/ma/nav/editactivity.jsp?sid=clark5&cid=1&lid=1&aid=825244088
Find the least common denominator (LCD).	Use prime factorization to find LCD.	http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=318cc535-2ed5-4674-88a5-4b38f0654e24
Divide numbers with/ without remainders using up to 2 digit divisors .	Know how to set up a division problem and follow algorithm.	http://www.321know.com/div.htm#topic24
Subtract a fraction from a whole number.	Know how to borrow from a whole number and make it a fraction.	http://www.321know.com/fra66ex2.htm http://www.visualfractions.com/ http://www.coolmath4kids.com/fractions/index.html
Use the commutative properties of addition and multiplication, the associative properties of addition and multiplication, the identity properties of addition and multiplication and the zero.	Identify and use properties of addition and multiplication to solve problems.	http://www.321know.com/add74ax1.htm http://www.coolmath.com/prealgebra/06-properties/index.html

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
property of multiplication in written and mental computation.		
Measurement		
Apply standard units to measure length (to the nearest eighth-inch or the nearest centimeter) and to determine appropriate tool.	Measure objects to nearest 1/8 inch or nearest centimeter.	http://www.eyepleezers.com/aaamath/mea.htm
Perimeter- using metric and Standard.	Find perimeter of regular and irregular shapes.	http://www.mathsisfun.com/geometry/perimeter.html http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=00e2332a-7e61-46c0-8577-9bd654057fc3 http://enlvm.usu.edu/ma/nav/activity.jsp?sid=_shared&cid=emready@perimeter_and_area&lid=112&aid=521044099
Area (figures that can be divided into rectangular shapes) using metric and standard.	Use different models & geoboards to find the area of regular and irregular figures.	http://www.321know.com/geo78_x4.htm http://www.shodor.org/interactivate/activities/AreaExplorer/ http://www.mathsisfun.com/area-calculation-tool.html http://enlvm.usu.edu/ma/nav/activity.jsp?sid=_shared&cid=emready@perimeter_and_area&lid=112
Angle measures (nearest degree).	Use protractor and angle ruler to find measure of angles.	http://www.mathsisfun.com/angles.html Read the Greedy Triangle by Marilyn Burns
Read Temperature (Fahrenheit and Celsius).	Read thermometer to find temperature in Fahrenheit and Celsius.	http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=9c08b59a-10cf-4006-a971-d7f785d9cf60

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Choose and use appropriate tools (e.g., protractor, meter stick, ruler) for specific tasks and apply skills to solve real-world and mathematical problems.	When presented with a task to measure, student will choose appropriate tool to complete task.	http://www.eyepleezers.com/aaamath/pru.htm http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=b283d010-a373-4aba-bdb4-a9c4979aa3a2 http://www.bbc.co.uk/schools/ks2bitesize/maths/shape_space/measures/play.shtml
Convert units within the same measurement system [U.S. customary (inches, feet, yards, miles; ounces, pounds, tons), metric (millimeters, centimeters, meters, kilometers; grams, kilograms), money, or time] and use the units to solve problems.	Convert standard and metric units. Estimate appropriate unit of measure for different objects (i.e. pencil, door, room, etc.)	http://www.eyepleezers.com/aaamath/mny.htm http://www.eyepleezers.com/aaamath/mea.htm http://www.funbrain.com/cashreg/index.htm Read <u>How Big is a Foot?</u> published by Turtleback Books
Tell Time (nearest minute) & determine elapsed time.	Read a variety of clocks and tell time. Also determine elapsed time.	http://www.mathsisfun.com/worksheets/time.php http://www.thatquiz.org/tq/docs/about.html http://www.thatquiz.org/tq/practice.html?time (make your own quiz) http://www.mathslice.com/actionctl.php?actionid=512 http://www.shodor.org/interactivate/activities/ElapsedTimeTwo/
Weight (ounce, pound; gram, kilogram).	Estimate weight of various items and check weight in different forms (i.e. standard and metric)	http://www.eyepleezers.com/aaamath/mea.htm http://www.linkslearning.org/Kids/1_Math/2_Illustrated_Lessons/6_Weight_and_Capacity/index.html

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Geometry		
Describe/identify/ provide examples of basic geometric elements and terms [points, segments, lines (perpendicular, parallel, intersecting), rays, angles (acute, right, obtuse), sides, edges, faces, bases, vertices, radius, diameter] and will apply these elements to solve real-world and mathematical problems.	Become familiar with basic terms of geometry. Use examples from nature, construction, and other real life situations.	http://www.mathsisfun.com/geometry/index.html http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=da3df462-05df-4949-98e7-dc4430035cbb
Describe relationships among angles (Acute, Obtuse, Right, Straight).	Identify different types of angles	
Use letters to name points, lines, line segments and rays.	Name angles, lines, rays using letters and symbols.	
Describe/classify/compare/identify/ and provide examples of basic two-dimensional shapes [circles (center, chord, diameter, radius), triangles (right, acute, obtuse, scalene, equilateral), all quadrilaterals, pentagons, hexagons, octagons] and will apply these shapes to solve real-world and mathematical problems.	Know names of basic 2-D shapes including parts of circle. Identify regular vs. irregular and congruent vs. similar figures. Also understand what constitutes a polygon.	http://www.321know.com/geo318x1.htm

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Describe/identify and provide examples of basic three dimensional objects (spheres, cones, cylinders, pyramids, cubes, triangular and rectangular prisms), will identify three-dimensional objects from two-dimensional representations (nets) and will apply the attributes to solve real-world and mathematical problems.	Name and describe characteristics of the basic 3-D shapes. Match nets to 3-D shapes and identify 2-D shapes involved in net.	http://www.321know.com/geo318x4.htm http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=b5b4a992-c5f1-48e9-afa9-05d0d4fd437c
Identify and describe congruent and similar figures in real-world and mathematical problems.	Understand the difference between congruent and similar figures.	http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=5e10d73f-0ae7-40f5-a922-5284edea0408
Describe and provide examples of line symmetry in real-world and mathematical problems or will apply line symmetry to construct a geometric design. Identify 90° rotations, reflections or translations of basic shapes within a plane	Identify lines of symmetry in figures and real world objects. Determine rotations, reflections and translations of basic plane shapes.	http://www.mathsisfun.com/geometry/symmetry-rotational.html http://www.linkslearning.org/Kids/1_Math/2_Illustrated_Lessons/4_Line_Symmetry/index.html Read <u>Grapes of Math</u> published by Scholastic.
Identify and graph ordered pairs on a positive coordinate system scaled by ones, twos, threes, fives or tens; locate points on a grid; and apply graphing in the coordinate system to solve real world problems.	Graph ordered pairs on one quadrant. Name X and Y Axis. Name 4 quadrants I, II, III, IV.	http://player.discoveryeducation.com/views/hhView.cfm?blnTLL=1&guidAssetId=3594de8a-43f1-4b94-968c-f0081018958e http://themathworksheetsite.com/coordinate_plane.html

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Algebraic Thinking		
Extend patterns, find the missing term(s) in a pattern or describe rules for patterns (numbers, pictures, tables, words) from real-world and mathematical problems.	Find patterns in pictures, numbers, and words. Describe rule for patterns and extend.	http://www.321know.com/patran3.htm http://home.nutshellmath.com/Info/ContentApplet.aspx?Pg=5&Pr ob=10&q=1&Solution=-dseT5WjesfwawQ6nlptug==&MID=UfuplNkw3Q2PyTslugD1g ==&cs=1&lc=N http://www.linkslearning.org/Kids/1_Math/2_Illustrated_Lessons/5_Patterns/index.html
Describe functions (input-output) through pictures, tables, or words and will construct tables to analyze functions based on real-world or mathematical problems.	Use input and output tables to predict outcomes with numbers.	http://www.mathsisfun.com/algebra/index.html
Model verbal descriptions of real-world and mathematical problems with simple number sentences (equations and inequalities) with a variable or missing value (e.g., $4 = 2 \times N$, $___ + 5 > 14$) and apply simple number sentences to solve mathematical and real-world problems.	Write simple expressions and equations from word problems. Solve simple one step equations.	http://www.mathsisfun.com/algebra/index.html

Grade 5 Objectives	Grade 5 Description	Grade 5 Sample Resources/Activities
Data Analysis and Probability		
Determine and apply the mean, median, mode and range of a set of data.	Calculate Mean, Median, Mode, and Range. Understand the effect of outliers.	http://www.321know.com/sta.htm http://www.mathsisfun.com/data/index.html
Analyze/construct and make inferences from data displays (drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs).	Read and draw graphs that are appropriate. Use Venn diagrams to sort.	http://player.discoveryeducation.com/views/hhView.cfm?bInTLL=1&guidAssetId=eb00521e-5924-4652-8500-ce4a024d73b8
Determine all possible outcomes of an activity/event with up to 12 possible outcomes.	Know method for determining and writing probabilities.	http://www.321know.com/sta-prob-simple.htm
Determine the likelihood of an event and the probability of an event (expressed as a fraction).	Know how to write likelihood of events as impossible, unlikely, likely.	http://www.321know.com/sta-prob-simple.htm
List of Literary books for different math concepts and levels.	Here you will find a list of books for many different topics in math. It also includes many levels K-12.	http://www.mathsolutions.com/documents/lessons_chart-2.pdf