Bullhead City Elementary

Parent Learning Calendar

Sixth Grade
Math Essential Skills

Quarter 1 – Quarter 2	
Skills	**Activities**
Find the absolute value of a number	The absolute value of a number is its distance from 0 on a number line. A number line is a line with numbers on it, in order. Usually 0 is in the center of the line, with positive numbers on the right and negative numbers on the left. For example, the number 9 is 9 units away from 0. Therefore its absolute value is 9. The number -9 is 9 units away from 0; therefore its absolute value is still 9. |-5| = 5 |7| = 7 Create a number line from -20 to 20 with playing cards. Red cards= negative numbers, black cards=positive numbers. Compare the absolute value of numbers on the number line. www.mathgoodies.com/lessons/vol5/absolute_value.html
Greatest Common Factor (GCF) and Least Common Multiple (LCM)	Practice multiplication facts through 12 **GCF** of two numbers is the largest number that can each be divided by evenly. **Example**: GCF of 6 and 9 is 3 because 3 is the biggest number that divides evenly into both **LCM** of two numbers is the smallest number that can be divided by both evenly. **Example**: LCM of 6 and 9 is 18 because 18 is the smallest number that can be divided evenly by both. **GCF**: Use coins or buttons for this concept. Let's say you're trying to find factors of 24. Ask the child to divide the 24 buttons/coins into 2 piles. The child will discover that 12 is a factor. Ask the child how many ways they can evenly divide the coins. Soon they will discover that they can stack the coins into groups of 2, 4, 6, 8 and 12. **LCM:** Hot dogs come in packs of 10 and buns come in pack of 8 or 12. Have your child determine how many packs of each you would need to buy so that there is a bun for every dog. http://www.math-play.com/Factors-and-Multiples-Jeopardy/Factors-and-Multiples-Jeopardy.html
Commutative, associative, distributive, and identity properties	**The commutative property** states that with addition and multiplication (2 terms) you may change the order of the terms and the answer will remain the same. **The associative property** states that with addition and multiplication (3 or more terms) you may change the location of the parenthesis and the answer will remain the same. **The identity property** states that when multiplying by 1 or adding 0, your number will remain the same. Create flash cards with expressions [ex: 4 + 5 = 5 + 4, 6(3x4) = 4(6x3), 5 + 0 = 5] and have your child correctly identify the property for each expression. http://www.quia.com/cm/99245.html?AP_rand=1887959329
Simplify square roots and exponents	The square root of a number ($\sqrt{\#}$) is the opposite of a number "squared" or multiplied by itself ($\#^2$). The cube root of a number ($\square\#$ is the opposite of a number cubed, or multiplied by itself, and then multiplied by itself again ($\#^3$). For example, the square root of 4 ($\sqrt{4}$) is 2, because 2x2, also called 2 squared (2^2) is 4. These operations are opposites. For cubes, the cube root of 8 ($\square 8$) is 2, because 2x2x2 is 8. 2x2x2 is also called 2 cubed, or 2^3. It is extremely difficult to calculate exactly the square or cube roots of most numbers-those for whom the roots are a fraction. An excellent web resource for practicing roots is: http://teachers.sduhsd.k12.ca.us/abrown/activities/jeopardy/rootjeopardy.htm
Multiply and divide terms with decimals	Create flash cards out of random numbers with decimals. (1.34, .03, etc.) Draw two flash cards and count all the numbers **behind** the decimal point. This is the number of digits which would appear **behind** the decimal point if you multiplied these two numbers together. www.funbrain.com/tens/index.html
Convert and compare fractions, decimals, and percents	Use the following fraction/decimal/percent sets to make flash cards: 1/2 =.5 = 50%, 1/4 = .25 = 25%, 3/4 = .75 = 75%, 1/5 = .2 = 20%, 2/5 = .4 = 40%, 3/5 = .6 = 60%, 4/5 = .8 = 80%, 1/10 = .1 = 10%, 2/10= .2 = 20%, 3/10 = .3 = 30%, etc. Practice these flash cards with your kids. http://www.amblesideprimary.com/ambleweb/mentalmaths/fracto.html
Order of Operations	Practice using order of operations with the PEMDAS method (parenthesis, exponents, **multiply and divide, add and subtract, based on left to right**). What this means is: 1. First do all operations that lie inside parentheses or absolute values.

	2. Next, do any work with exponents or radicals (the little numbers on top (2^2) or the "roots"($\sqrt{4}$.) 3. Working from left to right, do all multiplication and division. 4. Finally, working from left to right, do all addition and subtraction. Your child will need to solve problems using these steps in order. Example: (3+2) x 4 =? First add 3+2 to equal 5. Then multiply it by 4. 5x4=20 So, (3+2)x4=20 http://classroom.jc-schools.net/basic/math-order.html
Multiply and divide fractions	To Multiply Fractions: • Multiply the numerators (the number on top)of the fractions • Multiply the denominators (the number on bottom) of the fractions • Place the product of the numerators over the product of the denominators • Simplify the Fraction **Example: Multiply 2/9 and 3/12** • **Multiply the numerators (2*3=6)** • **Multiply the denominators (9*12=108)** • **Place the product of the numerators over the product of the denominators (6/108)** • **Simplify the Fraction (6/108 = 1/18)** Hands on models for dividing fractions: http://ims.ode.state.oh.us/ODE/IMS/Lessons/Content/CMA_LP_S01_BH_L06_I08_01.pdf
Evaluating expressions with variables	Get a deck of cards. Create an expression with your child which contains one/two variables: (e.g. 3x+5 or 4a-5. Draw two cards from the deck and plug their values in for the variables (for higher level problems you can use red cards as positive numbers and black cards as negative numbers). So, in the first example (3x+5) if you draw 4, you would plug that number in and get 3(4) + 5 = 17. If you draw 3, you would get 3(3)+5=14. More complicated examples would look something like this: (A+2)x(B+3)=? www.bbc.co.uk/education/mathsfile/shockwave/games/postie.html
Solve two-step equations	Provide your child with a math journal (a notebook in which they can practice math.) Work with your child to help them create and solve two-step equations (e.g., n-3=6+2, you would add the 6+2 and get n-3=8.) Then you add the inverse of (-3) to both sides (n-3 +3=8+3, the answer is n=11.) Continue to solve two step equations in the math journal. http://nlvm.usu.edu/en/nav/frames_asid_201_g_4_t_2.html?open=instructions http://www.gamequarium.com/equations.html
Mean, Median, Mode, and Range	**What You Need:** • a deck of cards • scratch paper • a pencil • a calculator (optional) 1. **Finding the Mean Game.** Each player finds the total value of the digits on their cards, then divides the total by 7 (the total number of cards) to find the mean. For example, if the cards in your hand are Ace, 2, 4, 6, 8, 8, 9, then the sum of those digits is 38. Dividing the sum by 7 yields 5 (rounding to the nearest whole number). If this was your hand, you'd have scored 5 points in this round. Because computation can be tricky without paper at this age, feel free to give your child a pencil and paper to find the mean. Or, to keep the game moving at a faster pace, you may allow use of a calculator. 2. **Finding the Median Game.** Each player finds the median card in their hand and that number is their point value for that round. Thus, using the hand above, the median of the cards is 6, since it's the value of the middle card. 3. **Finding the Mode Game.** Each player finds the mode in their hand of cards, which represents their point value for that round. If there is no mode, then they don't score any points in that round. However, if there are two modes (two numbers occur the same number of times), then the player snags the point values for both modes! In the example above, the mode would be 8, since it occurs most often.

RESOURCES

www.mathgoodies.com/lessons/vol5/absolute_value.html
http://www.math-play.com/Factors-and-Multiples-Jeopardy/Factors-and-Multiples-Jeopardy.html
http://www.quia.com/cm/99245.html?AP_rand=1887959329
http://teachers.sduhsd.k12.ca.us/abrown/activities/jeopardy/rootjeopardy.htm
www.funbrain.com/tens/index.html
http://www.amblesideprimary.com/ambleweb/mentalmaths/fracto.html
http://classroom.jc-schools.net/basic/math-order.html
http://ims.ode.state.oh.us/ODE/IMS/Lessons/Content/CMA_LP_S01_BH_L06_I08_01.pdf
www.bbc.co.uk/education/mathsfile/shockwave/games/postie.html
http://nlvm.usu.edu/en/nav/frames_asid_201_g_4_t_2.html?open=instructions
http://www.gamequarium.com/equations.html
Fractions Game: http://illuminations.nctm.org/activitydetail.aspx?id=18
Fraction Games: http://www.jamit.com.au/fraction-games.htm
http://www.bbc.co.uk/skillswise/numbers/fractiondecimalpercentage/comparing/comparingall3/game.shtml
http://www.betweenwaters.com/probab/probab.html
http://www.crctlessons.com/probability-of-compound-events.html
http://www.crctlessons.com/probability-game.html
For locating and naming coordinates: http://www.shodor.org/interactivate/activities/SimpleCoordinates/
Also for coordinates: http://www.mathplayground.com/locate_aliens.html
For several transformation games: http://www.onlinemathlearning.com/transformation-games.html
http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/perimeter_and_area/index.html
For practice measuring angles try this game: http://www.mathplayground.com/alienangles.html
http://www.funbrain.com/measure/