Math Mania

Basic Facts Practice - The following strategies are used to help students learn their basic facts. Students need repeated practice with facts before they are able to recall the facts quickly. Research has found that the following strategies are often useful because they help the brain organize the facts for quick recall.

Addition

- Commutative Property: Any two addends always equal the same sum, no matter what their order. For example, 2 + 3 = 3 + 2.
- Count On: When you add 0, 1, 2, or 3, count on from the other number. For example, with 6 + 2, count on 7, 8. Thus 6 + 2 = 8.
- Doubles: Doubles are easy to remember. (2 + 2, 3 + 3, etc.)
- Pattern for Nines: Write all the addition problems for nine: 1 + 9 = 1**0**, 2 + 9 = 1**1**, 3 + 9 = 1**2**, 4 + 9 = 1**3**, 5 + 9 = 1**4**. Have your child look for the patterns – the last digit (ones place) in the sum is one less than the number being added to nine.
- Sums of Ten: When you think of adding to make ten, think of completing a pair of hands or a ten-frame.
- Adding Ten: When you add ten to a number, you just add one to the number in the tens place.
- Making Ten: Sometimes it helps to break up the numbers to make ten. Then, add on the leftovers. For example, 8 + 5 = 8 + 2 = 10 + 3 = 13, so 8 + 5 = 13.

Subtraction

- Count Back: When subtracting 0, 1, 2, or 3, count back the minuend. For example, with 11-3, start at the minuend 11, and count back three numbers, 10, 9, 8. Thus, 11-3 = 8.
- Count Up: If two numbers are close together, count up from the number to be subtracted. For example, with 14 – 9, start at 9 and count up 10, 11, 12, 13, 14. Five numbers are counted, so 14 – 9 = 5.
- Think Addition: To find the difference for a subtraction fact, think of the related addition fact. For example, for 7 – 3 =? think ? + 3 = 7. Since 4 + 3 = 7, then 7 – 3 = 4.
- Ten Between: When the number ten lies between two numbers of the subtraction fact, find the distance from ten for each of the numbers, and then add their distances together. For example, with 14 – 8, 14 is 4 away from ten, 8 is 2 away from 10, and since 4 + 2 = 6, 14 – 8 = 6.

Multiplication

- Zero, One, and Ten Rules:
  - Zero multiplied by any number is zero.
  - Any number multiplied by ones is itself.
  - To multiply by ten, first multiply by one, and then add a zero to the ones place of the product.
- Commutative Property: The same two factors always give the same product, no matter what their order. For example, 4 x 5 = 5 x 4.
- Doubles and Five – 0s: Multiplying by 2 is the same as adding doubles in addition. For example, 8 x 2 = 8 + 8 = 16. Multiplying any number by five gives a product of either 5 or 0 in the ones place. Multiples of 5 include 0, 5, 10, 15, 20, . . .
- Ways with Sixes: To multiply by six, double the threes fact. For example, 5 x 6 = the double of 5 x 3 = 15 + 15 = 30. Or think five groups of the number plus one more group. For example, 6 x 8 = 5 x 8 + 8.
- Ways with Fours: To multiply by four, double the twos facts. For example, 8 x 4 = the double of 8 x 2 = 16 + 16 = 32.
- Patterns with Nines: When nine is the factor, the digits of the product always add to nine. For example, 5 x 9 = 45 and 4 + 5 = 9.

Division

- Counting Multiples: Count by the divisor. Keep track of how many times you count to get to the dividend. For example, with 18 ÷ 6, the six is the divisor. Count 6, 12, 18. Three numbers have been counted, so the quotient is 3.
- Think Multiplication: Any division fact can be rewritten as a multiplication fact. The dividend becomes the product, and the divisor becomes one of the factors. For example, with 24 ÷ 8 =? think ? x 8 = 24.
- Patterns: Many patterns exist in our number system. One example found in facts with a divisor of 9 is that the quotient is one greater than the tens digit of the dividend. For example, with 45 ÷ 9, the tens digit is 4, so the quotient is 4 + 1 = 5. Another example, with 63 ÷ 9, the tens digit is 6, so the quotient is 6 + 1 = 7.
- Halves: With the facts that have 4, 6, or 8 as a divisor, halve the quotient and the divisor and find the quotient of the halved numbers. For example, 24 ÷ 8 and 12 ÷ 4 have the same quotient of 3. Or 36 ÷ 6 and 18 ÷ 3 both equal 6.