Multiplication/Division Daily Practices

Third (through 10x) Fourth - Sixth Grades(through 12x)

Multiplication Strategies for 1-12

1 – Anything times 1 is itself   Ex.) 1 x 6 = 6

2 – Is the same as the number added twice   Ex.) 2 x 6 = 6 + 6 = 12

3 – is the same as 2x the number plus the number.

 Ex.) 3 x 6 = 2 x 6 + 6 = 12 + 6 =18

4 – is the same as 2x or twice the number plus 2x or twice the number.

 Ex.) 4 x 6 = 2 x 6 + 2 x 6 = 12 + 12 = 24

5 – 5x an even number the tens place is ½ the number and the ones place ends in zero.

 Ex.) 5 x 2 = 10, 5 x 4 =20, 5 x 6 = 30, 5 x 8 = 40, 5 x 10 = 50, 5 x 12 = 60

6 – is the same as 5x the number plus the number

 Ex.) 3 x 6 = 3 x (5 + 1) = (3 x 5) + (3 x 1)

7 – is the same as 5x the number plus 2x or twice the number.

 Ex.) 3 x 7 = 3 x (5 + 2) = (3 x 5) + (3 x 2)

8 – is the same as 5x the number plus 3x the number.

…...Ex.) 3 x 8 = 3 x (5 + 3) = (3 x 5) + (3 x 3)

9 – is the same as 5x the number plus 4x the number.

……Ex.) 3 x 9 = 3 x (5 + 4) = (3 x 5) + (3 x 4)

10 is the same as 5x the number plus 5x or the number with a zero on the end.

……Ex.) 3 x 10 = 3 x (5 + 5) = (3 x 5) + (3 x 5)

11 is 10x the number plus the number.

 Ex.) 3 x 11 = 3 x (10 + 1) = (3 x 10) + (3 x 1)

12 is 10x the number plus 2x or twice the number

 Ex.) 3 x 12 = 3 x (10 + 2) = (3 x 10) + (3 x 2)

Divisibility Rules

2- The number is even and last number is divisible by 2 (0,2,4,6,8)

3- the sum of the digits is divisible by three

4- the number made by the last two digits is divisible by 4

5- the last digit is 0 or 5

6- the number is divisible by 2 and 3

7- the number is 0 or divisible by 7 after removing, doubling and subtracting the last digit from the number

8- the number made by the last three digits is divisible by 8

9- the sum of the digits is divisible by 9

10- the last digit is 0

$78342 \div 6$ $7 + 8 + 3 + 4 + 2 = 24$ which is divisible by 3. It ends in an even number which makes it divisible by 2

therefore it is divisible by 6.

Dividing through partial products

Have them write out their 6 times tables through 9 or repetitively add 6 putting out to the side how many times, whichever works best for a student.

$6 \times 1 = 6$	or	6	(+6 onto each number)
$6 \times 2 = 12$		12	2x
$6 \times 3 = 18$		18	3x
$6 \times 4 = 24$		24	4x
$6 \times 5 = 30$		30	5x
$6 \times 6 = 36$		36	6x
$6 \times 7 = 42$		42	7x
$6 \times 8 = 48$		48	8x
$6 \times 9 = 54$		54	9x

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6 │ 78342
    60000 │ 10000
    18342
    18000 │  3000
      342
      300 │    50
       42
       42 │     7
        0 │ 13057
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This same method can be used for 2 or 3 digit divisors.

Use these multiplication and division strategies verbally anytime you perform an operation in a lesson, review warm ups, or review homework.

Always have students show the strategies through drawings, documenting their thought processes through the operations they did, or writing or verbalizing their process as well as the actual algorithm.