*Third Grade Strategies – *Multiplication and Division*

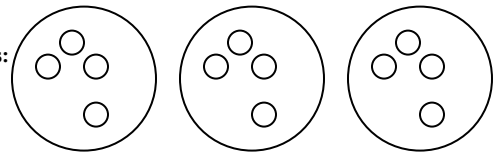
Strategies the students will be using will vary depending on the size of the number. The focus is on grouping numbers and not counting by ones.

Understanding Multiplication and Division: This will include skip counting, looking for patterns, using arrays, and drawing pictures. Example: 6 x 13 = 78 or 78 ÷ 6 = 13

6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 = 78

78 - 6- 6- 6- 6- 6- 6- 6- 6- 6- 6- 6- 6- 6 = 0 remaining

Drawing pictures:
3 x 4 = 12



Students may use the 100 chart to record the skip count and look for patterns.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	89	99	100

Array model for skip counting:
4 x 5 or 5 x 4 OR 20 ÷ 5 or 20 ÷ 4
"Four rows of 5 or five columns of 4."

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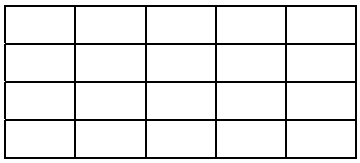


Third grade students focus on becoming proficient in the basic multiplication/division combinations so they can apply these strategies to more complex problems in 4th and 5th grade. They also focus on developing a conceptual understanding of multiplication and division.

Strategies for fluency – some students may not need strategies depending on the number combination and others may use a different one than is suggested below (once student is proficient in these number combinations move on to the next group):
Proficiency – student can say product (answer) quickly without much pause.

- *First focus on 0, 1, 2, and 10's*
  0's – answer always 0
  1's – answer always the number you multiplied by
  2's – always double
  10's – add a zero to the end

- *Building on from the 0, 1, 2, and 10's practice 3, 4, 5, and 9's*
  3's – start with 2 groups then add one
  3 x 9 = (9 + 9) + 9
  = 18 + 9
  = 27

4's – double, double

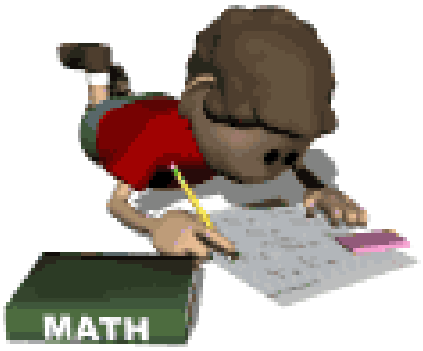
4 x 2 = (2 + 2) + (2 + 2)
= 4 + 4
= 8

5's – multiply by 10 and take half

5 x 2 = ½ of (10 x 2)
= ½ of 20
= 10

9's – multiply by 10 and then take away one group

9 x 2 = (10 x 2) – 2
= 20 – 2
= 18



- *Build on the previous strategies by practicing 6, 7, and 8's*

6's – look for groups of 3 or double the group of 3

6 x 7 = (7 + 7 + 7) + (7 + 7 + 7) OR (3 x 7) + (3 x 7)
= 21 + 21
= 42

7's – break apart 7 into groups of 5 and 2

7 x 8 = (8 + 8 + 8 + 8 + 8) + 8 + 8 OR (8 x 5) + (8 x 2)
= 40 + 16
= 56

8's – break into groups of 4 and 4

8 x 7 = (7 + 7 + 7 + 7) + (7 + 7 + 7 + 7) OR (4 x 7) + (4 x 7)
= 28 + 28
= 56

Shaded numbers are those the student should be proficient with by the end of third grade.

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Third Grade Computation Expectations: Fluent with facts shaded on multiplication chart; at least two strategies for multiplying and dividing multi-digit numbers.