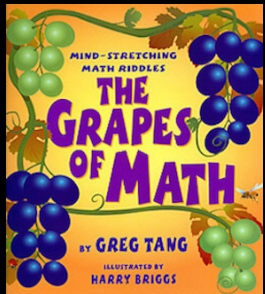
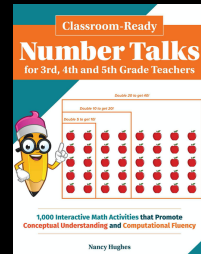
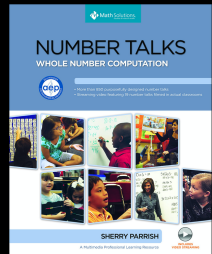
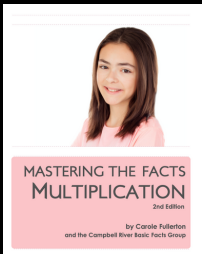


LITERATURE CONNECTIONS:



RECOMMENDED RESOURCES:

- Watch Graham Fletcher's progression video on multiplication
<https://gfletchy.com/progression-videos/>
- Making Math Meaningful by Marion Small (Ch 8 page 157)
- Open Questions by Marion Small
- Carole Fullerton
- Greg Tang Math



KEY CURRICULUM CONNECTIONS

- Use of concrete materials for representation and use of contextual situations
- Concepts of groups and members, arrays and area models.
- Games that develop practice of computations
- Multiplication and Division are related (the fact family relationship)

RECOMMENDED MANIPULATIVES

- Colour tiles
- Two colour counters
- Grid paper
- Dice
- Number lines

KEY VOCABULARY

- | | |
|------------------|--------------|
| • Group | • Area model |
| • Member | • Factor |
| • Row and column | • Multiple |
| • Array | • Divisible |

GAMES & ACTIVITIES LINK

Games and activities underlined in this flyer can all be found using this QR code or on Curriculum SharePoint



INTRODUCING MULTIPLICATION



Why is "three groups of five" or "three rows of five" better than "three times five"?




Chilliwack School District
#numeracySD33

Introduce multiplication and division using skip counting and manipulatives.

Use a 100s chart to skip count, use vocabulary of "multiples, factors and divisible by" when teaching.

Ex. As we skip count by 3's, highlight the numbers on the 100s chart. Look for patterns and what students notice. Use vocabulary to talk about the numbers.

21 is a multiple of 3.
3 is a factor of 21.
21 is divisible by 3.
Is 25 divisible by 3?



100's chart

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	98	99	100

Use games to reinforce concepts:
Groups and Members Bump, Sun and Moon, Capture board and Stack it Up
to have students practice with early multiplication, multiples and groups of.

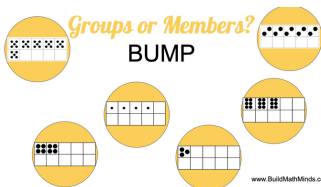
Stack It Up for 5!

0	5	10	15
20	25	30	35
40	45		

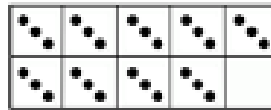
Instructions:
Students play in pairs. Each player needs 10 colored tiles in a single color, one green and one red. They also need a 100's chart.
Player A rolls the die and multiplies the number shown by 5. Player B takes a counter in her color and places it just below the multiple that product on the game board.
Player B takes a turn.
If there is already a counter below the product, the new color tile is placed on top of the previous one. Play continues until each player has 10 counters on the game board.
Each player rolls the die and multiplies the number shown by 5. The player with the most tiles (regardless of color) wins.

Sun and Moon
Multiples of 3

22	6	18	9	30	20	27	6
21							21
11							12
24							14
9							11
8	12	6	25	18	10	23	15



Using context and vocabulary to help students make connections. When students are given a question like 3×5 it has no meaning. 3 groups of 5, or 3 rows of 5 will give them something more meaningful to connect with. Small items or counters can be used to model the problems. A visual like a ten frame can help students visualize the amounts in a familiar way. In the ten frame below, it is easier to see how 9 groups of 3 is related to 10 groups of 3.



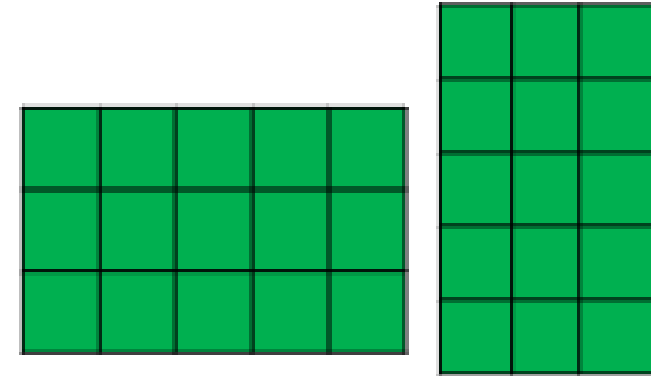
Subitizing Flash Cards are great for practicing early multiplication.

Have students organize manipulatives into arrays, rows and columns, using colour tiles and/or grid paper can show relationships. Students can see the amount doesn't change as the array rotates, or you flip the colour of 2 columns.

Activities that support flexibility with numbers :

- Broken Calculator
- Splitting up a Garden

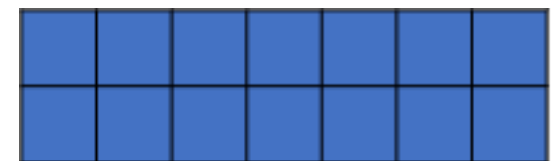
THE COMMUTATIVE PROPERTY



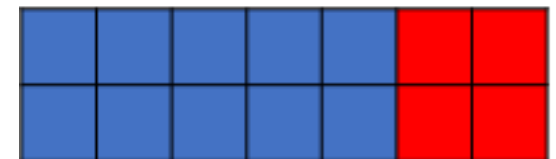
3 rows of 5 (3×5)

5 rows of 3
(5×3)

THE DISTRIBUTIVE PROPERTY



2 rows of 7 (2×7)



2 rows of 5 and 2 rows of 2
(2×5) + (2×2)