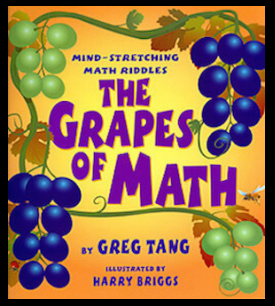
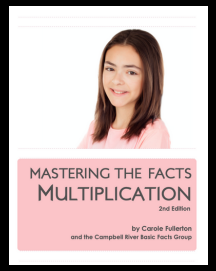
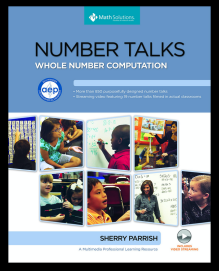
LITERATURE CONNECTIONS:

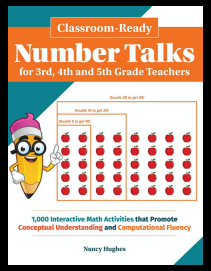


RECOMMENDED RESOURCES:

- Watch Graham Fletchers' 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
- Member
- Row and column
- Array
- Area model
- Factor
- Multiple
- 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

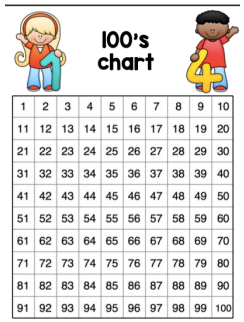
Why is "three groups of five" or "three rows of five" better than "three times five"?

Chilliwack School District

#numeracySD33

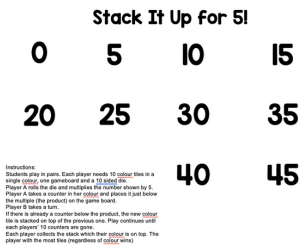
Introduce multiplication and division using skip counting and manipulatives. Use a *100s chart* to skip count, use vocabulary of "multiples, factors and divisible by" when teaching.
Ex. As we skip count by 3's, highlight the numbers on the 100s chart. Look for patterns and what students notice. Use vocabulary to talk about the numbers.

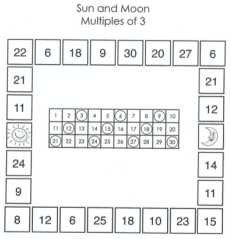
21 is a multiple of 3.
3 is a factor of 21.
21 is divisible by 3.
Is 25 divisible by 3?

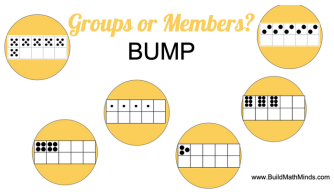


1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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.







Using context and vocabulary to help students make connections. When students are given a question like 3 x 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

.

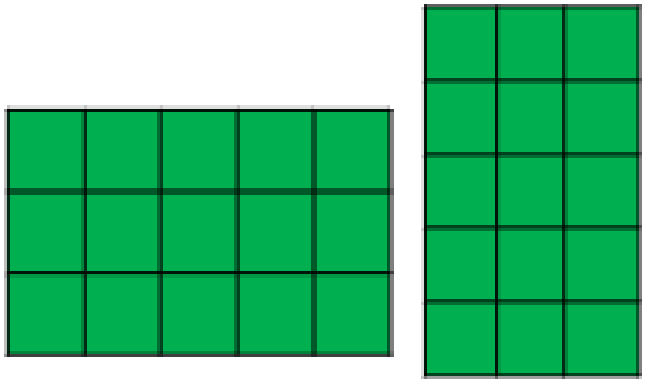
Subitizing Flash Cards are great for practicing early multiplication.

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 x 5)

5 rows of 3 (5 x 3)

THE DISTRIBUTIVE PROPERTY

2 rows of 7 (2 x 7)

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