

PATTERNS WITH MULTIPLES

Students investigate multiples of 2-7 and explore the resulting pattern. If students are not already familiar with skip counting, start the activity with demonstrating how to find the first 5 multiples of 3 on the hundreds chart and have them complete the pattern by coloring in the multiples on the 100's chart.

Ask students what patterns they are observing in the multiples, explaining that 3,6,9,12 ... are the multiples of 3. Some patterns they may observe are

- multiples alternate between even and odd numbers
- there are groupings of 3 or 4 multiples for each tens digit

Investigate other patterns such as (a) the units digit repeats after a cycle of 10 (0,3,6,9,2,5,8,1,4,7) (b) the multiples of 3 are divisible by 3 (c) the sum of the digits of each multiple is also a multiple of 3. ($12 - 1 + 2 = 3$, $3 \div 3 = 1$, $51 - 5 + 1 = 6$, $6 \div 3 = 2$)

Have students color the multiples of 2,4,5,7. Use data on the charts to ask questions such as:

1. Pick a number, like 44, for example. What number is 44 a multiple of? How can you tell? Choose other numbers.
2. If 44 is a multiple of 2, is it divisible by 2? Check with a calculator. Is this always true? Make a chart. If 44 is not a multiple of 3, is it divisible by 3? Is this always true? Make a chart.
3. What do we know about the numbers that have multiple colors?

Ask whether the patterns noticed with the 3's or others emerge with the other multiples.

[Adapted from: Connections: Linking Manipulatives to Mathematics, Grade 4 Rainbow Multiples, Creative Publications, Inc.]

Multiples of _____

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

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