

MATERIALS:

- White board marker

With the students' help, start writing the multiples of 3 on the board. As you write them down, have students tell you which multiples of 3 are also multiples of 9. Designate those numbers with an *

- ? What patterns do you see in the multiples of 9? *Numbers in the ones place count down from 9 to 0, the numbers in the tens place count up from 0 to 9 and the numbers will add up to nine when added up to a single digit. The number 99 is a unique case. The digits need to be added twice, as follows, $99 = 9 + 9 = 18$; $18 = 1 + 8 = 9$*
- ? What patterns do you see in the multiples of 3? *When you add multi-digit answers down to a single digit, they form a 3, 6, 9 pattern. For example, in the number 12 ($1 + 2 = 3$), in 15 ($1 + 5 = 6$) and in 18 ($1 + 8 = 9$). Likewise in 48 ($4+8=12$, $1+2=3$) and so on.*

Count from 1 to 100, have half the students clap when the number is a multiple of 3 and the other half of the class snap their fingers on the multiples of 9. Once students get the hang of it, ask for volunteers to be "counters."

Multiples of Nine

9	18	27	36	45	54
63	72	81	90	99	108
117	126	135	144	153	162
171	180	189	198	207	216
225	234	243	252	261	270
279	288	297	396	315	324

Multiples of Three

3	6	9	12	15	18
21	24	27	30	33	36
39	42	45	48	51	54
57	60	63	66	69	72
75	78	81	84	87	90
93	96	99	102	105	108