Wheeling and Dealing

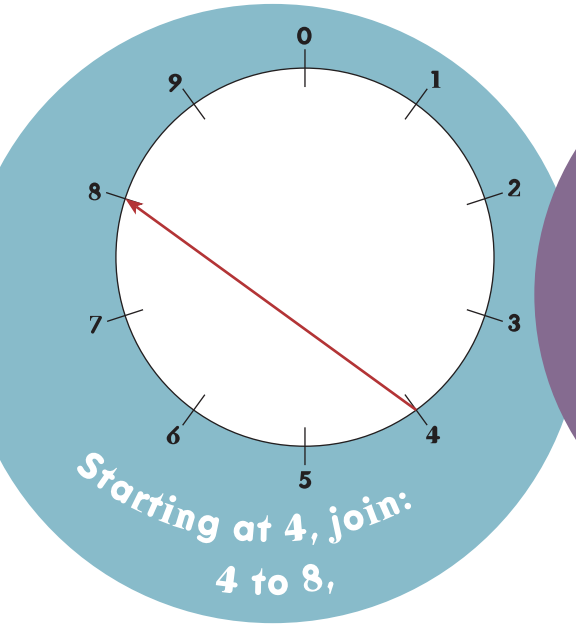
You need ☑ a photocopy of the digit wheel copymaster ☑ a classmate
☑ multilink cubes or place value blocks

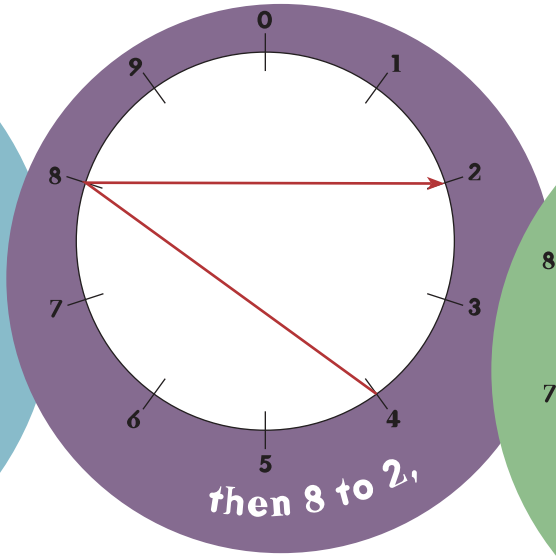
Activity One

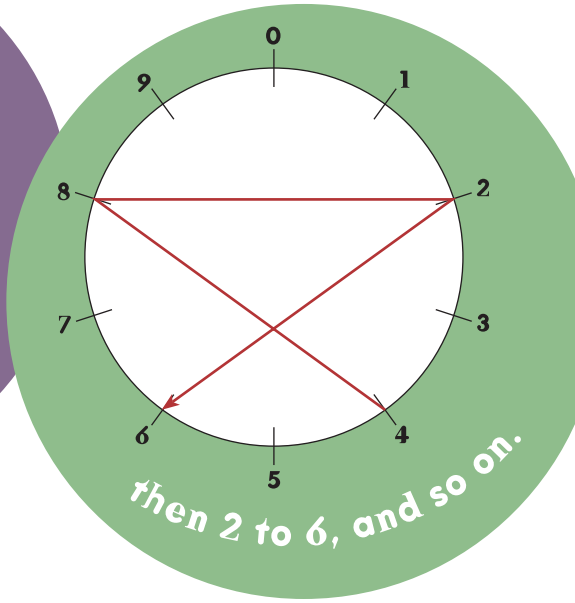
Wiremu is graphing the multiples of 4 on a digit wheel.
First, he makes this table of the facts:

Number	1	2	3	4	5	6	7	8	9	10
4 x	4	8	12	16	20	24	28	32	36	40

He graphs the ones digit in each multiple of 4 like this:







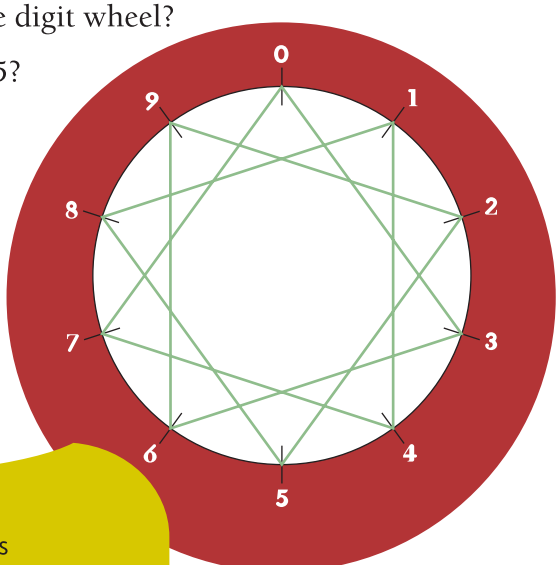
1. a. On your own digit wheel, continue the pattern for multiples of 4. What do you notice about the pattern?

   b. Could 47, 95, and 783 be multiples of 4? Explain your answer to a classmate.

2. a. What pattern would the multiples of 5 make on the digit wheel?

   b. What is the test to see if a number is a multiple of 5?

3. a. Which multiples are graphed on this digit wheel?



   b. Would the multiples of 13 and 17 also make a pattern like this? Explain your answer to a classmate.

4. Graph the multiples of 6, 2, and 8 on separate digit wheels.
In what ways are the patterns similar and different?

5. Predict what pattern these multiples would make on the digit wheel:

a. multiples of 11

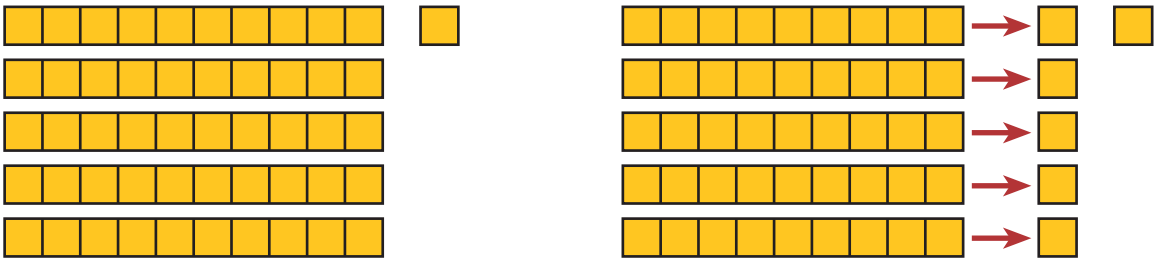
b. multiples of 19

c. multiples of 48.

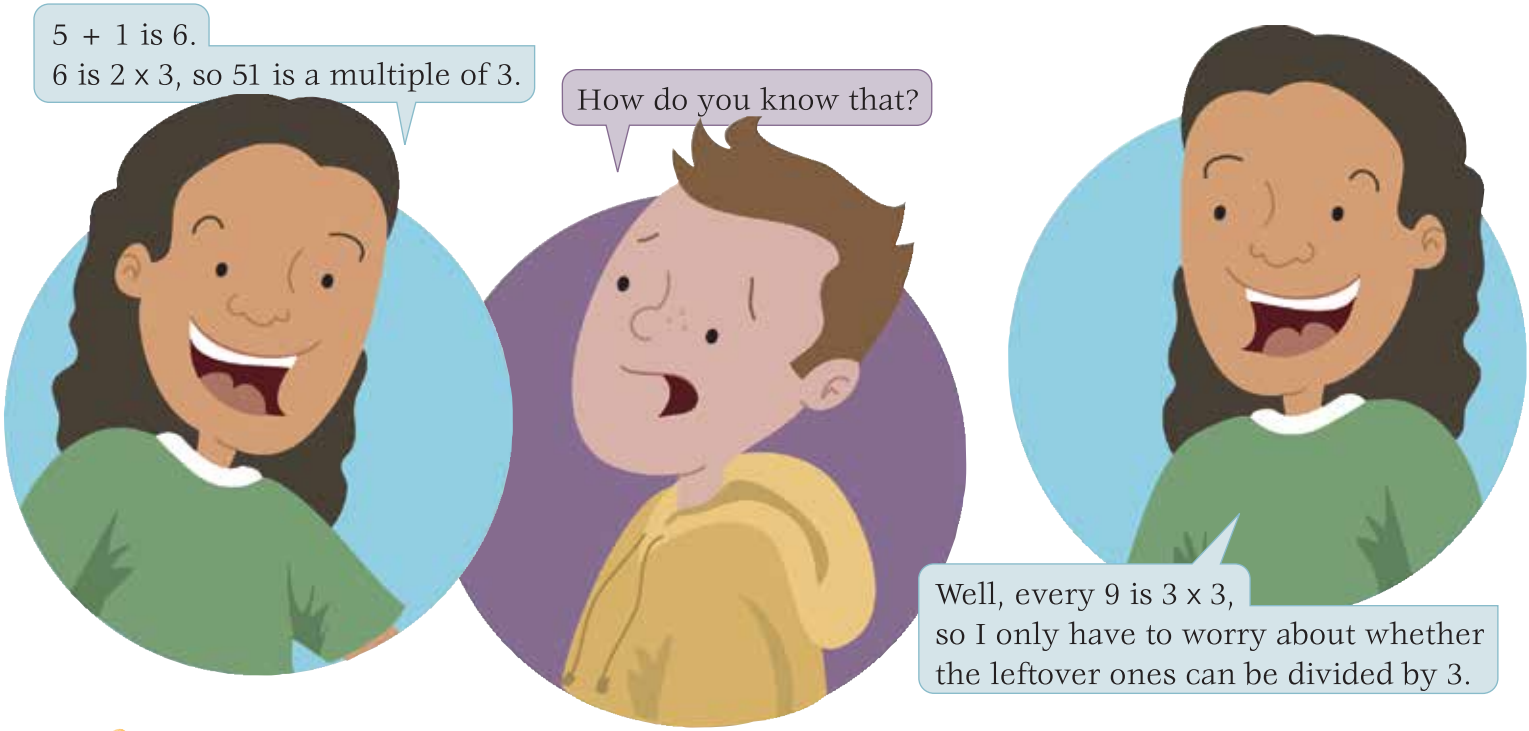
Activity Two

The multiples of 3 visit every digit on the wheel. But you can't tell if a number is a multiple of 3 just by looking at the ones digit on the digit wheel.

Ani is finding out whether 51 is a multiple of 3. This is how she works it out:



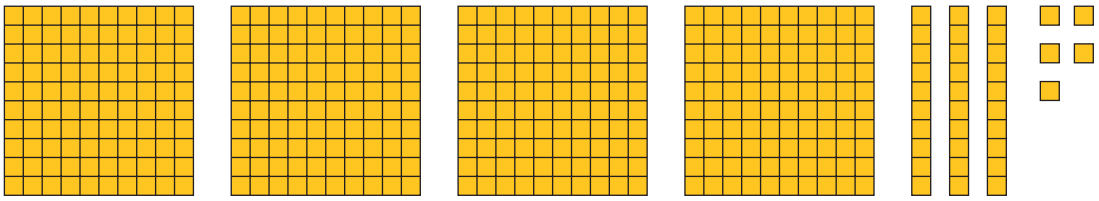
She makes 51 with tens and ones ... **then takes 1 off each 10.**



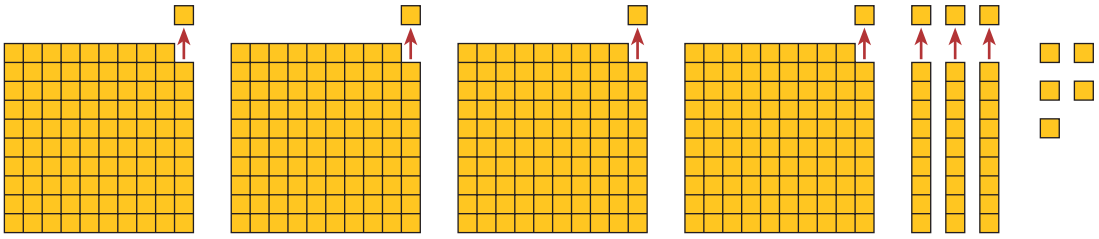
1. Use Ani's strategy to find out if these numbers are multiples of 3:

a. 42 b. 75 c. 88 d. 102

2. Ani discovers that her strategy will work for 3-digit numbers as well, such as 435:



**She makes 435 with hundreds, tens, and ones,
then takes 1 off each 100 and 1 off each 10.**



Use Ani's strategy to find out if these numbers are multiples of 3:

a. 273 b. 414 c. 523

d. 672 e. 1 110 f. 3 561

3. Could Ani's strategy be used to find out if a number is a multiple of 9?