Digital Delights

Activity One

To find the digital sum of a number, add its digits until you reach a single digit.

> For example:
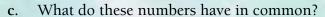> 43 has a digital sum of 4 + 3 = 7.
> 26 has a digital sum of 2 + 6 = 8.

1. a. Find the digital sums of these numbers:

   18   27   36   45   54   63   72   81

   b. What do you see?

   c. What do these numbers have in common?

2. Sometimes you need to add the digits more than once to reach a single digit.

> For example:
> 98 has a digital sum of 9 + 8 = 17 → 1 + 7 = 8.
> 74 has a digital sum of 7 + 4 = 11 → 1 + 1 = 2.

What is the digital sum of 59?

Activity Two

The multiples of eight are the answers to the eight times table.
Complete the multiples of eight and find their digital sums.

Multiples of eight	8	16	24	32	
Digital sum	8	7	6		

What pattern can you see?

Investigation

Investigate the digital sums of multiples of seven, six, and five.
What patterns can you see?