Multiples and The Least Common Multiple

The multiples of a number 3 are 6,9,12... because

$6 = 3 \times 2$

$9 = 3 \times 3$

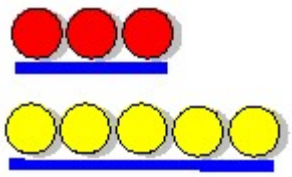
$12 = 3 \times 4$

But the number 20 is not a multiple of 3 because we cannot think of any two whole numbers whose product is 20

You can make a model to find the least common multiple of 3 and 5.

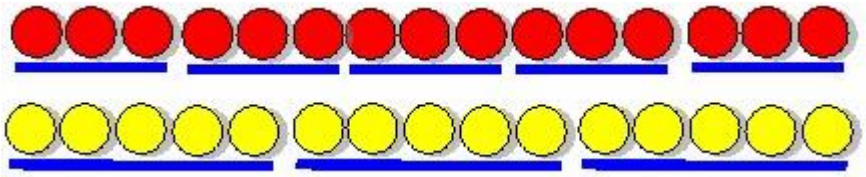
STEP 1

Place 3 red counters in a row. Place 5 yellow counters in a row directly below.



STEP 2

Continue placing groups of 3 red counters and groups of 5 yellow counters until both rows have the same number of counters. At that point, the number of counters in each row is the least common multiple, or LCM, of 3 and 5.



There are 15 counters in each row. So, the least common multiple of 3 and 5 is 15.

Sami and Maha love to count.
Sami counts by 4' : 4, 8, 12, 16, 20, 24, 28, 32, 36,....

Maha counts by 3': 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ...

Sami and Maha both say the numbers 12 and 24. These numbers are called the common multiples of 4 and 3. The first common multiple is 12, so it is called the least common multiple of 4 and 3.

Examples:

A- Write the least common multiple of each set of numbers.

1) 3 and 5
15 , 30

2) 4 and 7
28

3) 6 and 9
18, 36, 54