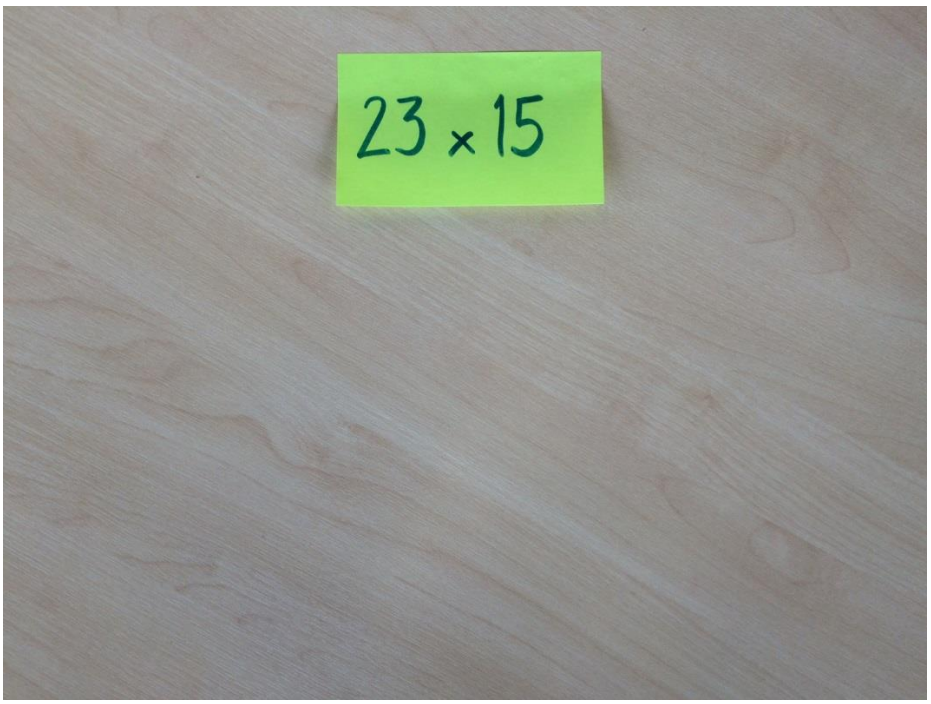
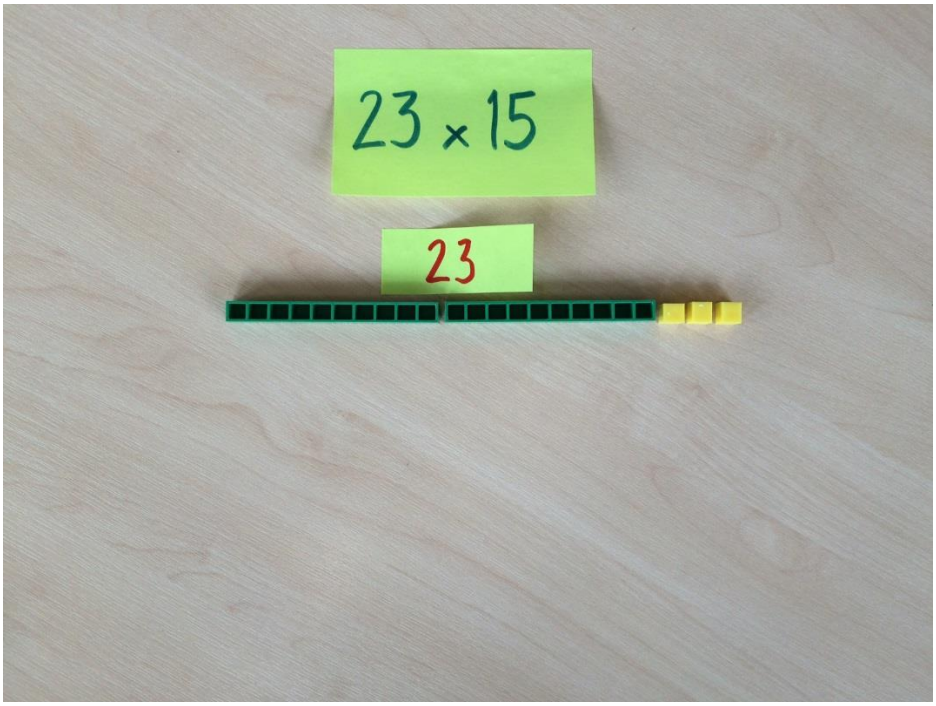
# Multiplying Using Concrete Resources (Arrays)

1. **Write down the multiplication problem you would like to solve**

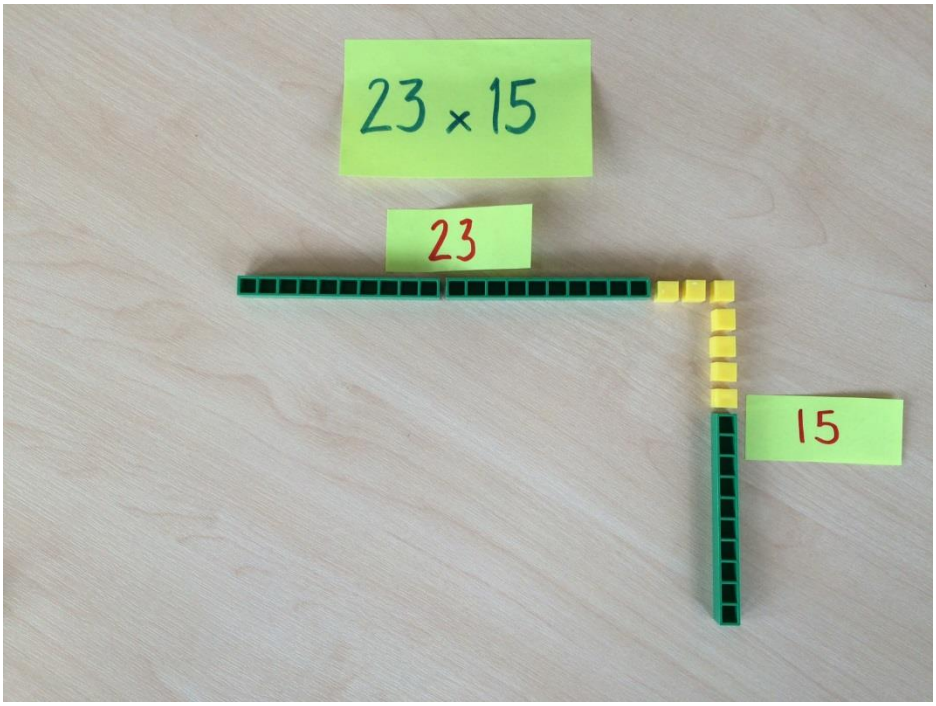



2. **Horizontally lay out your first multiple.**



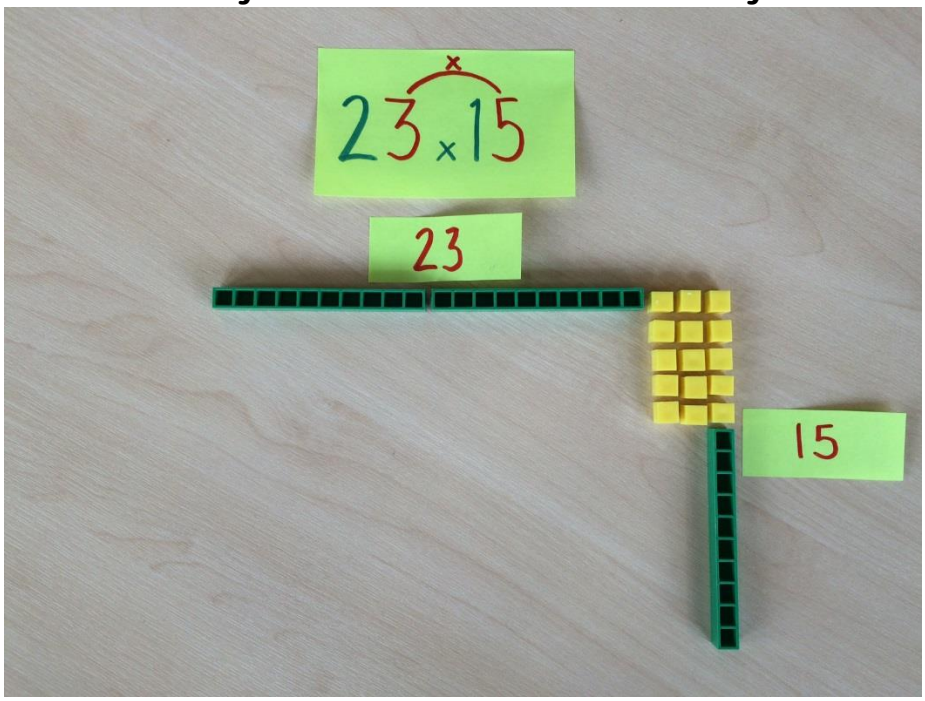

**In this example, 23 has been laid out.**
**23 is made up of 2 tens and 3 units.**

3. **Next, lay out the second multiple vertically, with the units together in the top right corner.**
   **The corner unit counts for both multiples.**



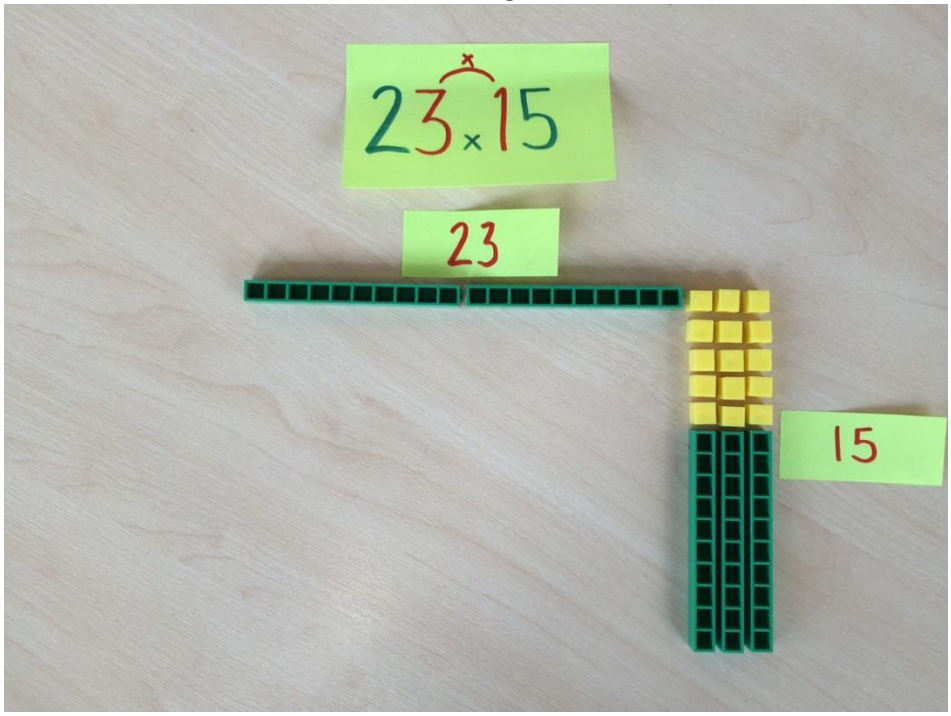

**In this example, the final unit in 23 also counts as the top unit in 15 made of 1 ten and 5 units.**

4. **Multiply the units and lay out the units. Note that they form a rectangle.**



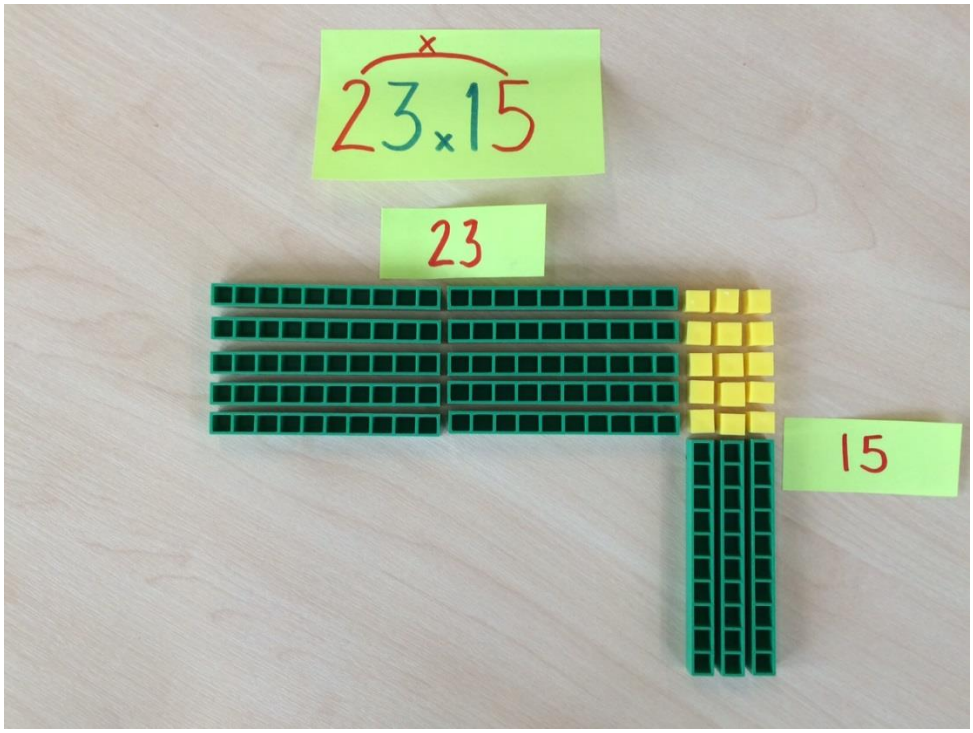

**In this case, 5 x 3 = 15. The 15 units form the units rectangle.**

5. **Multiply the units in the first number by the tens in the second number.**



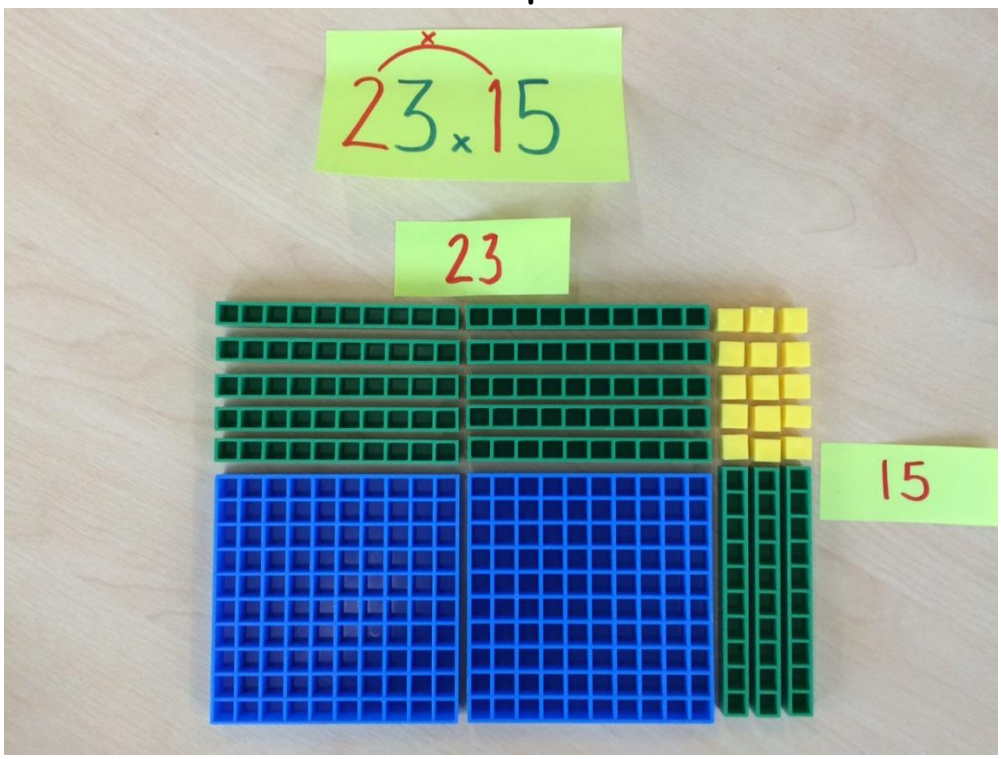

**Here, 3 units multiplied by 1 ten equals 30. 30 has been laid out in tens along the right column.**

6. **Multiply the tens in the first number by the units in the second number.**



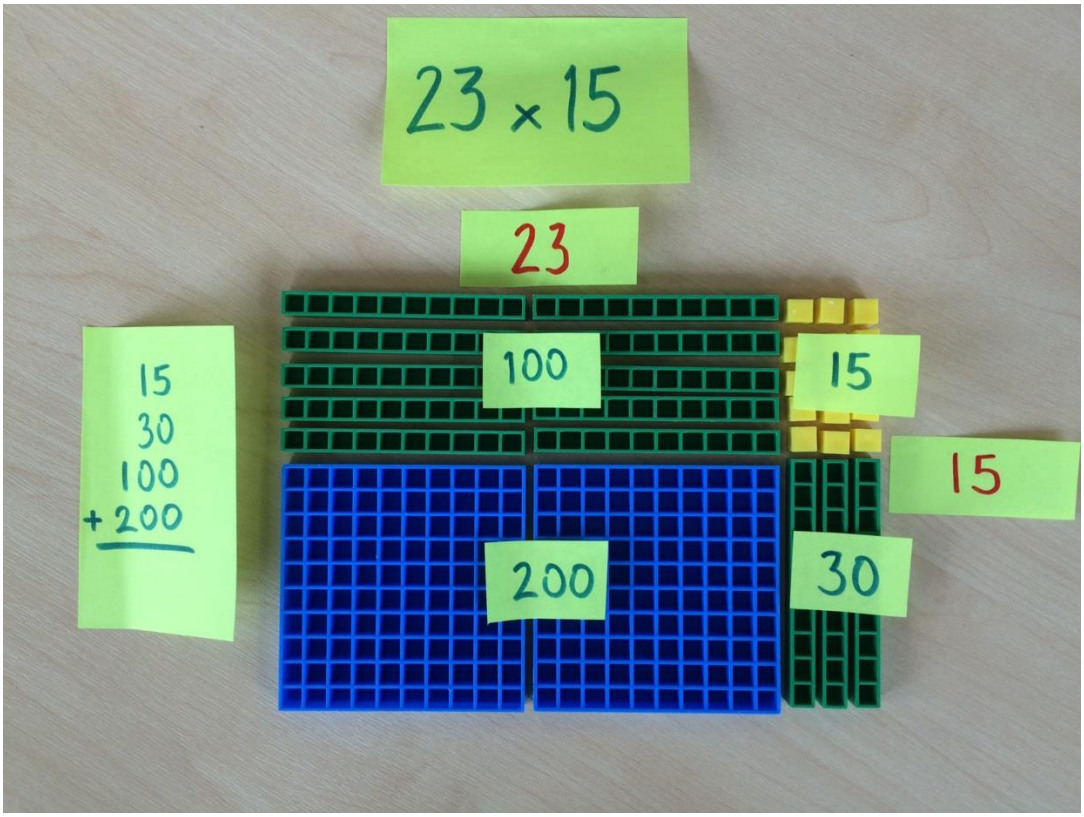

**Here, the two tens in 23 multiplied by 5 (units from 15) equals 100 (10 tens). I lay out 10 tens.**

7. **Multiply the both numbers in the tens place.**



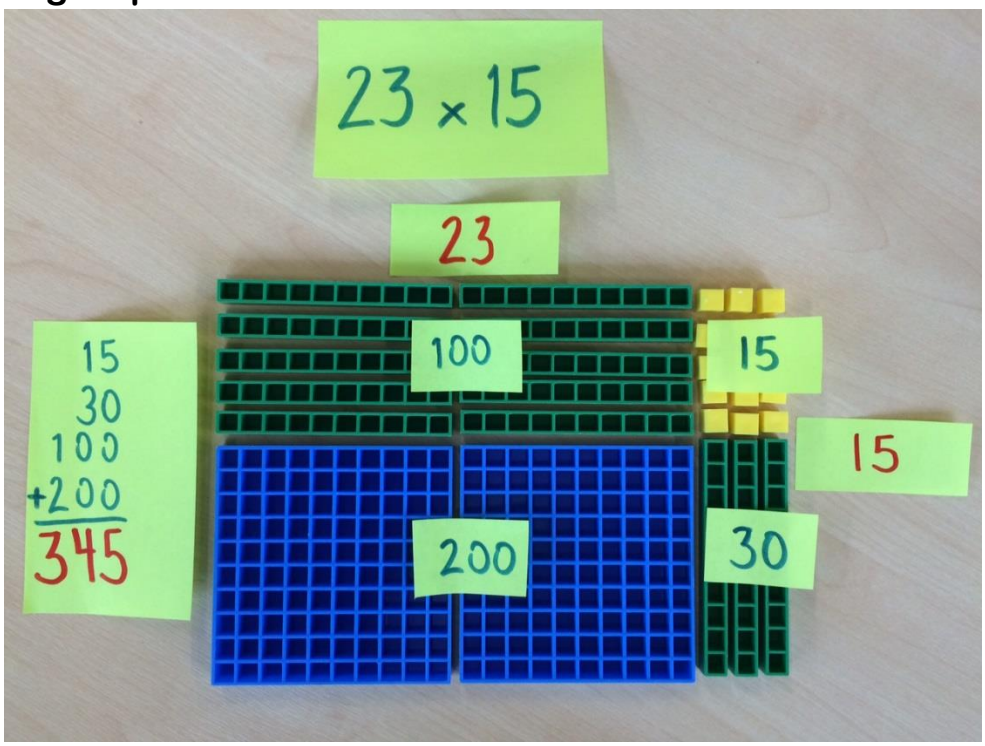

**I have multiplied two tens (20) by one ten (10) which equals 200. I lay two one-hundred squares out to form my rectangular array.**

8. **Count up the total number you have laid out by grouping your numbers.**




**I have labelled my groups and written my addition problem.**

9. **Add all the groups.**




**All groups added together gives me 345.**