

April 16th

How many four digit numbers have all digits different?

For the first digit, there are 9 choices (since 0 can't be the leading digit)

For the second digit there are 9 choices

For the third digit there are 8 choices

For the fourth digit there are 7 choices

$$9 \times 9 \times 8 \times 7 = \mathbf{4536}$$