

# OLYMPIC FACTORIALS!

Number and Operations: Factorials

When you rearrange the elements of a set, you create a **permutation** of the original arrangement. How many different permutations of color can be made using the rings below? Since there are four rings that still need to be colored in, we'll calculate the factorial of 4, or  $4!$ , which means  $4 \times 3 \times 2 \times 1$ . This will give the number of all possible arrangements. Once you're confident you know how many permutations are possible, recreate them in color below! The traditional colors of the Olympic rings are red, blue, yellow, green and black.



Circle the permutation used by the Olympics.