

# Permutations WS

Putting one set of  $n$  things  
in order:  $n!$

Picking a smaller set,  $r$ , from a  
larger set,  $n$ , and putting them  
in order:  ${}_nP_r$

**Permuations: order matters**

$${}_nP_r$$

**vs.**

**Combinations: order doesn't  
matter**

$${}_nC_r$$

**10 people in a class and 2 are  
being chosen for President and  
Vice-President.**

**10 people in a class and 2 are  
being chosen for class  
representatives.**

**How many different 5 card  
poker hands are there?**