Activity #5: Counting 2   **Statistics**

1. Suppose we flip a coin 15 times in a row. What is the probability that we flip heads at least 11 times?

2. In poker, a "Four of a Kind" hand consists of all four cards of a given rank plus a fifth card called the *kicker*. For example, a hand consisting of all four 7 cards plus a King is a four of a kind.

   Suppose we draw five cards from a standard deck. What is the probability that we draw four of a kind?

3. The eight justices of the U.S. Supreme Court have decided to play a game of 4-on-4 volleyball. In how many different ways can they divide into two teams of four players each?

4. In how many ways can the letters in the word BOOKKEEPER be arranged?

5. Suppose we flip a coin 10 times in a row and count the number of heads, k. This number can be any integer from 0 to 10.

   Construct a table to summarize, for each k, the number of ways we could flip exactly k heads.

6. 15 people are to be divided into 3 teams of 5 people each, called Team A, Team B, and Team C. In how many ways can these teams be formed?