

# X/O Problem

## Problem Statement:

You have three cards marked as follows:

- One card with an X on both sides
- One card with an O on both sides
- One card with an X on one side and an O on the other

Suppose all three of these cards are in a bag. You reach into the bag, randomly draw a card, and you are looking at an X.

Is it more likely that the other side will show an O, an X, or are both equally likely?

## Necessary Equipment:

- Sandwich bags (one per student)
- Three small cards in each bag labeled - X/X, X/O and O/O
- A tally sheet:

X	O

## The Experiment:

- Shake the bag to mix up the cards so that you will get a random draw.
- Draw a card and if you are looking at an X, tally whether the other side of the card is an X or an O. If you are looking at an O, simply replace the card in the bag.
- Shake the bag, and draw again.
- Repeat the process above and collect as much data as you can in the next few minutes.
- Remember to only collect data about what is on the other side when you are looking at an X.
- Report how many X's and how many O's were on the other side of the sampled cards.