

## Representing Sample Spaces

An experiment is a situation involving chance that leads to results called outcomes.

An outcome is the result of a single performance or train of an experiment.

An event is one or more outcomes of an experiment.

A sample space is a set of all possible outcomes of one or more events.

**PROBLEM:** One red token and one black token are placed in a bag. A token is drawn and the color is recorded. It is then returned to the bag and a second draw is made. Represent the sample space for this experiment by making an organized list a table, and a tree diagram.

### Organized List

Pair each possible outcome from the first drawing with the possible outcomes from the second drawing.

R, R      B, B      R, B      B, R

### Table

List the outcomes of the first drawing in the left column and those of the second drawing in the top row.

Outcomes	Red	Black
Red	R,R	R,B
Black	B,R	B,B

### Tree Diagram

