

# Experimental

# Theoretical

Experimental Probability:

$\frac{\text{favorable outcome}}{\text{number of trials conducted}}$

*What does happen?*

Theoretical Probability:

$\frac{\text{favorable outcomes}}{\text{total possible outcomes}}$

*What should happen?*

Example:

You toss a die 10 times.  
You record the number.

You want to find the experimental probability of getting a 3.

If a 3 occurred 6 times, the probability is

$$\frac{6}{10} = \frac{3}{5}$$

Example:

There are 6 numbers on a die.

You want to find the theoretical probability of getting a 3.

Probability of rolling a 3 =  $\frac{1}{6}$

When you toss a die, you should get a 3 one sixth of the time.

**Probability**