Notes - Theoretical and Experimental Probability

Probability

Probability is the measure of how likely an event is to happen.

0% = _____

1% - 49% = _____

50% = _____

51% - 99% = _____

100% = _____

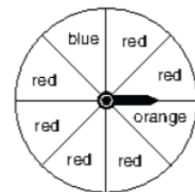Write impossible, unlikely, as likely as not, likely, or certain to describe each event.

1. Landing on Blue:

_____

2. Landing on Orange:

_____

3. Landing on Red:

_____

4. Landing on Blue, Red, or Orange:

_____

5. You spin the spinner clockwise:

_____

In my bucket I have 4 white, 3 red, and 1 blue marble.

P(red) =

P(white) =

P(not blue) =

P(red or blue) =

P(purple) =

P(red, white, or blue) =

There are **TWO** types of probability!

Notes - Theoretical and Experimental Probability
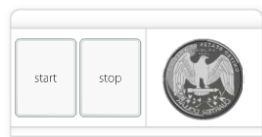
Theoretical Probability

- Uses mathematics to find the answer
- Tells what is supposed to happen "in theory"

What is the **theoretical** probability of flipping a coin and getting tails?

Experimental Probability

- probability based on data collected
- you actually perform "an experiment"
- it doesn't always match the **theoretical** probability **BUT**
- if you perform the experiment many times (**billions!**) you should get very close or achieve the theoretical probability.

What is the theoretical probability of flipping a coin and getting heads?

What is the experimental probability of flipping a coin 20 times and getting heads ?

Heads	Tails

Theoretical VS Experimental Probability

Theoretical: What _____ happen

Experimental: What _____ happen

What is the theoretical probability of rolling a number cube and getting a 5?

What is the experimental probability of rolling a number cube and getting a 5?

Number of Rolls	5's

4