AMDM 2.1

What: **PROBABILITY OF SIMPLE EVENTS**
Why: To calculate the probability of simple events and to analyze the difference between theoretical probability and experimental probability.

VOCABULARY:

Probability– expressed as a ratio describing the # of _____ outcomes to the # of _____ outcomes. Probability is measured on a scale from **0 – 1**.

Theoretical Probability– the probability, based on _____, that an event will occur (what *should* happen).

Experimental Probability– found using outcomes obtained in an actual _____ or game (what *actually* happens).

What SHOULD happen v. What ACTUALLY happens!

Impossible   Equally Likely   Certain

0                 $\frac{1}{2}$ 1

Unlikely   Likely
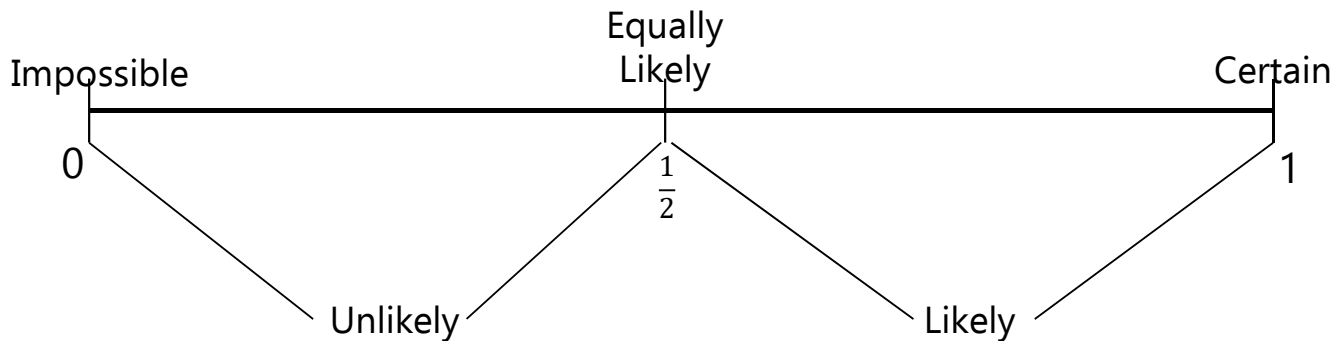
Where would the following fall on the above Number Line???

1) Food will be served for lunch.

2) The sun will rise tomorrow.

3) You will have 2 birthdays this year.

4) You will see a cat this evening.

5) You will roll a "2" on a standard number cube.

6) On your way to school, you will see a live woolly mammoth.

7) You will see a wild, living black bear tomorrow.

8) You will get tails when you flip a coin.

9) You will become famous one day.

PROBABILITY TRIALS

TRIAL #1: Spinning a Spinner
Out of 20 trials, how many times will it land on red? P(red)

1) What do we need to know?

# of red: _____   total # of colors: _____

2) Theoretical Probability:
    (what *should* happen)

3) Do the experiment (20 trials):

4) Experimental Probability:
    (what *actually* happened)

TRIAL #2 : Rolling a Number Cube
Out of 20 trials, how many times will an *odd number* occur– P (odd #)?

1) What do we need to know?

# of odd #'s: _____   total # of sides: _____

2) Theoretical Probability:
    (what *should* happen)

3) Do the experiment (20 trials):

4) Experimental Probability:
    (what *actually* happened)

TRIAL #3 : Flipping a Coin
Out of 20 trials, how many times will *heads* occur– P(heads)?

1) What do we need to know?

# of heads: _____   total # of sides: _____

2) Theoretical Probability:
    (what *should* happen)

3) Do the experiment (20 trials):

4) Experimental Probability:
    (what *actually* happened)

NOTE: AS THE # OF TRIALS INCREASE, THE EXPERIMENTAL PROBABILITY WILL COME CLOSER AND CLOSER TO THE THEORETICAL PROBABILITY!!