COUNTING METHODS

6th Grade Mathematics

Mr. Wong

- An **event** is the result, or outcome, of a single experiment
  - Example – Tossing a “6” on a number cube.

- **Sample Space** is the set of all possible outcomes of a single experiment
  - Example – The sample space for a number cube would be 1,2,3,4,5, and 6.

Tree Diagram Method

- Use a TREE DIAGRAM to list the possible outcomes of 2 coin flips.

YOU

On the first flip you could get…..

H

Now you could get…

H

T

T

Now you could get…

H

T

Possible Outcomes Or Sample Space

HH

HT

TH

TT

Multiplication Rule

If…

- X = total number of outcomes for event A
- Y = total number of outcomes for event B
- Then number of outcomes for A followed by B is

x times y

Making a Table:

Flipping a coin and tossing a number cube

Number Cube

Coin	1	2	3	4	5	6
H	H1	H2	H3	H4	H5	H6
T	T1	T2	T3	T4	T5	T6

Sample Space:

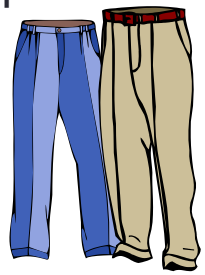
H1, H2, H3, H4, H5, H6, T1, T2, T3, T4, T5, T6

Multiplication Rule:

- Mr. Wong had 3 EVENTS

2 shoes

2 pants



3 shirts

How many possible outfits are there?

2(2)(3) = 12 OUTFITS

Make a tree diagram and list all possible outcomes.