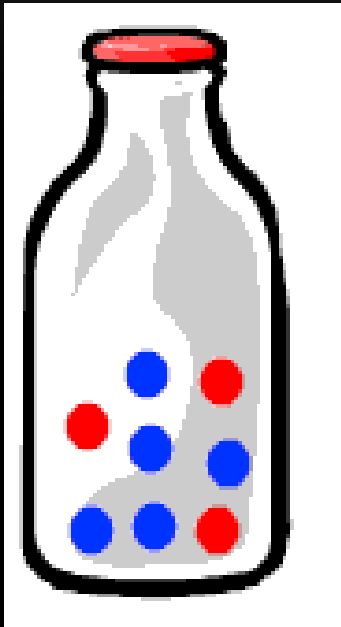


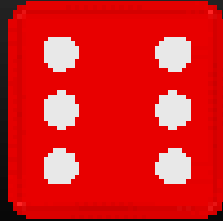
Sample Spaces

EXAMPLE



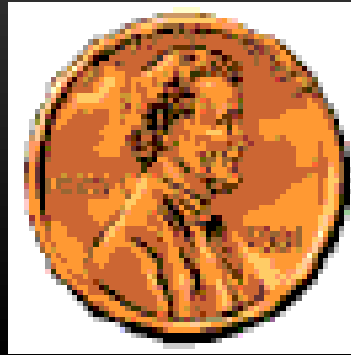
The sample space for this bottle is {blue marble, blue marble, blue marble, red marble, red marble, blue marble, red marble, blue marble}.

EXAMPLE



The sample space for a
number cube is
 $\{1, 2, 3, 4, 5, 6\}$.

EXAMPLE



The sample space for a
penny is
 $\{\text{heads}, \text{tails}\}$.

IN YOUR WORDS.....

A sample space is a list
of the total possibilities
for a situation.

STEPS FOR SUCCESS

First, Look at the “big picture” and think about the different categories of options for the situation.

STEPS FOR SUCCESS

Second, using the categories of options, build a tree diagram to help you “SEE” all of the possibilities.

STEPS FOR SUCCESS

Third, reading the tree diagram from “beginning to end,” list the sample space to show ALL possibilities!

EXAMPLE #1

You can buy a Jobe T-Shirt with either short sleeves or long sleeves, in either gray or white, and in small, medium or large. Create the sample space for all Possible T-Shirts that you can buy.

YOU CAN BUY A JOBE T-SHIRT WITH EITHER SHORT SLEEVES OR LONG SLEEVES, IN EITHER GRAY OR WHITE, AND IN SMALL, MEDIUM OR LARGE. CREATE THE SAMPLE SPACE TO FOR ALL POSSIBLE T-SHIRTS THAT YOU CAN BUY.

Tree Diagram

List

EXAMPLE #2

An ice cream vendor sells vanilla and chocolate ice cream. Customers can choose a waffle or sugar cone and either hot fudge or caramel topping. Construct the sample space for this ice cream situation if the only cone you like is a waffle cone.

AN ICE CREAM VENDOR SELLS VANILLA AND CHOCOLATE ICE CREAM. CUSTOMERS CAN CHOOSE A WAFFLE OR SUGAR CONE AND EITHER HOT FUDGE OR CARAMEL TOPPING. CONSTRUCT THE SAMPLE SPACE FOR THIS ICE CREAM SITUATION IF THE ONLY CONE YOU LIKE IS A WAFFLE CONE.

Tree Diagram

List

EXAMPLE #3

Beyonce, Justin Bieber, and Lil' Wayne are collaborating on a song. They have three beat options to choose from. For their musical instrument, they can choose a keyboard or guitar. For the type of song, it can be a children's song, a teenager's song or an adult's song. Create the sample space for the song options that uses any beat option, a keyboard and is made for teenagers or adults.

BEYONCE, JUSTIN BIEBER, AND LIL' WAYNE ARE COLLABORATING ON A SONG. THEY HAVE THREE BEAT OPTIONS TO CHOOSE FROM. FOR THEIR MUSICAL INSTRUMENT, THEY CAN CHOOSE A KEYBOARD OR GUITAR. FOR THE TYPE OF SONG, IT CAN BE A CHILDREN'S SONG, A TEENAGER'S SONG OR AN ADULT'S SONG. CREATE THE SAMPLE SPACE FOR THE SONG OPTIONS THAT USES ANY BEAT OPTION, A KEYBOARD AND IS MADE FOR TEENAGERS OR ADULTS.

Tree Diagram

List