Dice Rolling Activity Directions

Name: _____

Grades: 9-12

Directions: Print and use this worksheet and follow the pictures in the slideshow!

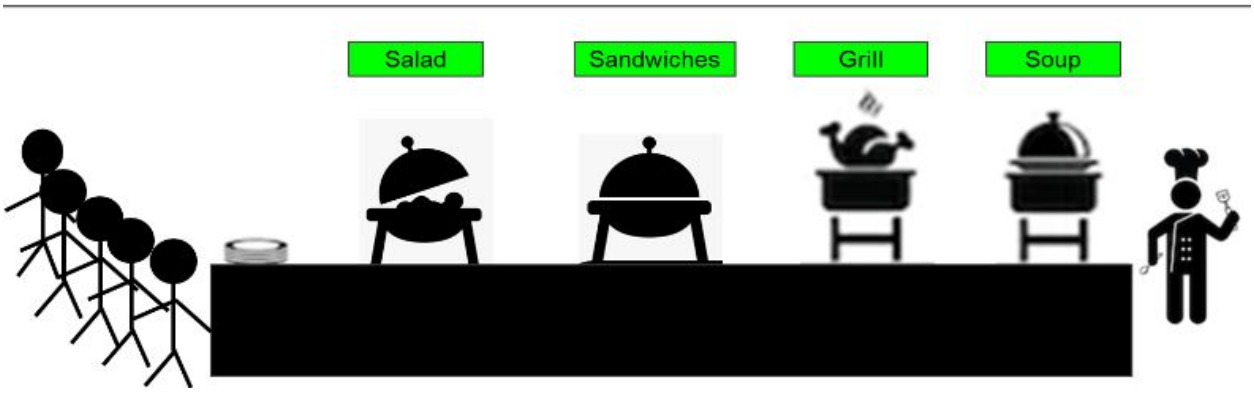
Materials Required:

Dice! (you can use 2 dice or use an online dice roller such as https://www.random.org/dice/?num=2), 1 piece of paper to keep track of the different people, pencil/pen.

Directions:

1. We are going to simulate 5 different people going through the line at a buffet.

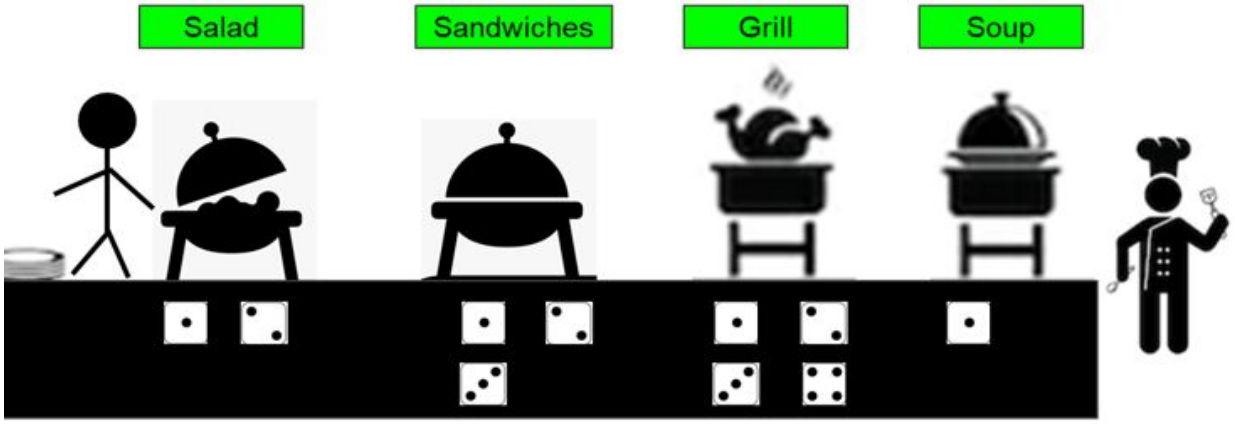
2. Write down a name for each person you want to simulate going through the line (do at least 5 people).

3. 

   This is our buffet line. Each person has an option to go to the salad, sandwiches, grill, and soup stations. Whether they do or not, is up to you and your rolling! There are 2 steps:

The first one is rolling to see if the person stops at a particular station. This is done by rolling 1 die.

The second part is seeing how much time they spend at the station. This is done with 2 dice. The total number on the 2 dice is how much time they spend at a given station.

4. 

   The first opportunity a person has is to go to the salad station. Roll your die. If you roll a 1 or a 2, the person will stop there, and you roll 2 dice to see how long they spend there. If you roll something else, then the person moves on to the next station.

   Note: Since the salad station has 2 dice numbers, there is a 2/6, or 1/3, chance to go to that station.

5. After going through all the stations, take a look at the time it took your person to go through the line, and how many stations they stopped at!

   Fun fact: Each person has only a 1 in 54 chance to stop at all of the stations.

6. Repeat this process with the other 4 people and track their total times
    a. Were their times different?
    b. Did they all go to the same stations?
7. Think about these questions:
    a. What if each station took different times?
    b. What if the chance of going to the soup station was not a one in six chance but one in 573?
    c. What if the amount of people going through were 1,000 and they all went at the same time?
    d. These would all make it very difficult to find the times by hand, but using computer simulation we could quickly and easily set up and run a model with these changes