

Name: \_\_\_\_\_ Period: \_\_\_\_\_

Probability Cooperative Task

**Directions: You and your group have received a container filled with probability items. Use the items and follow the instructions closely to answer the questions.**

***Take out the penny from the container.***

1. The theoretical probability of flipping a fair coin and getting heads is: \_\_\_\_\_
2. If you were to flip a coin 10 times, how many times would you expect to get tails: \_\_\_\_\_
3. Find the experimental probability of getting heads when flipping a coin 10 times.

***Make a table below to organize your work.***

*Experimental Probability*

P (heads):

***PLACE THE COIN BACK IN THE BUCKET. Take out the die with the most number of sides.***

4. Determine the theoretical probability of rolling a 9 or less. \_\_\_\_\_

Explain how you determined this probability.

5. Roll the die 20 times to determine the experimental probability of rolling a 9 or less. Organize your results in a table below.

6. How does your theoretical probability in question #4 compare to your experimental probability in question #5? Were the probabilities the same? If not, were they close in value? Why do you think?

**TAKE THE DIE AND COIN OUT OF THE BUCKET. PLACE THEM ASIDE.**

**7.** Look at the colored tiles in the bucket. Take them out to determine how many of each tile there are. Make a table COLOR and NUMBER OF TILES to organize the amount of each color.

**8.** Place all of the tiles back into the bucket. Determine the theoretical probability of randomly selecting a **RED** tile from the bucket. Explain how you got your answer.

**9.** Gently shake up the bucket to mix the tiles. Randomly select a tile from the bucket and record the result. Do this a total of 12 times. Determine the experimental probability of selecting a red tile from the bucket.

**10.** How does your theoretical probability from #8 compare to your experimental probability in #9? If they are not the same, explain why you think they are not the same.