

Names: \_\_\_\_\_

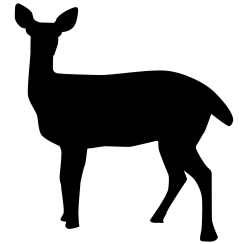
# CAPTURE & RECAPTURE

1. From the paper bag pull out (capture) a handful of beans and mark each one.
2. Put the marked beans back in the bag and shake the bag.
3. From the bag, pull ten beans. Count how many of those are marked and how many are unmarked and fill in the sheet below. Put the beans back into the bag and shake.
4. Pull out ten more beans. Count how many beans are marked and unmarked.
5. Repeat this process six times.

Number of beans you marked from step 1: \_\_\_\_\_

**Use this equation for your proportions**

$$\frac{\text{Marked Beans (in handful)}}{\text{Total Beans (in handful)}} = \frac{\text{Total Marked Beans (in cup)}}{\text{Total Number of Beans (in cup)}}$$



Trial Number	Number of Marked beans	Total Number of beans	Marked beans: total Number (ratio)	Estimated Population (proportion equation) Solve for x
Example (42 marked beans from step 1)	2	10	2:10	$\frac{2}{10} = \frac{42}{x}$ $2x = 420$ $x = 210$
1				
2				
3				
4				
5				
6				

Based on your trials, how many beans do you think were in the cup? \_\_\_\_\_