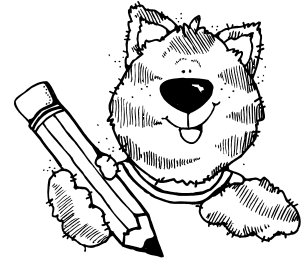


The mystery container



Materials:

Red beads, White beads, Blue beads or three other colors of beads

Paper bags

Class Data Sheet

Question Sheet

Directions:

Each group has *six* colored beads in a paper bag, but does not know how many of each color they have. The containers for all of the groups have the same number of each colored bead.

Each group will have its members draw out a bead, record it, and return it to the container (making sure NOT to look into the container!) Do this twenty-four times and record each time whether the bead is red, white, or blue. Each group should have one person serve as the recorder for the group.

When each group has drawn 24 times, combine the results and record them on the Class Data Sheet.

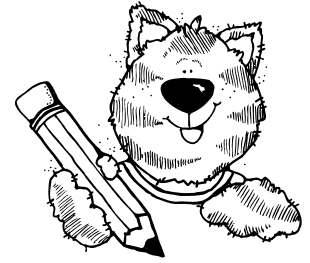
sheet

class data



Group	Red	White	Blue
A			
B			
C			
D			
E			
F			
G			
H			
J			
K			
l			
m			
<i>Totals:</i>			

The mystery container



Name _____ Date _____

Period _____

Answer the following questions:

What was the total number of red beads drawn? _____

What was the total number of draws? _____

The “experimental” probability, then, of drawing a red bead was _____.

The “experimental” probability of a white bead being drawn was _____.

The “experimental” probability of a blue bead being drawn was _____.

The “experimental” probability of an orange bead being drawn was _____.

Is it POSSIBLE that there was an orange bead in each group’s container? _____

Is it LIKELY that there was an orange bead in each group’s container? _____

From the “experimental” probabilities above, what is your “best guess” about the number of beads of each color in each paper bag? (Remember that the total number of beads in each paper bag is 6.)

Red _____ White _____ Blue _____ Orange _____

Now open your containers. How accurate was your “best guess?” If it wasn’t completely accurate, how might you have improved your “best guess?”

extension - the mystery container

Materials:

5 paper bags each containing 30 marbles

Contents of the five bags are:

- 25 blue + 5 white
- 20 blue + 10 white
- 15 blue + 15 white
- 10 blue + 20 white
- 5 blue + 25 white

5 index cards – write the contents of the 5 bags on these cards

Directions:

1. Show students the five bags and five labels. By sampling, they will try to match each bag with its correct label.
2. Select a bag, mix its contents and ask a student to draw a marble. Have the student replace the marble and stir the marbles before drawing the next marble. Do this 15 times. A student can record the results on the chalk board. Ask the class to identify the bag.
3. Select a second bag and repeat sampling procedure with a second student drawing a marble 15 times with replacement. Ask the class to identify the bag.
4. Repeat the process for the other three bags.