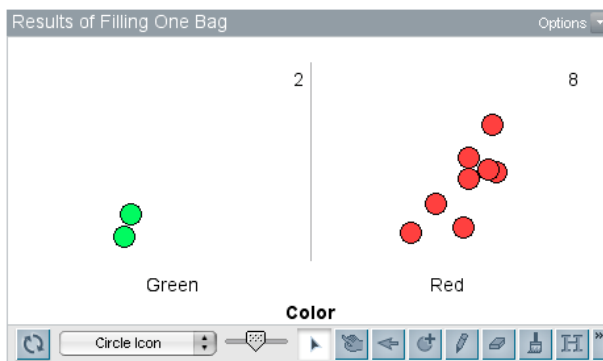


Modeling a Candy Factory

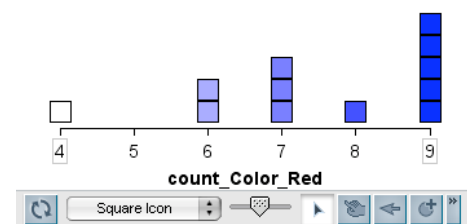
Name(s) _____

Your teacher has shared with you a letter from the president of TEN Candy Company.

1. Do you agree that the company president should not have gotten a bag with only four red candies in it? Explain.
2. Open the TinkerPlots document **Candy Factory.tp**.
3. The candy bags are filled by randomly selecting ten candies from a container that is stocked with 70% red and 30% green candies. Modify the sampler to accurately model drawing the candies from the container.
4. Use your factory model to create a bag of candy. Make a graph like this one, separating the red and green candies. Turn on **N** to display the number of red and green candies.



5. In the Bag Results table, record the number of red candies in the column *NumberRed*.
6. Make a total of 12 bags of candy, each time recording the number of red candies in the Bag Results table.
7. Did you get any bags with four or fewer red candies? If so, how many?
6. To graph the results of your 12 bags, drag a plot from the object shelf into your document. Then drag the attribute *NumberRed* onto the horizontal axis. Fully separate the data (by pulling a case icon to the right) and stack them up so that the graph looks something like the one shown here.



You might want to use the **Square Icon** from the **Icon Type** menu to remind you that these are bags of candy, not individual pieces.

9. Write a short letter to the president that will help him understand why he got a bag with only four red candies. In the letter, tell him about how often a result like this will happen by chance when nothing is wrong with the equipment.