Monster Munch

You need: a telephone directory, or a calculator that generates random numbers, or a computer; a classmate

The Monster Cookie Company makes big cookies. They claim that there are at least 15 peanuts in each of their Monster Brownies.

People have complained that the cookies do not always have 15 peanuts in them, and the company asks you to check what the problem is. You discover that they add 150 peanuts directly to the mix (not to the individual cookies). Each batch produces 10 Monster Brownies.

1. Discuss with a classmate whether 150 peanuts in a batch is enough to give 15 in each cookie.

2. Model the situation using random numbers to represent peanuts.
   a. Draw 10 circles to represent your 10 cookies. Number them 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0.
   b. Use the RAN# function on your calculator or a computer, or the last digits from columns of telephone numbers, to give you 150 random numbers, 0–9. Go down your list of random numbers and put a tally mark for each one on the "cookie" labelled with that number, like this:
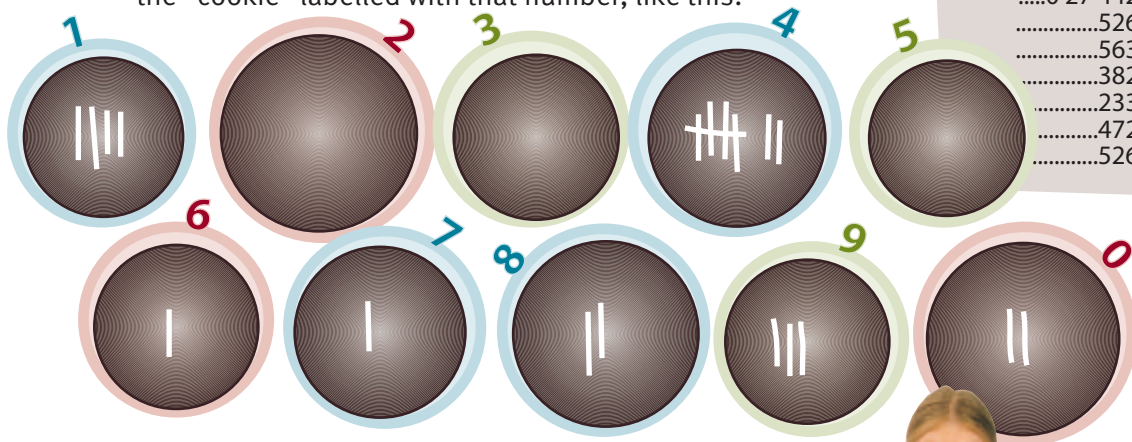
How to get random numbers from the telephone directory:

.............479 2478
.............237 4550
.............526 7350
.............479 1956
........0 25 425 884
.............563 9041
.............563 5044
.............499 9704
.............526 7887
.............566 3921
.............389 8879
.............586 8209
.............527 7108
.....0 27 442 0584
.............526 7234
.............563 9041
.............382 9391
.............233 8874
..........472 4639
..........526 4484

   c. If each tally mark is a "peanut", how many cookies in your "batch" have at least 15 peanuts in them?

   d. Try another batch (using a new set of random numbers) and see if you get the same result.

   e. Keep adding peanuts to your second batch (using more random numbers) until each cookie has at least 15. In total, how many peanuts did you need to use?

   f. If the Monster Cookie Company uses this number in each batch, will each cookie have at least 15 peanuts in it?

3. With a classmate, use your findings to make a recommendation (or recommendations) to the management of the Monster Cookie Company. Give reasons for your recommendation.