

Tossing Tacks!



By now, you've got a preconceived notion of what the results of flipping a coin *should* be – 50% of the time it lands on heads, 50% of the time it lands on tails. But what about how a thumbtack lands? Here you will toss thumbtacks to determine the probability that a tack lands with the point up.

1. Start by tossing the tack five times and computing the sample proportion of the number of “ups” – the number of times the point lands straight up. Record your data here:

your sample proportion = _____

(Be prepared to share this number with the class.)

2. Describe the histogram distribution.

3. Using a second tack in addition to the first, toss the tacks ten more times (for an additional 20 pieces of data) and re-compute the sample proportion (out of 25). Record your data here:

new sample proportion = _____

(Be prepared to share this number with the class.)

4. Describe the new histogram. How does it compare to the first? What does the center represent? How does the variability compare to the first?

5. Toss 75 more tacks (seven at a time) and re-compute the sample proportion (out of the 100 tacks, total). Record your results here:

new sample proportion = _____

(Be prepared to share this number with the class.)

6. Describe the new histogram. Discuss the center and spread again. Is the shape of the data becoming more clear?