

AP STATISTICS

Summer Activity Instructions

Welcome to AP Statistics. Class begins in a few months. You will need to complete the following activity before class begins. The completion of this activity will be your first grade for AP Statistics. Make sure you follow the instructions carefully. The project should not take more than one hour.

DO NOT READ THROUGH THE WHOLE ASSIGNMENT FIRST. Just do each step in order as it is written on this paper.

Step 1:

Get out a separate sheet of paper. On this paper, you will make up a list of what you think 50 coin flip results would look like without actually flipping a coin. **Write only** your name and the 50 made-up results on the paper. At this time, **do not** put anything else on the paper. **Do not** write anything like “Step 1” or “Made-up Results” or anything other than your name and the 50 T’s or H’s. (You will add a number to this page in step 3.) Your paper should look something like this:

Joe Smith

H T H H T H T T T H T H H H ...

Step 2:

Get out a second sheet of paper. This time, you will actually flip a coin 50 times. On this second sheet of paper, record the results in the order that they occurred. Again, **write only** your name and the actual 50 results on the paper. **Do not write** anything else on the paper at this time. **Do not write** anything like “Step 2” or “Real Results” or anything similar. However, make sure you know which paper is your made-up results and which paper is your actual results. (You will add a number to both pages in step 3.) Your paper should look something like this:

Joe Smith

H H H T T T H T H H T ...

Step 3:

Making sure that you know which paper contains which list, you will flip a coin one last time. If the coin comes up heads, label your paper from step 1 as page 1 and the paper from step 2 as page 2. If the coin comes up tails, label your paper from step 1 as page 2 and paper from step 2 as page 1. **At this point, your papers from step 1 and step 2 should have only a page number, your name, and the T's and H's written on it.**

Record the results from your final coin flip on a **separate third piece of paper** – write something like step 1 is page 1 and step 2 is page 2 if you flipped a head on the coin flip from step 3 or write something like step 1 is page 2 and step 2 is page 1 if you flipped a tail on the coin flip from step 3. Also on the third piece of paper, write a summary that compares and contrasts the results of your 50 made-up coin flips versus the results of the 50 actual coin flips. Talk about the amount of heads and tails that occurred in each list as well as any unusual patterns you might have noticed. Also, talk about the number of heads and tails you expected to happen versus what actually did happen and whether or not you think your results are unusual. Your paper should look something like this:

Joe Smith

Page 1 is the 50 made-up results and page 2 is the 50 actual results. (You would write this if, on the coin flip from step 3, your coin landed as “heads”.)

Page 1 is the 50 actual results and page 2 is the 50 made-up results. (You would write this if, on the coin flip from step 3, your coin landed as “tails”.)

Summary (Example)

When I made up the 50 coin flips, I ended up with ___ tails and ___ heads. When I actually did the 50 coin flips, I ended up with ___ tails and ___ heads. I noticed an unusual pattern ...