

Ryan Mike
Slippery Surfaces

The purpose of this project was to determine if solid (dry) or liquid (wet) lubricants are better in reducing friction. For this experiment, I used two different liquid lubricants and two different solid lubricants. The liquid lubricants I used silicon and mineral oil. I chose these two lubricants because my research showed that they were effective liquid lubes and they were obtainable. For dry lubricants, I used molybdenum disulfide and graphite, both in a spray which when dried leaves those two elements in a fairly pure form. I chose these dry lubricants because I found out in my research that they were some of the best dry lubes that there are, and once again, because I could obtain them. Each lubricant was applied to an eight feet long steel track set at a 25° angle, then a five pound steel block machined to fit securely over the track was placed at the top of the track and let go, using gravity to propel it down the track. The way I tested the amount of friction was by timing how long it took for the steel block to reach from the top of the track to the bottom of it. I used a stopwatch to measure the time it took and recorded it in my process journal. Each lubricant and a control were each tested ten times. The results of my experiment were that on the average, the liquid lubricants outperformed the solid lubricants. I noticed that at first, the solid lubricants performed well, but gradually wore off throughout the trials, therefore decreasing their average speed and proving my hypothesis incorrect.