Acceleration

In this lab, my group and I main focus was to find out the acceleration of an object that is dropping while thinking that there are no force acting on it due to gravity. Guess what? Galileo was the first famous philosopher that had experience and observe acceleration due to gravity back in the 1700s. Acceleration is an increase in the rate or speed of something. For instance, in this experiment my job was to measure the value of the acceleration of an object in " free fall". To be specific a free fall is a falling object that is falling under the sole impact of gravity. A free-falling object has an acceleration of 9. 8 m/s/s, downhill.

According to experiment 2, there were two different steel balls that was getting tested. One steel ball was bigger than the other one. First, we used the large steel ball to measure trial 1, 2 and 3 with a balance scale, then we used the smaller steel ball for trial 4 and 5. The procedure for both was the same.

The total mass for the big ball had a mass of 28. 4 grams while the smaller one had a mass of 16. 4 grams. Next, the height was measured from the release mechanism to the target pad. According to the data sheet the height was provided for us. For trial 1, we had to release the ball from the height of 0. 75(m), 1. 0(m) for the second trail, 1. 5(m) for the third and fourth, and 1(m) for the last trial.

Before anything the elapsed time must be on zero while the ball is grip on the release mechanism because I noticed that if the number was different from zero, that means that there's a bad contact between the ball and the mechanism. To avoid that situation, it is important to tighten the ball with

the release mechanism. we had to release the ball four times before calculating the average time of flight. When the ball dropped on the time pad, I had received the time of . 390 secs on my next three tries we had acquired an estimation close to the amount of seconds as my first try.

When we calculated the average by adding all the numbers and dividing it by 4. The average time came up to 0. 389 secs. This shows that the time of flight wouldn't change as bad. As we continued the process with the rest of the trails, I notice that the average for the small ball was actually comparable with the big ball. That was really shocking and exciting to me. Once we were finish with the average for 1-5 trial, the most interesting part was finding the calculation for each trial combine.

Now I know you wondering, how would you do that? Well it's really not difficult. All you have to do is multiply 2 from the height of your measurement than divide it by the total average than multiply the total average number twice to get the average " g" g= 2s/t^2. The average came up to 9. 8 grams.