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Period 3

Final Essay

In this class year, there have been many useful things. Like, we have learned about friction, kinetic friction, velocity, acceleration, and many more. We worked in groups to build a balloon, build a robot, test out different ramps, cosmic rays, and much more. Besides just doing experiments and labs, we also learned how to do presentations, be professional, and work as a good, successful team. When we did our projects, we used the thinking caps and Newton's law of science. Going through the chapters, there were many different equations to learn and use to find out various things. These equations helped us find angles of triangles, gear ratios, how fast a swing swings, how much tension there are, how much velocity there is, and many more. Along with these equations, we learned to always label each unit and write down all of the information you are given. We also need to know why something is so instead of just assuming an equations or an answer is correct.

The significance of all of these subjects and accomplishments vary. The robot lab helped us understand how resistors, transistors, photo diodes, and wires came together to make a robot move. It also helped us show that reading directions is crucial and must be followed step by step in order it is given. In the end, building the robot was a lot of work, but it was fun to do. The balloon project helped us learn how to take a small scaled model and recreate it into a much larger scaled model by only using tissue paper. It taught us how to calculate the mass, size, size of the hole on the bottom, and the height of the entire balloon. Overall, making and creating the balloon was a great experience that I would like to do again. The cosmic ray lab helped us understand how cosmic rays come to earth.

It explained how a cosmic ray disappears as it reaches a certain layer in the ozone. Only some of the cosmic rays actually make it to earth where you can then measure it. It taught us that many cosmic rays come to earth, but only a few actually make it. The cosmic ray lab was another great learning experience that taught, and showed, us the particles, muons, pions, neutrons, protons, electrons, that actually make it to earth. The ramp labs taught us that the difference in the angle of the ramp determines how fast or slow a ball will roll down it. It also helped us see how the velocity differed from the acceleration of the ball. The graphing program helped show the point where the ball was at its maximum speed and maximum velocity. But, all of these labs and projects consist of different equations to make the labs make sense and understandable. These equations are important because you need to know why they are so. Having the equations helps understand the labs better than just doing them and moving on. With this, all of the projects and labs were useful and a great experience.

I have learned how to build a robot and how to make it not short out. If I were to ever build a robot or explain how a robot functions, I would already have some background as to how to do it. If I needed to know how to construct a balloon again, the balloon lab would help me in the steps and calculations to prepare for building one. The Cosmic ray lab experience would get me more familiar with it if I were to study cosmic rays again. If I ever needed to determine the difference between a velocity graph and an acceleration graph, the ramp labs defiantly helped to understand the difference. The many equations that we learned will help to solve any future problems that involve the same math. With this knowledge, it will make solving any new problems easy because we had practice and understanding of what the problem is asking us to find. I have also

learned to work as a team and share ideas with one another. If someone has a different answer or opinion, the best thing to do is talk together about it so you both understand. Just assuming your correct is not enough until you can show and prove you are right. If you are not correct, the class can help you and show you the correct way. The class is not just built on knowing how to conduct things; it also is for sharing ideas and comparing ideas with others.

I expect this to affect my future because these labs and projects look good and help when trying to get into college. It also expands my knowledge in the electronic aspect of science. Most people may know how to assemble a robot or just follow directions, but, most will not understand why a robot works or why the instructions tell you to do something. Aside from the actual hands on part of the class, the presentations and essay writings help improve those skills. It's just not good to be able to do something, but if you can fully explain it clearly and precisely in front of a group of people, that puts you a step ahead of others who can not do both. This class has defiantly been very rewarding, educational, and a great experience. Although the class has a lot of labs, I think that they will help later on if I'm ever faced with a similar lab or problem in life.

I probably will not use this information later on in life because I do not plan to be an engineer. But if I ever wanted to repeat a lab we have done in class again, I will have the knowledge to do so. The presentation and essay portion of the class will help me in the future. Seeing as most jobs require you to have really good presenting skills, this class will have helped immensely. After giving the presentations for our robot, I have gained a little more confidence in being up in front of a group of people. It has also helped in other

classes were I've had to present essays and plays. This class has been a big help in future possibilities and help in being more confident with others. Even if I do not pursue a career in engineering, having some knowledge of it will help with other jobs and careers.