Discussing how alcohol affects the human body can be a little difficult at times since students already have this notion that all you are going to say is “don't drink”. So I tried this lab in Miami with the AMBIENT program funded by the University of Miami for teachers. It worked so well I decided to try it with my students and at the same time I thought it would be interesting if I integrated it with other classes.

I use blood worms that I get from a Miami fish shop. I try to plan to do this during “drug week”. I start by explaining to my Honors Biology I class that we are going to experiment with blood worms and find out how much alcohol it would take to make these little worms “bleed”. We need to make serial dilutions with the vodka and I ask the Honors Chemistry class to do the dilutions. So the chemistry class is now involved in learning to make serial dilutions and at the same time they get interested in the results. The Honors Biology classes now use the serial dilutions prepared by the Honors Chemistry students to observe the behavior of the worms by using at least 15 worms placed in a petri dish with the corresponding dilutions. They make observations of the worm’s behavior before and after. We try not to kill the worms. When they see the “bleeding” they place the worms back to their original setting and see how quickly they can “recover”. Sometimes we lose some but not too many. Once we have the result of each group we ask the Honors Math to use the results and graph them allowing the Math classes to now be involved while they learn graphing techniques. They send the graphs back to the Honors Biology class who now have to use the graphs and their observations to write out a conclusion explaining what was done and what has happened in detail. Their conclusions are passed on to the Honors English class whose assignment is to write a “newspaper article” with the information. The best written article will be published in our school newspaper.

Now the students are really interested and they are more enthusiastic to relate the results of the worm's behavior to the exposure of alcohol to how alcohol may affect a human cell. From there, the rest is easy.