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|  | The results of our experiment and the data we collected support our hypothesis that not all pools have ideal conditions for swimming. Many of the pools either exceeded or did not meet the recommended chemical levels that were suggested in our research.  The Amador pool performed the worst in our tests. The pH, alkalinity, and chlorine levels all consistently fell below safe levels. The low pH is likely to reduce the effectiveness of chlorine, as well as cause eye and skin irritation for swimmers. The low pH is also indicative of the low alkalinity levels. These conditions, along with the generally high temperatures of the pool, could allow for the growth of bacteria and survival of organic matter. The results of our bacteria experiment also supported our research; because the chemical levels were not maintained properly, we were able to grow significantly more bacteria from the Amador sample versus the other samples.  The Pleasanton Valley Club best represented a pool under ideal conditions. Although the first trials were not perfect, later trials consistently stayed within the optimum ranges of pH, alkalinity, and chlorine. The results of our bacterial growth experiment agreed with the data - there was no visible bacterial growth on either of the agar plates. PVC even faired better than the Pleasanton Aquatic Center, a well-kept public pool, perhaps because it receives fewer patrons.  Unfortunately, the correlation of our data to bacterial growth is not very reliable. We pressed our thumbs onto four agar plates as controls, assuming that there would be sufficient bacteria there from which colonies could grow. But all of the controls except one failed to produce results. The sole success produced two colonies that were 1 mm in diameter or less. It is unlikely that our hands were so clean as to carry so little bacteria, therefore we can only doubt the reliability of the rest of our experiment. Very few pool samples induced any growth at all. Those samples that did show results produced colonies similar to the single producing control. The only agar plate that showed substantial growth was from the Amador pool, which grew colonies as large as 1 cm in diameter.  In the process of our testing, our research revealed that water hardness is not significant as a potential health hazard. For this reason, we stopped testing for this factor. Hardness may interfere with the function of chlorine, as it interferes with the ability of soap to make suds, but alkalinity is a sufficient indicator of hardness.  While our research has shown that pools are not kept at optimum conditions, we also feel that our experiments do not give sufficient evidence that pools are particularly hazardous to swimmers' health. The violations of proper pool conditions that we have cited are not likely to cause swimmers' any ill effects other than red eyes or irritated skin. There also seems to be little indication that significant amounts of harmful bacteria can survive in a pool as long as there is moderate maintenance. |

*This Web Site is Best viewed with 256 or more colors.*

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