



## CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

Name(s) <b>Piercen Jones</b>	Project Number <b>J1712</b>
Project Title <b>Blood Spatter Matters</b>	
<b>Abstract</b> The objective is to determine if blood is dropped from a higher height would the diameter size of the blood spatter increase. In addition will the surface make a difference in the size of the diameter. I believe the size will increase because the velocity force will flatten out the blood drop making the diameter of the spatter larger.	
<b>Objectives</b> I created a simulated blood using cornstarch, corn syrup and water and food coloring. I used an eye dropper to drop the blood from different heights. I let the blood dry to get its maximum size, and then measure it in millimeters I also preformed the same steps on three additional surfaces wood, cloth, and tile. Note: These are the same procedures used by the Bakersfield Police Department Crime Lab Investigations Division Unit.	
<b>Methods</b> As the height increased the velocity increased creating a larger diameter size of the blood spatter on all surfaces. The change in surfaces did produce different diameters sizes of the blood spatter. All the spatter samples were in a circular shape with no jagged edges with the exception of wood, which yielded a satellite shape.	
<b>Results</b> Repeated trials of dropping blood from different heights on different surfaces revealed the diameter size will indicate from what approximate height the blood drop fell from. The higher the drop height the larger the diameter of blood spatter will be produced, which is consistent with velocity force. It is concluded that the drop height of a blood drop affects the diameter size of blood spatter regardless of the surface.	
<b>Conclusions</b>	
<b>Summary Statement</b> I showed the diameter size of blood spatter increased as the drop height increased regardless of the surface.	
<b>Help Received</b> Jeff Cecil, Crime Lab Supervisor	