CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
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Project Number
J1899

Project Title
Drop It! How the Height a Blood Drop Falls, and the Surface It Lands On, Affects a Bloodstain

Abstract

Objectives/Goals
The objective of my project is to determine how the height a blood drop falls from and the surface it lands on will affect the appearance of the resulting bloodstain.

Methods/Materials
I constructed a yardstick testing apparatus to hold a glass dropper to drop the fake blood mixture onto test surfaces. I used a recipe to make a fake blood mixture. Height tests were conducted at 6 different heights from 6" to 66" at 12" increments. The blood was dropped on white posterboard pieces for study and analysis. Tests were ran 10 times at each height. Then I tested 11 different surface types; 4 types of carpet, 2 types of flooring, 2 types of tile, denim material, plywood, and concrete. These were tested at the 6" and 66" heights. Dropped 10 drops of blood for each surface at these two heights for study and analysis.

Results
The blood dropped onto the posterboard pieces at various heights had similar shaped bloodstains. A small increase in size was noted with an increase in height,to a certain point. The surface type the blood drop landed on had a greater effect on both the shape and the size of the bloodstain, depending on the surface the drop landed on. Smooth surfaces produced more uniform, spherical shaped stains. Rough surfaces produced irregular shaped stains with uneven edges. The sizes of the stains varied with surface types.

Conclusions/Discussion
My results supported my hypothesis and enabled me to achieve my objective. The surface type a blood drop lands on will affect the size and shape of the resulting bloodstain more than the height a blood drop falls from. This information can be used in forensic science and applied to crime scene investigation.

Summary Statement
How a bloodstain's size and shape are affected by the height a blood drop falls and the surface it lands on.

Help Received
Sister helped with the typing. Mother took some of the pictures during project. Father helped gather some of the materials and helped construct testing apparatus.