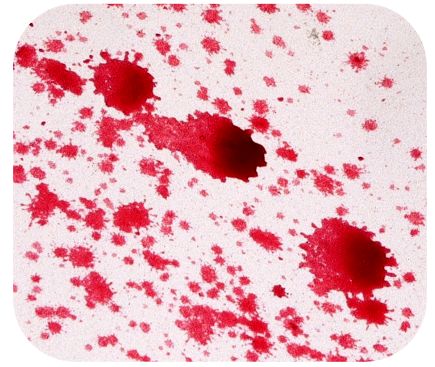


Bloodstain Activity



Investigation question

At what angle did blood impact a surface to create the bloodstain?

Investigation objective

Use measurements to determine the angle of incidence of a blood drop.

Safety

Use rulers properly.

Materials

Each student should have:

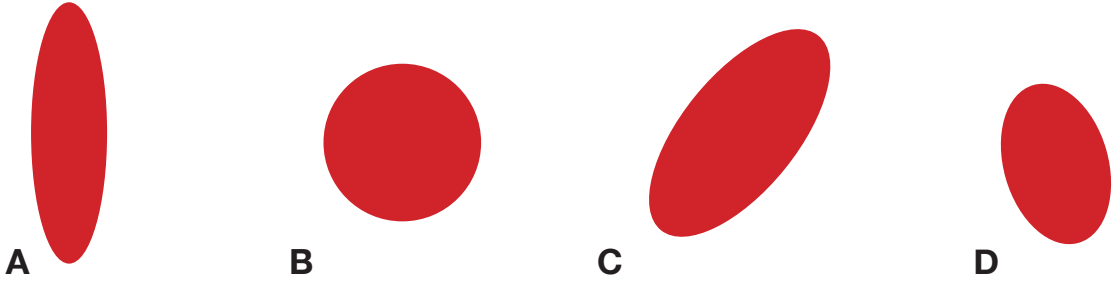
- Bloodstain Investigation Sheet (found below procedure)
- Metric Ruler
- Calculator with Trigonometry Functions

Procedure

1. On the blood spatter card, use a straight edge and draw a straight line bisecting the blood spatter ellipse lengthwise.
2. Draw a straight line bisecting the blood spatter ellipse widthwise.
3. Measure the lengthwise bisecting line of the blood spatter ellipse and record the spatter's length in millimeters. (When measuring a spatter drop that has a thin tail, do not include the tail in the length measurement.)
4. Measure the widthwise bisecting line and record the spatter's width in millimeters.
5. Repeat steps 1–4 for each example.
6. Divide the width measurement by the length measurement and record the answer.
7. Calculate the angle of incidence for each drop by using the inverse sine function of a calculator or by looking up the value on a sine function chart. The inverse sine of width/length is the angle of incidence.

continued

Bloodstain Investigation Sheet

Blood spatter card				
				
Blood Splatter	Width	Length	Width/Length	Sine
A				
B				
C				
D				

Analysis

1. Assume all of the blood splatters were found on a flat, horizontal surface. Draw an arrow through the blood splatter indicating the direction of blood flow.
2. Calculate the sine of each of the angles of incidence for each bloodstain splatter. Add it to your data table.
3. What can the angle of incidence tell us about the crime being investigated?