

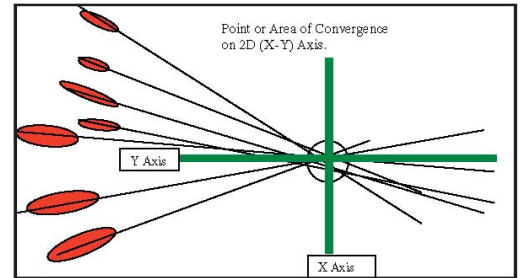
Blood Spatter Lab

Name: _____ - Date: _____

Directions:

Develop a procedure to analyze and interpret bloodstains and answer the following questions:

1. What effect does velocity have on impact patterns?
2. How does the angle of impact affect the appearance of drops of blood? (Please use math to explain your answer... see some hints below!)
3. Can you determine the direction of travel from a blood pattern?
4. Can you determine whether or not an assailant is right or left handed?
5. How can you determine the origin of blood spatter?



Be sure to make accurate observations, measurements and sketches. Record all data. Remember, your testing methods should not only be able to be repeated, they should hold up in a court of law!

Materials Available

Wide roll of paper
 Simulated blood
 Pipettes
 Paper

Measuring sticks
 Tape
 Ring stand
 Eye dropper

Digital camera
 Stirring rod

Some Math Hints...

$$\text{Impact angle } (i) = \arcsin\left(\frac{\text{drop width } (w)}{\text{drop length } (l)}\right)$$

The arc sin can be calculated with a calculator.

You may want to use this table for help

		Impact Angle	
Width (w)	Length (l)	Calculated	Measured

More hints are on back... use them if you wish!

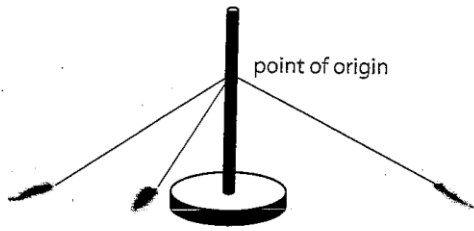


Figure 7 Point of origin of blood spatter

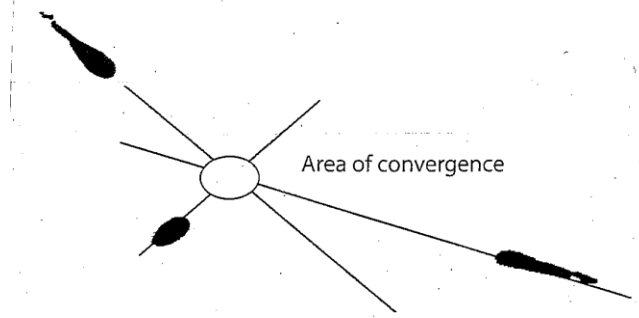


Figure 6 Convergence of blood spatter

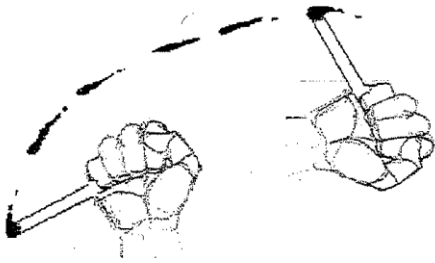


Figure 8 Blood pattern from a knife

Make partial blood patterns from different objects, such as a hammer, screwdriver, crow bar, tire iron, knife, letter opener, fork, or brick, and ask students to work out what the object was.

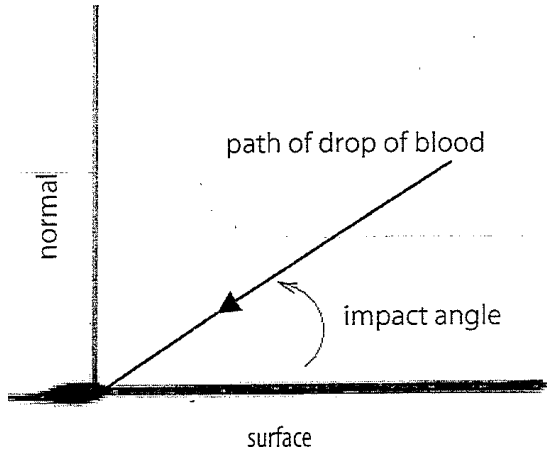


Figure 4 Direction of travel



Figure 5 Measuring drop shape