

Blood Spatter Lab

Today you will be exploring how height and angle play a role in blood spatter appearance and examination.

Each group needs the following:

Meter stick
Protractor
Ruler
Pipette
Container of simulated blood
Several sheets of plain paper
A text book(s)
Clip board or piece of cardboard
Pencil
Paper

In order to complete the lab in a timely manner please read all the directions thoroughly and ask Ms. Anderson if you have any questions BEFORE beginning.

Part 1: Height of blood drop

1. Be sure that your table is covered with something (newspaper or some sort of paper)
2. Lay one sheet of copy paper flat on the table.
3. Using a pipette allow a single drop of blood to drop from 5 different heights 5 cm, 25 cm, 50 cm, 100 cm, 125 cm.
4. Be sure to label each drop on copy paper indicating the height. (this copy paper should have ALL group members names on it and should be turned in with one group member's lab; however EACH group member will turn in a lab report)
5. In a data table record the following for each drop: diameter of the drop in mm. (hint wait until drop is dry to do this.) and sketch of drop (pay attention to how much the drop splattered)
6. Create a graph showing height of blood drop vs. diameter, include labels!

Part 2: Angle of blood drop

1. Attach copy paper to clip board or cardboard piece
2. Using a protractor and the textbook on your table set your paper up at the following angles, 20, 40, 60 and 80. Remember your protractor is measuring the angle that your surface is being raised to NOT the angle the blood will strike the paper. You are dropping the blood from the same position every time. So when your protractor reads 20 the angle of impact is 70, at 40 the angle of impact is 50, at 60 the angle of impact is 30 and at 80 the angle of impact is 10.
3. IMPORTANT re-read number 2 and if you aren't sure what that means ASK MS.A!!!!!!!!!!
4. Let one drop of blood fall from a height of 40 cm from the table top for each angle.
5. Label each drop with the angle of impact! (meaning your labels will read in order, 70, 50, 30, 10)
6. In a table sketch each droplet, also measure their width and height.
7. Calculate the angle of impact of each droplet to see if they match the angle you dropped it at. This should be in your data table INCLUDING WORK!!!!!!

Research Questions

1. Were you able to distinguish differences in shape between the 5 cm and 25 cm drop? Explain any differences.
2. Examine your Diameter vs. Distance graph. What is the relationship between diameter of the blood drop and the distance the blood drop fell?
3. Using your diameter vs. distance graph if I dropped a drop of blood from a height of 75 cm what would its diameter be?
4. Explain why even though I set my protractor up to read 20 degrees my angle of impact was 70.

Check-list of what to turn in:

Data table from part one including

Sketches of all 5 drops

Diameters of all 5 drops

Graph of distance vs. diameter done NEATLY either on a computer or using graph paper

Data table from part 2 including:

Sketches of all 4 drops (70, 50, 30 and 10)

Width of all 4 drops in mm

Length of all 4 drops in mm

Impact angle of all 4 drops WITH work

Research Questions

(one group member should attach actual blood spatter sheets)

Lab Report DUE: _____