Inquire & Investigate

BLOOD SPATTER PATTERNS

Blood spatter is a collection of blood spots, which may be different sizes and shapes depending on how they were formed. Blood spatter differs depending on the amount of blood, the speed of the drop, the angle at which it hits the ground, and the distance the drop travels.

- **Create some fake blood by mixing ¼ cup white corn syrup and 4–6 drops of red food coloring.** Use it to distinguish different spatter shapes and surfaces. You're going to want to cover a hard, flat surface with newspaper as this experiment can get messy. Then place a piece of white paper over that.
- **A chart will help you keep track of your data.** You will want to record the diameter of blood spatter, the shape, the height from which a sample dropped, and the angle.

- **Fill the dropper with fake blood. Release one drop of blood from exactly 1 foot above the paper (30.5 centimeters).** Release more drops of blood onto the paper from various heights and label each drop. Examine the edges of each drop with a magnifying glass. Do you notice any differences based on the height from which the drops fell? Record your measurements and observations.
- **Measure the diameter of each drop.** Use graph paper to create a scatter plot of your data for height and diameter. What does this graph with just the data points look like? What pattern or relationship do you observe between height and the diameter of the drops? How could you use this relationship to predict height from blood spatter found at a crime scene?
- **Try creating blood drops that hit at different angles.** Can you think of ways to make the drops hit the surface at an angle? Use a magnifying glass to examine each drop, noting size, shape, and edges. How do the angled drops differ from drops that fell straight down?

To investigate more, repeat the experiment using different surfaces. What happens on rough surfaces like concrete or asphalt? What about a smooth surface such as tile? What differences do you observe? Can you think of ways to make blood drops hit surfaces with more than just the force of gravity? What happens when you squirt blood across a surface? Experiment with different methods and different amounts of blood. You might need to make a lot more fake blood for this.

Ideas for Supplies

- fake blood
- newspaper
- white paper
- notebook paper
- dropper
- yardstick
- ruler
- magnifying glass
- graph paper