

SPATTER PATTERNS

OVERVIEW

In this activity, you will analyse spatter patterns made from fake blood.

Blood spatter present at a crime scene is used to determine possible locations of the suspect within the crime scene, the height and angle of impact and to estimate the types of weapons used to commit the crime. This information can help investigators determine what kind of situation they're dealing with – suicide or murder?

DID YOU KNOW?

Bloodstain pattern analysis is the interpretation of bloodstains at a crime scene. Crime scene investigators examine the size, shape, distribution and location of the bloodstains to form opinions about what did or did not happen.

MATERIALS

- 3 or more white plastic tablecloths
- Rolling pin or ladle or other kitchen utensil to test as a 'weapon'
- 1 cup cornflour
- 1 cup water
- Large mixing bowl
- 25ml (5 teaspoons) red food colouring
- Large mixing spoon
- Tomato sauce
- Safety glasses
- 2 or more thick water absorbing sponge
- Protective clothing
- Measuring tape
- Disposable gloves



Note: Adult supervision is recommended throughout this entire activity. The blood mixture and spatter patterns will produce a mess and can be tricky to clean up. We recommend setting up outside and using white plastic tablecloths to cover the activity area.



WATCH THE VIDEO LINK



IDEAL FOR 10-13 YEARS



ADULT INVOLVEMENT RECOMMENDED

METHOD

Make fake blood

1. Mix 1 cup of water with 5 teaspoons of food colouring.
2. Add a spoonful of tomato sauce, stir and pour mixture into a large mixing bowl.
3. Add 1 cup of cornflour and stir well.
4. You've now made fake blood!

Set up your crime scene

1. Place two white tablecloths alongside the wall and one on the ground using tape or weights to secure the cloths.

Continued ►



SPATTER PATTERNS

METHOD (CONTINUED)

Test your 'weapon'

1. Place safety glasses, protective clothing and gloves on before beginning.
2. Wet 2 sponges and squeeze to remove all excess water.
3. Place sponges on the ground, close to the wall and a reasonable distance apart.
4. Pour 1 cup of the fake blood onto one sponge. Pour slowly so the blood can be absorbed. Pressing on the sponge can help absorb more liquid.
5. Select a 'weapon' for testing, (e.g. rolling pin, soup ladle, wooden spoon, strainer spoon etc.)
6. For the first blood soaked sponge, hit the sponge with the 'weapon'.
7. For the second blood soaked sponge, hit the sponge as **hard** as you can with the 'weapon'.
8. Record all visual observations of the fluid spatter, shape, and size of affected area (e.g. Was all the spatter in one location or was it spread out across the tablecloth?)
9. Using the measuring tape or ruler, measure from sponge to maximum height (vertical) as well as length (horizontal) of blood spread.

FOR DISCUSSION

Blood spatter patterns can be used to determine what type of situation investigators are dealing with. Take a look at your crime scene - what type of patterns do you see with the 'weapon' you've used? How do the patterns differ when you've used low force to hit the sponge compared to hitting the sponge with high force? How do you think the patterns might change if you used a different 'weapon'?

BACKGROUND: APPLICATION TO FORENSIC CAREER

Blood spatter investigations are part of the crime scene investigator's analysis for scenes involving violence. The initial visual observations are recorded and collected as evidence through digital evidence (photographs and video recordings of the crime scene). The mathematical relationships established between height and angle of impact, alongside the visual spatter pattern, assist investigators to determine the type of object used during the crime.