Tire Tread Analysis

Criminals put on gloves to avoid leaving fingerprints and wear masks to prevent cameras or witnesses recording their faces, but they cannot avoid making marks on the ground.

A mark or an impression is either a two dimensional image on a flat surface, such as footprint on a dusty wooden floor, or a three dimensional impression such as a wheel track mark or foot print in snow or mud.

Many crimes involve a motor vehicle. Often, the only evidence left at the crime scene is a tire track. If a tire mark is found, detectives look for the one from the opposite side of the vehicle. The distance between each tread mark can indicate the sort of vehicle that created it. A tire track is the path left in the soil by the wheels of the vehicle. Sometimes, tire treads can be seen in the tracks. A tire tread is the pattern of the read design on the tire.

To record tire tread and track evidence, the crime scene is marked with crime scene tape and protected from damage. Then the tracks are photographed, measured, and a cast is made. Each photograph includes an item that gives the photo scale such as ruler.

Tire tracks can tell the detective the direction of travel and any changes in that direction. They can reveal the tire width and front and back tire patterns. Tread width is the distance in centimeters or inches across the tread pattern. Vehicles often use different types of tires, and therefore different tread patterns, on the front and rear wheels. That is why front and back tire widths must be measured separately.

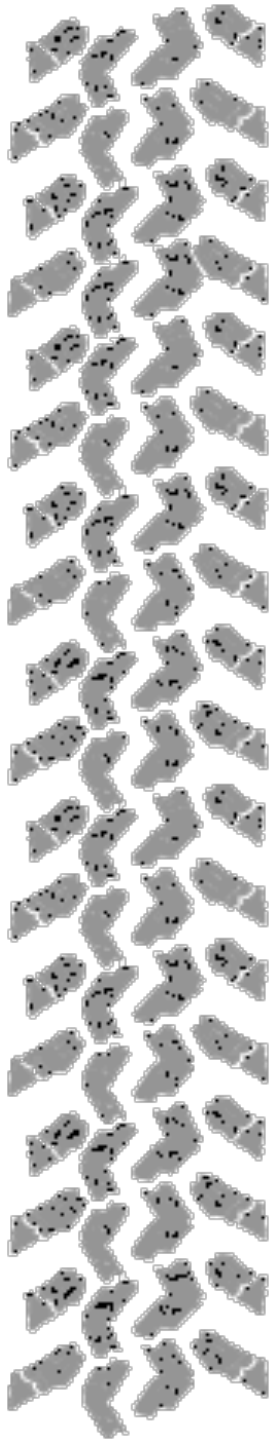Tire tread marks provide important physical evidence to link a suspect to a crime scene.

Instruction Card
A LESSON ON
TIRE TREAD ANALYSIS

In front of the window, you found a tire tread impression from a bicycle. You must examine the tread prints from the different bicycles owned by the suspects. Match the crime scene tread to the correct tread print.

Procedure:

1. Compare the tire tread of the suspects' bicycles to the cast lifted from the impression at the crime scene.
2. Identify the tire tread sample that matched the crime scene impression.
3. Sketch the tire tread cast (crime scene) and answer the questions.

Crime Scene Tracks

Sample A

Sample B

Sample C