

### Who stepped in it?

*This activity works best with 3–5 participants.*

#### Materials needed:

- Trowel or rigid plastic tool like a credit card or kitchen spatula
  - Ruler or tape measure
  - Digital camera or cellphone to take photos
  - Pen and paper or digital alternative to document your findings
1. Draw straws or use another anonymous selection method to choose The Culprit.
  2. Have The Culprit leave a print from their right shoe in the dirt without being seen by other members of the group.
  3. Find and document the unknown shoeprint with photographs.
  4. Follow the Traxtone procedure to make a cast of the unknown shoeprint.
  5. Photograph the sole of each participant's shoe.
  6. Follow the Casting Compound Procedure to take an impression of each participant's right shoe.
  7. Place a ruler next to each casting compound impression, and photograph it. Document the name, date, time, etc.
  8. Repeat for each participant.

9. Compare the photos of the known shoe soles to the cast and photos of the unknown shoeprint.
  - Use the ruler in each photo to compare length and width.
  - Look for specific characteristics in the sole like cuts, worn spots, and tread patterns.
10. Identify The Culprit.

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### Casting Compound Procedure

1. Pour the casting compound into the plastic casting container.
  - If the casting container is too small for the shoe, you can use a metal cake pan or a heavy-duty cardboard box instead.
2. Smooth the casting compound with a trowel.
3. Step firmly into the casting compound, then carefully lift the foot up to get an impression of the shoe's sole.
4. Preserve the impression with photographs. You can also make a Traxtone cast of the impression if desired.
5. Break up the compound using the same tool, and then smooth it over again to collect another impression.
  - If you smooth and break up the casting compound with your hands, make sure your hands are clean to avoid contamination.

For footprint casting photo & video demos, tips, information, and activities, visit <https://forensikit.com/footprint-casting/>

# Traxtone Casting Procedure

1. Prepare the casting area
  - a. Make a casting frame out of stiff cardboard.  
See <https://forensikit.com/footprint-casting/> for instructions.
  - b. Place the casting frame around the area of the print. Make sure the frame does not touch any part of the impression.
  - c. Spray the hairspray on the dirt to harden the print.
  - d. Allow the hairspray to set for 60 seconds.
2. Prepare the Traxtone using the instructions on the bag
  - The Traxtone will get warm as the powder mixes with the water.
3. Make the cast using the instructions on the Traxtone bag
  - If the Traxtone doesn't completely cover the print, gently move the mixture with a small spatula to the edges.
  - Allow the Traxtone to set for a minimum of 60 minutes.
4. Collect the cast
  - a. Lightly tap the top surface of the cast to make sure it is fully hardened.
  - b. Gently lift the cast from the dirt.
  - c. DO NOT attempt to clean the cast until it has hardened for at least 48 hours.

## Did You Know?

It's important to photograph the evidence first because casting will literally destroy the original impression.

Dental stone like Traxtone is considered one of the best materials for casting 3-D images because of its capacity to retain minute detail.

Traxtone gets warm when you add water because the water causes the particles to recrystallize, which generates energy. This is known as an exothermic reaction.

Investigators use searchable databases containing reference files of shoe outsoles and tire treads to determine the make and model of a shoe or tire.

- » These databases of tens of thousands of prints are maintained by the FBI, private consultants, and fee-based commercial systems.
- » Law enforcement agencies can also contact the manufacturer directly for information and images that are relevant to a case.

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