

# TRACKS!

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## OBJECTIVES

Students will identify common animal tracks

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## METHOD

Students make plaster casts of animal tracks.

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## BACKGROUND

Looking for evidence of wildlife is one method of determining what types of animals are around. Signs such as burrows, nests, droppings or food litter can be identified—but some of the easiest signs to interpret are animal tracks.

Animal tracks can be the basis for several types of investigations. Identifying the tracks that you and your students find will help fill in a species list of those animals found in your area. Wildlife population estimates can be made from observing the number of tracks found during a specific length of time. Habitat requirements of individuals can be determined by finding their tracks in certain areas and not finding them in others.

Track hunting is really very easy. Just find a spot of level ground with fairly soft, fine, textured soil. Smooth it over and come back later to see what has been there! Obvious places for your smooth spot would be near water or on well worn trails. Larger animals will use the more open areas, while a small spot the size of your hand cleared under some bushes may reward you with many different little tracks of mice, shrews and reptiles.

**Age:** Grades 4-7

**Subjects:** Science, Art

**Skills:** analysis, application, comparing similarities and differences, psychomotor development, synthesis

**Duration:** two 45-minute periods or longer

**Group Size:** small groups of two to five

**Setting:** outdoors

**Conceptual Framework Reference:** I.B., I.B.1., I.B.3., I.B.4.

**Key Vocabulary:** tracks, evidence

**Appendices:** Outdoors, Field Ethics

Tracks can be preserved and collected by making plaster casts of them. This simple procedure will allow you to "collect" track and add them to other evidence like bones, nests or scats that you already may have collected.

Once these tracks have been observed or preserved, information about the animal that made them can be discovered. For example, all mammals have basically the same foot structure. They just use the parts in different ways. If we look at an animal's foot in relation to the human hand, we find that some animals walk on their hands—like raccoons and bears. Others walk or run on their toes, like cats and coyotes, while some walk on their "toenails" or hooves like deer and elk.

By looking at a track, we can make some determinations about how that animal lives. We can notice what part of the foot it walks on, whether claws are present and how many steps are taken in a measured distance.

The major purpose of this activity is for students to become sufficiently familiar with evidence of wildlife to be able to identify a few animal tracks common to their area.

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## MATERIALS

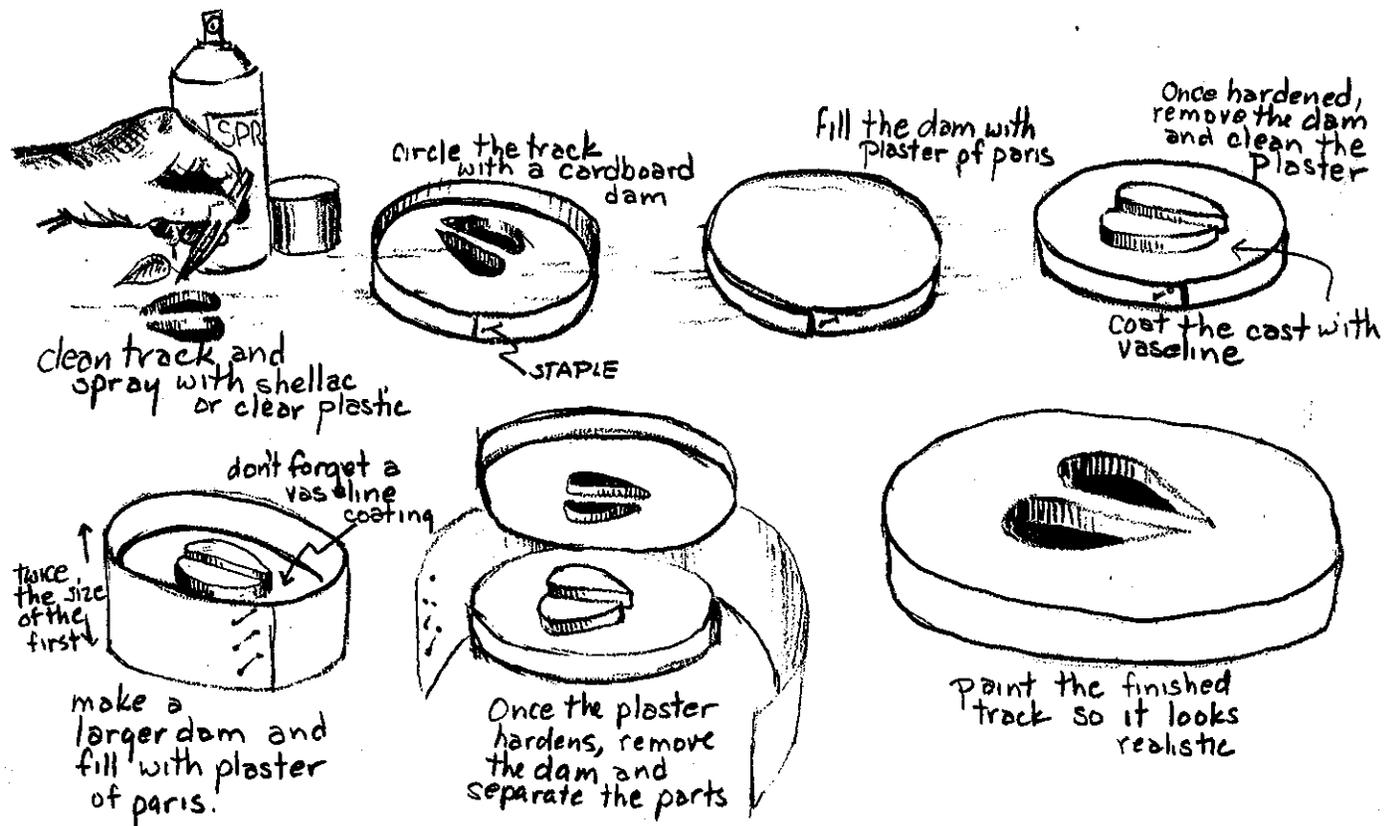
plaster of Paris; containers for mixing; spray shellac or plastic; vaseline; cardboard; knives; sandpaper; black ink or paint

OPTIONAL: loops of wire

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## PROCEDURE

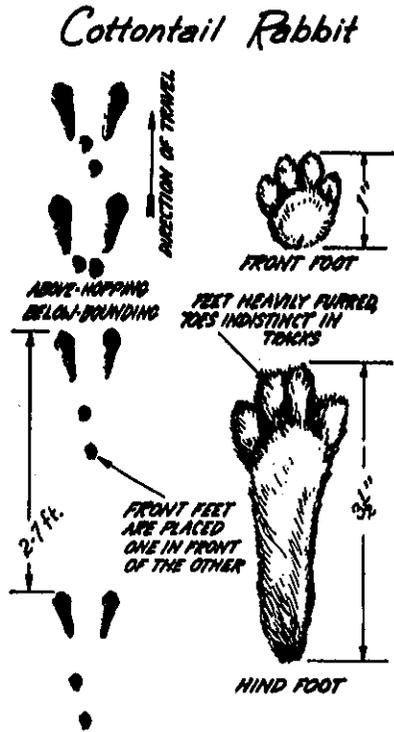
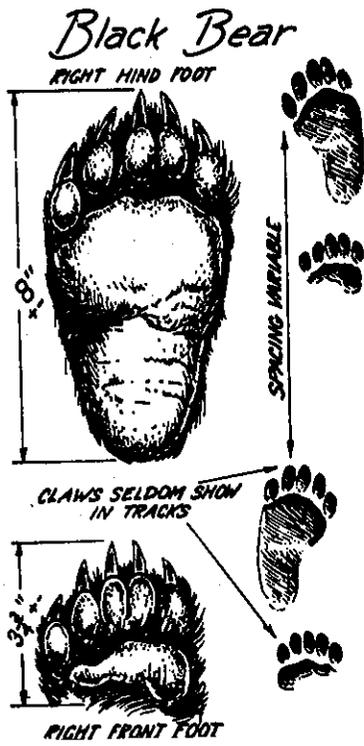
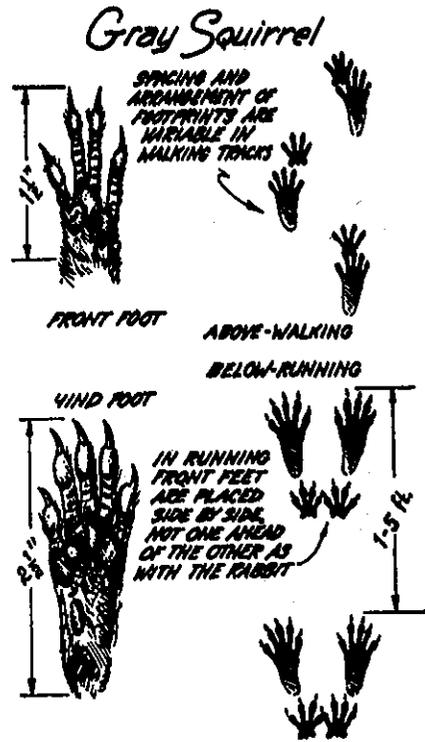
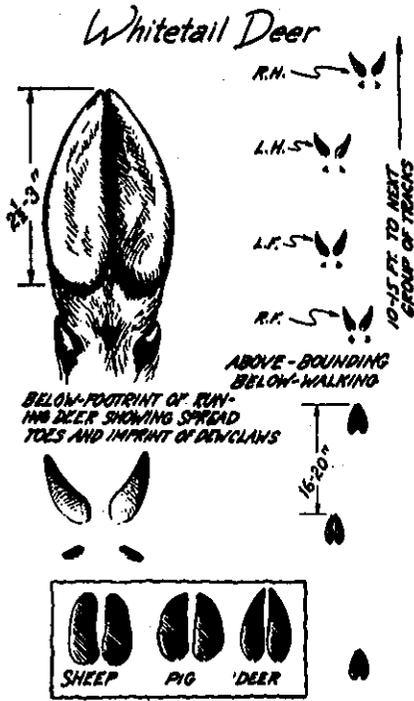
1. Take your class on a field trip to a nearby lake, stream, or wildlife refuge area—somewhere where there will be lots of tracks!
2. Divide into small groups to find tracks. You may want to divide the students into groups according to areas in which they will look for tracks; e.g., one group under bushes, one group at a meadow's edge, one group near a pond's edge. Prepare the students in advance to assist them in looking carefully and responsibly.



3. Once a track is found, clean it of loose particles of soil, twigs, leaves and other litter.
4. Spray the track with shellac or plastic from a pressurized can if available.
5. Form a two-inch wide strip of cardboard or tin into a ring surrounding the track. Press firmly into the ground to give support, but allow at least one inch to form the edge of the mold for the plaster. Square forms can be made by cutting milk cartons horizontally—one of the easiest ways to make the forms! Simple round forms can be made by cutting both the top and bottom from a tuna or catfood type of can or a plastic margarine tub. Stapled strips of cardboard in the shape of a circle can also be used.
6. Mix about two cups of plaster of Paris in a tin can or plastic bowl, adding water slowly until it is about as thick as heavy cream. Pour carefully into the mold until the plaster is about to the top. Allow plaster to harden at least 15 minutes before lifting it out of the track. If the soil is damp, hardening may take longer.
7. When the cast is hardened, lift the cast out, remove the ring and clean the cast by scraping it with a

knife blade and washing.

8. Back in class, apply a thin coating of vaseline to the track and surface of the cast. Place it on a flat surface and surround the casting with a two-inch strip of cardboard or tin as before.
9. Mix plaster of Paris and pour it into the mold, making certain that the top surface of the casting is smooth and level with the mold. If you plan to use the casting as a wall plaque, place a loop of wire in back of the casting while the plaster is still soft. Allow two hours for plaster to harden.
10. Carefully remove the mold when the plaster is dry. Separate the two layers and wipe the excess vaseline from the face of the cast and track. Scrape any rough places with a knife blade, or use fine sandpaper to smooth the surface. Wash the completed cast in running water.
11. When the cast is thoroughly dry, paint the inside of the track with India ink or black poster paint. Label each cast with the name of the track and the student's name. A coat of clear shellac or clear plastic may be applied to protect and preserve the casting.



J.J. Shomon  
Reprinted from December 1953 Virginia Wildlife Magazine

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## **EXTENSIONS**

1. In a sandy area, move in different ways. For example, you can walk, run and jump. Compare the differences between sets of tracks made by the same person. Evaluate how speed, directional changes and other variations in travel alter the tracks.
2. You may be able to obtain various animal feet or rubber replicas of feet from your local wildlife agency, nature center or scientific supply company. The feet or replicas can then be used to make tracks and plaster casts. Once you have made tracks with real or rubber feet, make up a wildlife story and express it by making the appropriate tracks. As a variation, make up a "track story" and have others guess what happened.

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## **AQUATIC EXTENSION**

Display all the tracks according to the habitats in which you found them. How many of the tracks, if any, were found near water? If any were found near water, identify the kind of aquatic environments in which the tracks were found—for example, pond, stream, lake, marsh, beach.

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## **EVALUATION**

1. Draw and label tracks of animals common to your area.
2. How would knowing about animal tracks and tracking help the following people? Consider: a biologist studying lions; a wildlife photographer interested in elk; a shepherd with a flock of sheep. What kinds of things would they need to know about animal tracks to do their jobs?

