

# **ANIMAL TRACKS**

## **Lesson Plan**

# ANIMAL TRACKS

## OBJECTIVE

Animal tracks is an interesting, interactive project which introduces students to the method of tracking animals. The student will learn important skills of observation in nature. They will be able to use their skills of observation and interpret their findings while discovering important information about the habits of animals. They will be able to create their own tracks of a variety of domestic animals. At the completion of this activity students should be able to (1) use important observation skills (2) interpret findings (3) appreciate subtle signs of nature.

## MATERIALS PROVIDED

- Information pertaining to animal tracking
- Instructions for producing animal track casts
- Suggested exercises and projects
- Master chart for the identification of tracks
- Information about each animal featured in the kit
- Suggested reading list
- 6 Barnyard Animal Track Molds
  - Pig • Goat • Chicken • Turkey • Duck • Dog
- Casting plaster for 36 casts (6 casts per fossil mold) (WARNING: Do not discard left over mixture in sink, it will plug up the plumbing)
- Glossary

## MATERIALS NEEDED

- Small containers to mix and pour casting material (paper or plastic cups)
- Plastic or wooden spoon for mixing (a tongue depressor or popsickle stick works well)
- Small scoops or spoons for measuring
- Tap water

# HOW TO CAST ANIMAL TRACKS

## GETTING STARTED

- A. Divide your class into 6 groups.
- B. Each group should find an area with a flat and level, stable working surface, like a countertop, desktop or table. Make sure the surface is waterproof, because some excess water may spill out of your container.
- C. Set out the rubber molds, bag of casting plaster, measuring scoops, mixing containers, and tap water. Provide each group with a portion of casting material, a small bowl or cup, and a mixing stick or spoon. To each student, pass out copies of the exercise sheet and the sheet describing tracks to be cast.
- D. Each group will be able to cast at least two items in an hour. While they are waiting, they can study the material about the track being poured and fill out the exercise sheet.



## CASTING ANIMAL TRACKS

1. Place the mold on the flat, stable surface.
2. Mix 6 tablespoons of plaster with  $2\frac{1}{4}$  tablespoons water for each mold.
3. Stir the plaster/water mixture with a spoon or mixing stick until it is evenly mixed (about  $1\frac{1}{2}$  minutes). There should be no lumps.
4. Fill the mold to the top with the plaster mixture. Try not to overfill or spill the plaster over the side of the mold.
5. Shake the mold lightly, taking care not to spill any plaster over the side. This will help to remove air bubbles from the mixture. (WARNING: Do not pour excess material in sink.)
6. Let the filled mold sit for 20-30 minutes or until cast is warm and hard..
7. After the mixture hardens, separate the sides of the mold from the contents and carefully remove the cast. The cast is a barnyard animal track.
8. Instruct the groups to exchange molds with other groups to create different casts.



## ANIMAL TRACKING

The subtle signs which animals leave behind as they travel through their daily routine can be helpful and sometimes life saving tools. From before the time of Cave Men to the present, man has had to learn this skill to survive in the wilderness. By knowing how to track animals in the wild he was able to feed and protect his family.

Looking for animal tracks became a necessary tool for the pioneer. Trackers learned to recognize an animal from the shape of its footprint, determine its size and decide whether the animal was worth tracking for food. If the tracker felt the animal was a good catch, he would then pursue it in an effort to provide food for his family. It was also possible to find tracks of dangerous animals and take necessary steps to avoid the areas in which these prints were found. In very dry climates, animal tracks would sometimes lead the way to finding sources of water.

Today, *conservationists* are able to study the habits of animals in the wilderness from signs they leave behind. Studying these signs help them to determine the best course of action in preserving and protecting the lives of *endangered species*.

Some of the signs which can be determined from animal tracks are the direction the animal is traveling, how many animals there are and the relative speed at which they travel. Not only is the shape of the foot an indication to the identity of the animal but also the pattern with which the animal walks or runs. For instance, tree climbing animals nearly always place the front feet side by side (pairing) when hopping or jumping. Animals that live on the ground seldom walk with the front feet paired. However, both tree climbing and ground dwelling animals back feet are generally paired.

Although animals and birds do not leave diaries, they do leave a record of their daily habits in the snow, mud, dirt and sand. It is possible to determine the size of the animal or bird from the depth and length of an animals stride left in the earth. When walking or running, birds and animals displace sand or dirt with their feet. The softer earth is pulled or pushed forward in the direction the animal is traveling. On careful inspection of footprints a knowledgeable tracker can learn a great deal about the animals he tracks!!

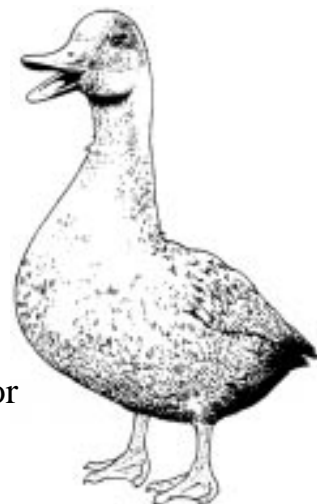
## FARM ANIMAL TRACKS

Although the habits of farm animals are easily observed, being able to read the signs which are left by their footprints can be very helpful in several ways. On careful inspection of some prints, it is possible to tell if the animal is ill or lame. An unhealthy condition of an animal's hooves or pads can be revealed by an uneven, ragged print or by an uneven *gait*. A farmer can determine whether rats have invaded the animal's feed by finding their footprints. A farmer could also detect footprints of unwelcome animals which physically harm or bring germs to the barnyard animals.

Of the six foot print molds provided in this kit, three are of the bird family. Two molds are made from hoofed animals and one mold is from a dog.

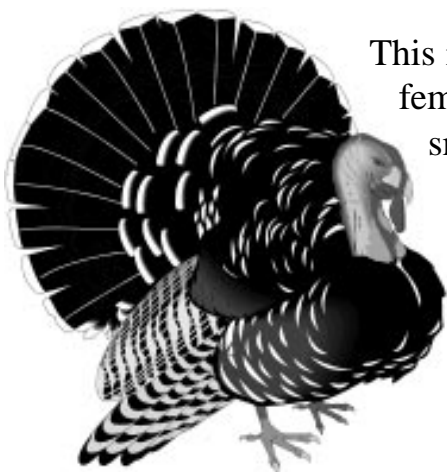
### DUCK TRACKS

This print was taken from a domestic mallard. Notice the skin between the three toes (*webs*). Footprints which show webs between the toes almost always belong to swimming birds (ducks, geese, swans and gulls) or animals (such as the beaver). In many cases, the webs do not show up in these *waterfowl* footprints. The tracks usually show marks from the toenails which are visible at the ends of the toes. The footprints of waterfowl can often be found in the mud or snow along lakes, ponds, and rivers.



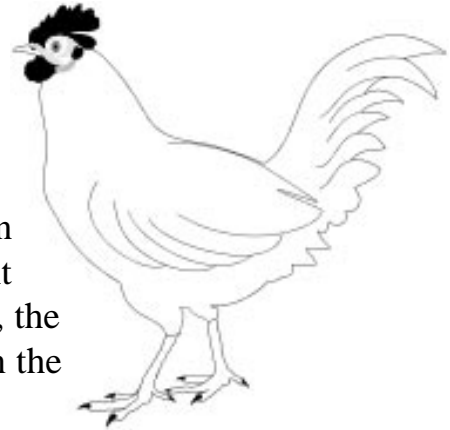
### TURKEY TRACKS

This rather large print was taken from a rather large female *domestic* turkey. Female turkeys usually have smaller feet than that of a male of similar size. Notice that there is no webbing present. Turkeys have rather long toes with sharp toe nails on the ends. Turkeys use these long pointed toes to scratch out food from the ground.



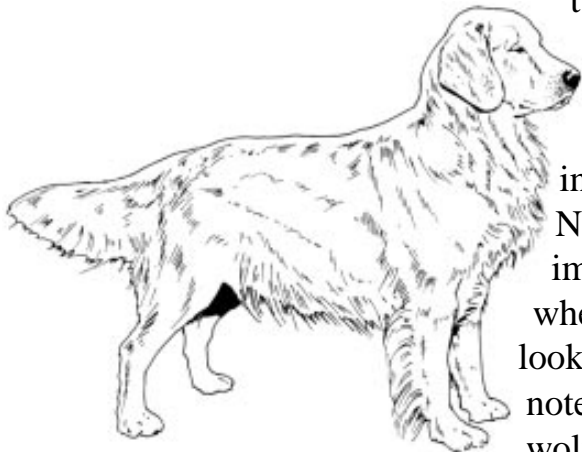
## CHICKEN TRACKS

The chicken from which this print was taken was a common farm chicken known as a White Leghorn. This particular breed of chicken lays many eggs. Notice the foot of the chicken has four pointed toes. Its feet are not only designed for walking but the fourth toe can hold onto a perch or a limb. When it is perching, three of the toes curve around in front and the fourth toe holds on in back. Like the turkey, the toes of the chicken are designed for finding food on the ground.



## DOG TRACKS

Footprints of dogs are very common. Although we may see them daily, we may not really have been observant enough to explain what a dog print really looks like. Dog prints show a large heel *pad* with four smaller pads in front of it. The

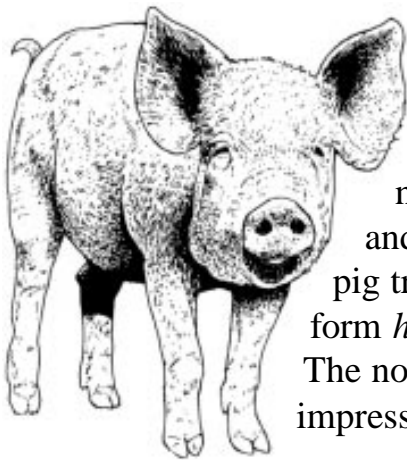


two middle toes are situated side by side, with the outside ones opposite one another and further back. Very often the nails on the middle toes are seen in a print. The foot print in this kit was made by a long haired dog.

Notice that between the pads one can see the imprint of hair. It is definitely possible to tell whether the dog is a long hair or short hair by looking at their tracks. Another interesting fact to note is that dog tracks are very similar to those of wolves and coyotes. Sometimes the only way to identify the animal in question is to observe the pattern of behavior made by the prints. When a dog smells meat, it will not hesitate to go directly to it.. The coyote and wolf are much more timid than the dog and will cautiously circle the source of smell before going in to devour it.

Some animals have an even number of toes (two or four) and other animals have an odd number of toes (one or three). Horses, zebras (two toes) and rhinoceroses (three toes) are among the group having an odd number of toes. Pigs and goats belong in the other group which has an even number of toes. Even though these animals may have four toes, all the toes may not show up in their footprint. Often these toes are situated too far up on the foot to make an impression on the ground. These rather useless toes are called dew claws.

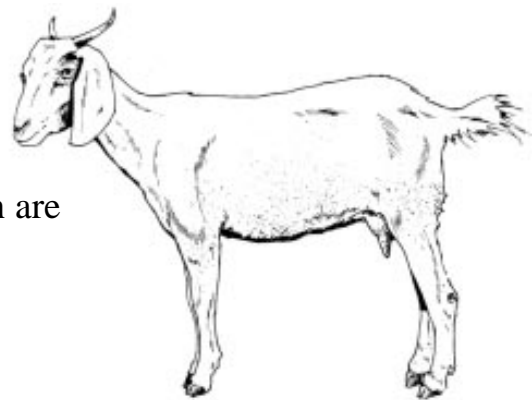
## PIG TRACKS



The footprint in this series was made of a pot belly pig. The footprints of a pig is quite recognizable. Pigs are among a group of animals which have an even number of toes (four), two toes are encased in hooves and two are dew claws. Imprints from *dew claws* show in pig tracks, behind and to the sides of hoofprints. Toes that form *hooves* are have a U or V-shaped notch between them. The notches are wider in heavier pigs. At the time this impression was taken this pig weighed 120 pounds.

## GOAT TRACKS

The goat footprint in this series is from a medium sized goat (70 lbs). This particular goat is a dairy goat (raised to give milk). The goat has two toes. These toes are covered which are encased in hooves.



## **GLOSSARY**

conservationists - someone who is active in conserving in saving our wildlife and the wilderness in which the wildlife lives

dew claws - small toes which usually don't touch the ground on back of the feet of some animals

domestic - animals are considered domestic when they are tame and live on a farm or at a home

endangered species - mammals, birds, reptiles and amphibians that are in danger from extinction

gait - a manner of walking or running, a manner of moving the feet

hooves - the tough hornlike material which covers the feet on animals such as horses, goats and pigs

pad - the fleshy cushion forming the sole of the paw on many animals; example, dogs and cats

waterfowl - any bird that is frequently found near rivers and lakes, especially swimming birds

webs - the skin between the toes of birds and animals that swim

## EXERCISES

*Note to teachers: There is only one copy of each lesson plan. We suggest keeping the original pages as masters and passing out photocopies to your students, so you can reuse the Animal Tracks activities pages for years to come.*

Encourage the class to discuss their answers from the question provided.

After making copies of the animal track matching exercise (page 12), instruct the students to match the animals with the correct tracks.

Discuss the glossary words with the students. Ask them to add any words which are unfamiliar to them on the information pages 4-7. Encourage them to look in a dictionary for the definitions.

Take the students outside with their track casts. Let half the class make impressions in soft dirt while the other students close their eyes. Ask the students who had their eyes closed to identify the tracks made by the other students. Repeat the exercise with the two groups switching roles.

## QUESTIONS

**Students should read the information provided and answer the following questions:**

Name some reasons the pioneers tracked wild animals.

What does a tracker look for when tracking animal in the wild?

How would animal tracks help a person find water? .

Why would conservationist want to track animals?

Can animal tracks tell us whether an animal is running or walking? If so, how do they tell us?

How are tree climbing tracks different from other animals?

What type of ground makes for the best tracking?

What can a farmer tell from looking at his animals tracks?

What are webs?

Where are most footprints of waterfowl found?

How are turkey and chicken tracks alike? How are they different?

Why do turkeys have long pointed toes?

Do all animals have the same number of toes?

Describe a what a dog track looks like.

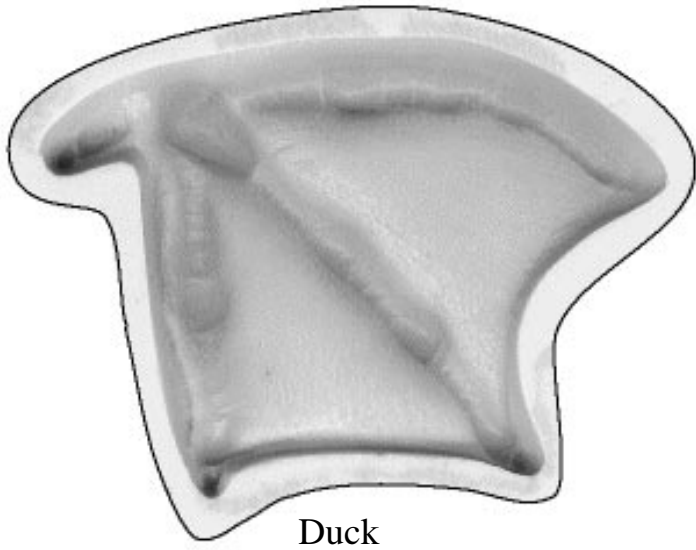
How does a dog differ from a wolf when it smells meat?

What are dew claws?

How many toes does a pig have?

In hoofed animals, are all notches shaped the same?

How many toes does a goat have?



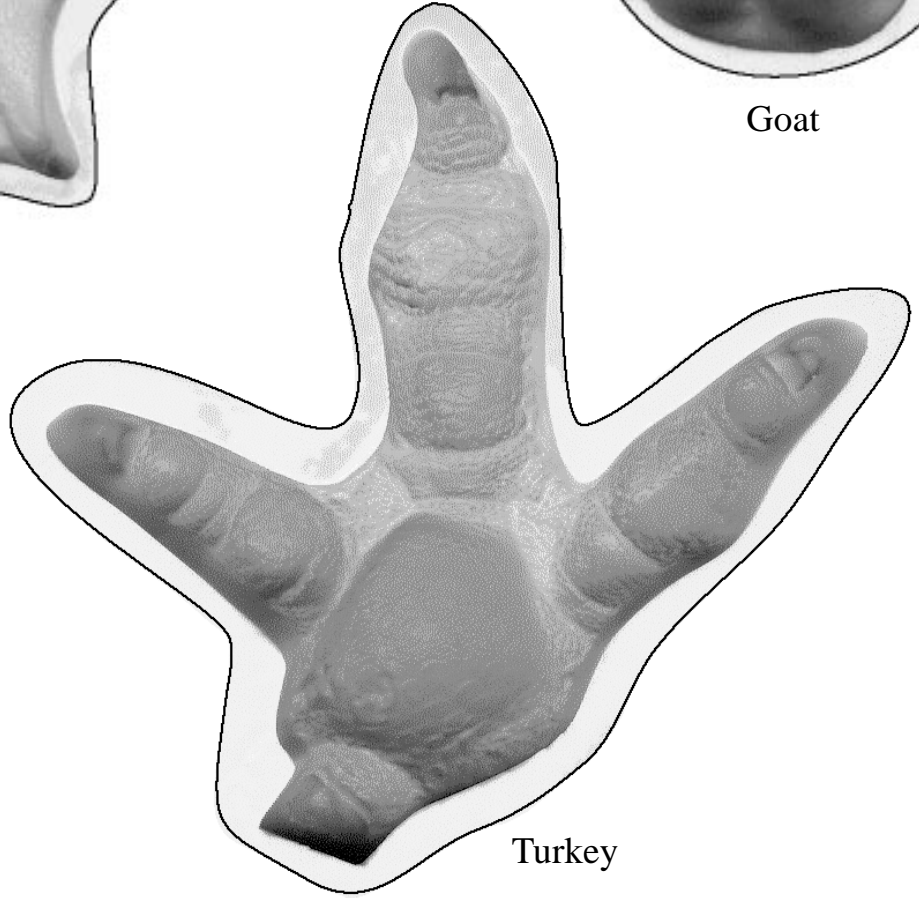
Duck



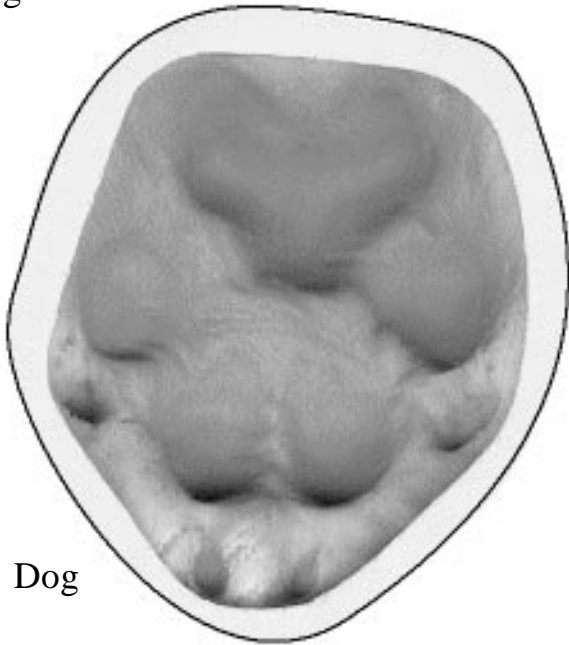
Goat



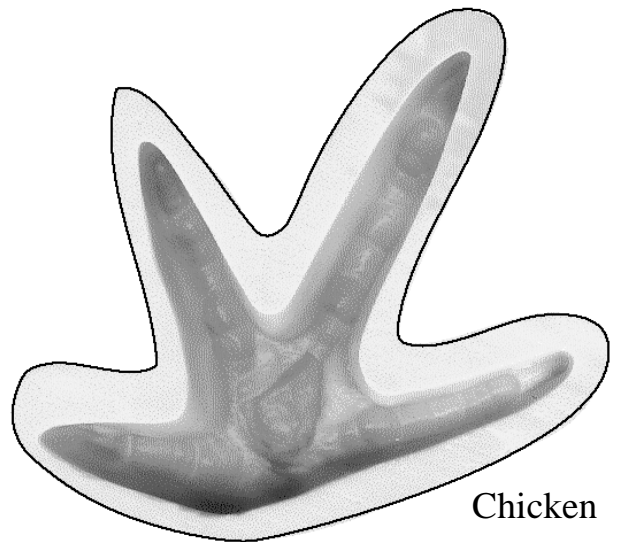
Pig



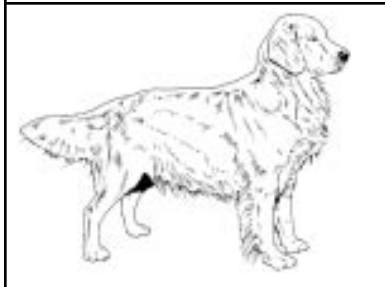
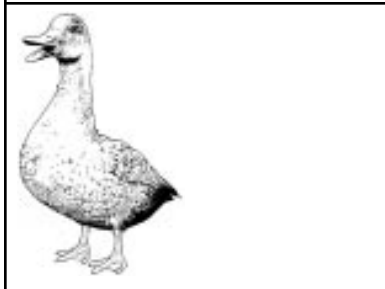
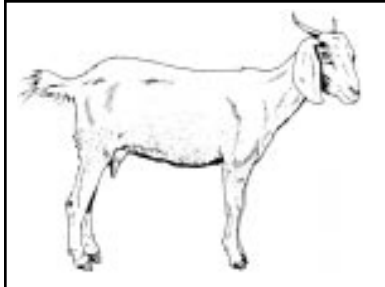
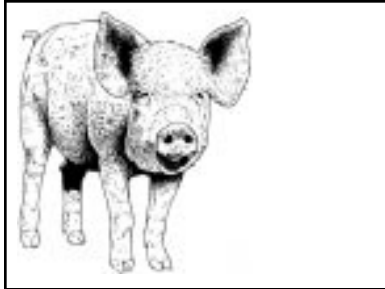
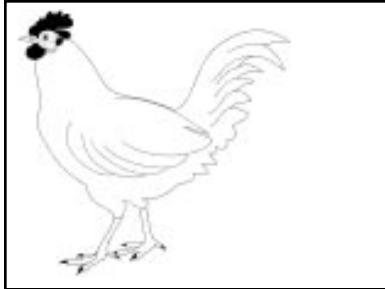
Turkey



Dog



Chicken



## OTHER READING MATERIAL

Mason, George F. (1988) *Animal Tracks*. Hamden, Connecticut: Linnet Books.

Smith, Richard P. (1982) *Animal Tracks and Signs*. Harrisburg, Pennsylvania: Stackpole Books.

Mason, George F. (1970) *Animal Feet*. New York, New York: William Morrow and Company.

Gustafson, Anita (1983) *Some Feet Have Noses*. New York, New York: William Morrow and Company.

## EDUCATIONAL KITS AND SUPPLIES

0275-3 Fossil Kit I .....	\$75.00	Shipping .....	\$8.00
0250-3 Fossil Kit II .....	\$75.00	Shipping .....	\$8.00
0400-3 Fossilworks (6 fossil molds) .....	\$50.00	Shipping .....	\$8.00
0470-3 Animal Tracks .....	\$50.00	Shipping .....	\$8.00
0930-3 Dino Traces, Velociraptor .....	\$55.00	Shipping .....	\$8.00
0931-3 Dino Traces, Triceratops .....	\$55.00	Shipping .....	\$8.00
0932-3 Dino Traces, Tyrannosaurus rex .....	\$55.00	Shipping .....	\$8.00
0950-3 Human Traces .....	\$55.00	Shipping .....	\$8.00
0960-3 Animal Bites .....	\$95.00	Shipping .....	\$8.00
1001-3 Hydrostone (10 lbs.) .....	\$10.00	Shipping .....	\$8.00
1310-3 Clay (10#, 40 sticks) .....	\$13.00	Shipping .....	\$6.00

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