

WHO GOES THERE?

BIO KEY

Animal Investigation
Night Activity
Animal Behavior

OVERVIEW

After mixing blacklight-fluorescent tracing powder in bait for small mammals, the youngsters find out “who goes there” by investigating footprints and droppings with a fluorescent light at night.



BACKGROUND



Many small mammals are creatures of the night. We rarely see shrews, mice, rats, or raccoons, but we often encounter evidence of their presence: footprints, missing cookies, holes in plastic bags containing cereals, and mysterious noises in the night.

Droppings also indicate the presence of animals. Animals frequently defecate and urinate on their trails to mark their home range with scent. Different kinds of animals can be identified by the shape

and size of their droppings. In this activity, it is not necessary to handle animal droppings, but simply to locate and observe them with the special light.

The youngsters prepare bait by mixing a non-toxic blacklight-fluorescent tracing powder with food. When small mammals eat the bait, the powder passes through their digestive tract and becomes concentrated in their droppings and urine. If an animal steps in the bait, the animal will leave fluorescent tracks, also.

**CHALLENGE: FIND EVIDENCE OF
MAMMALS THAT ARE NOT
USUALLY SEEN DURING THE DAY
WITHOUT TRAPPING OR
HARMING THEM.**

MATERIALS



For the group:

- 1 portable fluorescent lantern* with F6T5 bulb. (Check local hardware stores.)



- 1 blacklight fluorescent bulb* (number F6T5 BLB, available from electrical supply stores)
- 1 18-gram package of blacklight-fluorescent tracing powder* (Chemical base: zinc sulfide) **Note:** Do not substitute the fluorescent powder designed for daytime use. See the "Preparation" section.
- bait (bird seed*, peanut butter, cereal, hamburger, etc.)
- 1 sturdy tablespoon* for mixing bait
- several sturdy teaspoons*
- 1 jar or cup for holding bait
- several regular flashlights*
- several 5" x 8" index cards or pieces of cardboard for the bait stations
- paper and pencil for keeping records

a field guide to animal tracks (Optional: See the "Preparation" section.)

* Available from Delta Education.

PREPARATION



Group Size. This activity works best with groups of eight to ten youngsters. With larger groups, you should use the blacklight in shifts so everyone gets a good view.

Site. An established camp site is the ideal location for this activity; you can usually depend on small mammals being around.

Time. We recommend conducting the activity on two nights, because best results are obtained if the bait is put out one day before starting the observations. A longer time period is even better. If you have an extended period of time available, put out fresh bait and make observations every night.

This activity can be successful in rain and snow, as well as in fair weather.

Reference. O.J. Murie's *A Field Guide to Animal Tracks* (The Peterson Field Guide Series) is full of useful information on animal tracks, droppings, and natural history.

Safety

1. Tracing Powder. The blacklight-fluorescent tracing powder, while not toxic like insecticides, can be harmful if eaten or inhaled over a long period of time. Have the kids wash their hands with soap and water after handling the baits and powder. **DO NOT** use Day Glow powders designed for daytime use.

2. Blacklight. The recommended blacklight is safe, but warn the kids never to look directly into the light. Use regular

flashlights when moving to and from the study area because some kids will have less depth perception when using the blacklight to light the way.

ACTION



Part One: Setting Up During the Day

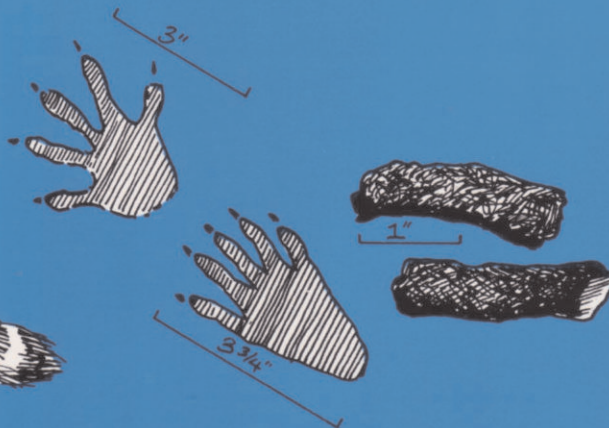
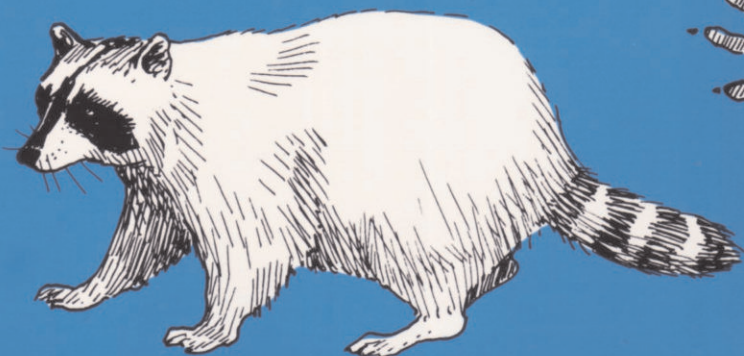
1. Ask the kids if they think small animals come around camp at night. Ask what kinds of evidence the youngsters could look for to confirm their ideas and how they might find out what kinds of animals are active in the area at night.
2. Ask the kids to think of reasons why animals come around at night. Introduce the idea of setting up bait stations and using a *tracer* in the bait to help follow the movements of the mammals that take the bait. Show the youngsters the fluorescent tracing powder and the blacklight. Describe the proper use of both and caution the kids to use them safely. (See the "Preparation" section.)
3. As the group watches, prepare the baits by mixing one 18-gram package of tracing powder with 6 level tablespoons of bait. (This is equivalent to about 1 part of tracing powder to 6 parts of bait.) Mix the bait in a jar or cup. Peanut butter mixed with bird seed or oatmeal is a good bait mixture.

4. Ask the group to select five or six bait stations. Encourage the youngsters to choose sheltered areas where they suspect mammals have been (for example, under bushes, near logs, near buildings, near trash cans, or near burrow entrances). Ask the youngsters to place an index card or piece of cardboard at each station and to put two teaspoons of the bait on top of each card. Ask them to secure the cards with rocks.

5. For best results, leave the bait out for two nights, and make observations on the *second* night.

Part Two: Who Goes There After Dark?

1. Well after sunset (on the second day), visit each bait station with the aid of the blacklight to see if the baits have been disturbed. Start by training the blacklight on the bait station and then work out from there in ever increasing circles to locate trails left by the fluorescent powder from the animals' feet, urine, and droppings. Sometimes glowing evidence can be found a great distance from a bait station.
2. If possible, observations should be made on more than one night. Replenish the bait when necessary. Keep records of the activity at each bait station.



RACCOON - TRACKS AND DROPPINGS.

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WHAT DO YOU THINK?



1. How many kinds of animals do you think came to the bait stations?
2. Is one kind of animal more abundant?
3. Where did the fluorescent animal trails go? Where are the favorite trails used by the animals in your area?
4. How do you think you influence the animals in the area when you put out bait?
5. Did you observe evidence of animals other than mammals visiting the bait station (for example, snails, slugs, beetles, ants, birds)?



NATURAL SIZE



BRANCHING OUT



1. Place bait in two distinctly different vegetation areas (such as meadow and forest, shrubland and grassland, in camp and out of camp). Which areas seem to have more mammal activity around the bait stations? What could be some of the reasons for a greater number of mammals in one area than in another?
2. Experiment with different baits to see which baits are the most effective.
3. Try capturing nocturnal animals with *live traps* or set up a remote controlled camera to photograph animals that visit the bait stations.

HOUSE MOUSE - TRACKS AND DROPPINGS



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