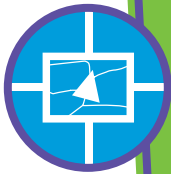
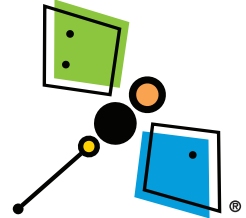


# DragonflyTV: GPS Activity 9

## The Nose Knows



**Minnesota Zoo**  
Minneapolis, MN  
mnzoo.org



### Animal Scent

We're Paige and Nick. A recent trip to the Animal Grossology exhibit at the Science Museum of Minnesota really got us thinking about how animals use scent for a lot of different purposes—to identify each other, find a mate, mark their territory, and defend themselves. So we wondered: What smells good to animals?

The Animal Grossology exhibit didn't include any live critters, so we headed to the Minnesota Zoo. The zookeepers there helped us set up a cool investigation. We placed three different scents—dog pee, fruit scent, and oregano—in different places in the mountain lion and Mexican wolf habitats. Then we sat back to take some notes. We recorded seven different things the animals might do when they smelled the scents: pee, roll, sniff, bark, scatter, salivate, and "other."





## Icebreaker

In this sweet-smelling activity, find out if the nose really knows.



1 hour

### DragonflyTV Skill: Observing

#### Guide your kids as they

- 1) Ask an adult to be in charge of keeping track of the different scents. Dab a little bit of scent or essential oil onto cotton balls. Make two or three cotton balls with peppermint, two or three with cinnamon, two or three with almond, etc. Keep track of which cotton balls have which scent.
- 2) Have the adult use the masking tape to attach one scented cotton ball to the shoulder of the first child participant. The child should be able to turn his/her head to get a whiff of the scent. The adult should secretly record which cotton ball that child has. The adult should put one cotton ball on the shoulder of each of the participating children.
- 3) Once everybody has a cotton ball, all the participants walk around, sniffing the cotton balls of the other participants. Each person is looking for any other participants with the same scent. Participants should NOT talk to each other during this time. In other words, discourage participants from saying, "Who else has mint, like me?" Participants are permitted to nod, or otherwise indicate, "Yes, I think we have the same scent," or, "No, I think we don't have the same scent."
- 4) If two participants think they have found a match, they can go around together looking for any others who might match them.
- 5) Allow 5-10 minutes for the participants to find their matches.
- 6) Once everybody has their match, the adult can confirm the results by checking the record sheet.

#### ▶ You'll need:

- a dozen cotton balls
- masking tape or medical tape
- a variety of scents or essential oils, such as peppermint oil, cinnamon oil, almond extract, or lemon oil
- a bunch of friends! Eight or more is better!

### DFTV Science Helper

This activity works best with a nice large group and about 3-4 different scents. It's also more challenging than it sounds, particularly when there are some similar scents, such as vanilla and almond. Don't forget to invite adults to join in with the kids. This can be great fun for all ages.



For another surprising activity that comes out of the kitchen, visit [http://pbskidsgo.org/dragonflytv/superdoit/invisible\\_ink.html](http://pbskidsgo.org/dragonflytv/superdoit/invisible_ink.html)



## Investigation Animal Scent



1-2 hours

### Guide your kids as they

- 1) Select five or six scents to test with your pet.
- 2) Acquire one wood block for each scent you intend to test.
- 3) Put a dab of the first scent onto the first block. If you are using a dry kitchen spice, like sage, then rub the spice into the surface of the wood. Don't worry if the spice itself doesn't stick to the block... rubbing will leave a scent that your pet can easily detect. If you are using a liquid scent, you only need to put a spot about the size of a quarter onto the block.
- 4) Go out to the yard with your pet. Show your pet the first block, and invite the animal to investigate. Let the block be, and move away to let your pet sniff the block without you distracting it.
- 5) Carefully observe the behaviors your pet displays while playing with the block. Example behaviors include:
  - a) rubbing the block with its cheek
  - b) sniffing the block
  - c) licking the block
  - d) rolling on top of the block
  - e) urinating on the block
  - f) attacking the block
  - g) ignoring the block
  - h) looking around nervously
  - i) carrying the block away to a more private place in the yard
- 6) You don't need to test your pet's response to all the scents on the same day. Allow some time between tests. Also, consider taking the time to show your pet the same block on two different days, and see if the behaviors change.
- 7) Try to interpret your pet's behavior as an indication of whether the scent is something it likes, dislikes, or finds agitating, etc.

### ▶ You'll need:

- a variety of kitchen spices, for example, parsley, sage, cloves, cinnamon. Do not use things that could be irritants, such as cayenne pepper or hot pepper flakes.
- other scents that might be interesting to animals, such as maple syrup, jelly, salami, cheese.
- optional: acquire other animal scents from your hunting supply or outdoors store. You might find deer, elk, fox, or bear attractant at a store like this.
- wooden blocks, such as scrap 2x4 lumber, cut to about 3 inch square. Caution: do not use green-treated lumber, or anything that has been treated with pesticide or other poisons!
- a pet dog or cat!

### DFTV Science Helper

Scents that are familiar to humans may not be familiar to animals, so don't feel like the test "didn't work" if your pet seems to ignore some scents. You may get the most interesting behaviors from scents that come from other animals. Also, a scent that humans find yucky may not bother your pet at all.



## DFTV Kids Synthesize Data and Analysis

The wolves really had a strong reaction to the dog pee. They peed, sniffed, scratched, and whined. They kept turning around and around almost like they expected to find the dogs in their enclosure! Paige and Nick guessed that this was a territorial and defense response like they saw in the Animal Grossology exhibit. The mountain lions reacted pretty strongly to the animal smell, too. Both the wolves and the lions loved the fruity smell. The cats wouldn't leave it alone! They rubbed and rolled in it a lot. They even tried to pull it away from the other cats. That's definitely an attraction smell! But surprisingly, neither animal liked the oregano. Maybe that's because they've never had pizza!



## Keep Exploring!

Contact your local zoo to ask if they use scents to enrich the animals' experience. If they do, ask permission to visit the zoo at a time when the zookeepers put special scented objects into an animal's exhibit area. Have your kids make observations of what they see. Your group might also ask the zoo's permission to come up with a scent test of its own to try with some of the zoo animals.