

Footstep Tracking for the Dog Scout Tracking badge

What is it?

Tracking is having the dog locate the path a person took and to indicate any items that person may have dropped along the way.

For the Tracking badge:

- The dog will need to correctly (nose down) follow a 100 yard (300 foot) track with one turn of any age with 2 small, flat leather or cloth articles such as a glove or wallet, one placed along the track and one at the end.
- Each article should be small enough that it is not easy to see from the previous article location. Items chosen should not be likely to blow away and they should be held by the track layer (prior to use on the track) long enough to absorb the track layer's scent.
- The handler will not know where the track layer has laid the track, only the starting point will be known and marked by the track layer with a flag or other visual indicator. The track layer will direct the handler to the starting point so that the handler does not cross the track on the way to the start.
- During the track, the handler should be at least 6-10 feet behind the dog unless retrieving an article.
- The dog will clearly indicate the articles with a sit, down or retrieve (without any verbal, visual or leash cue from the handler) so that the handler also can find the article and hold it up in the air so the judge can see it. The handler will show the articles to the judge after the tracking test to show that all were found.
- The dog should maintain a working attitude and not need a lot of verbal or visual encouragement from the handler, but the handler may cue the dog to track when needed.
- The dog should not stray from the track substantially and should not be air scenting.
- The handler may not use the leash or any other cue to help the dog remain on the track.
- No food or visual markers (like flags) on the track (except to mark the start)
- Only low vegetation or just soil or gravel as the tracking surface.
- The tracking area should be an open area such as found at a park or sports field. The track should include as much natural vegetation/surface as possible and an established trail, roadway or path should not be used for the entire track.
- The dog needs to wear a non-restrictive harness (that isn't intended to reduce pulling) for this badge test with the leash clipped to the ring on the dog's back.
- The handler will need to:
 - Briefly explain how the tracking and indication behavior was taught to the dog
 - Explain parallaxing
 - Show the map/diagram of the track with landmarks used for navigation, location of articles and for verifying by the track layer that the dog was on the correct track. This map is created by the track layer for the test.
 - Handler will need to be able to create this type of map/diagram and use parallaxing to find the articles dropped on the track of their own (without the dog). A subsequent article may not be visible from the previous one.
 - If submitting the badge by video a second person will be needed to video the dog/handler team working the track. This should be done in such a way that both the dog and handler are easy to see for the entire track including the start and finish. The videographer can also be the track layer.

Why do I need to know about scent?

As a handler, you need to understand scent and how it behaves as best you can, because you can't smell what your dog is tracking. Once visual cues are lost, you will have to rely on your memory, maps, landmarks and your knowledge of scent to know where the track is located. You also need to know about scent so you can use it to your training advantage instead of having it work against you. If you ignore how scent is affected by temperature, surface type, wind, terrain, etc. you may be setting your dog up to fail without even knowing it. You will also be able to use your knowledge of scent to problem solve during training for things like the dog being off to the side of the actual track, or why the dog won't keep his head down.

What is scent?

There are two main components the dog is following in outdoor tracking- human and ground.

The ground component is what is produced when the surface is disturbed and tells the dog where the track is located. This can be disturbance of the surface layer of dirt or the crushing of vegetation, the exposure of more ground through disturbed snow or less scent from the ground coming through compacted snow. When you walk on any surface, you are disturbing and changing something. If you were to consider the difficulty of the ground component from highest difficulty to easiest, it would look something like this:

- Sealed asphalt
- Concrete
- Gravel
- Dirt
- Dirt with vegetation
- Grass

The human component is what is left behind by the person and tells the dog who made the track. No matter what a person does, they are constantly leaving skin cells behind. Approximately 40,000 skin rafts per minute fall off your body. That is about 150 per foot at a normal walking speed of 3 mph. If a person is running, they are likely sweating. Sweating makes those dropped cells more hydrated and easier for the dog to smell.

Time component-

How the ground and human components work together can greatly affect the difficulty of the track.

When tracking on grass or other vegetation, there is a big increase in the scent produced by the decaying crushed vegetation within the first 15 minutes. This is likely to overpower any other scent. So if you only work on recently laid tracks, odds are good that your dog is only learning to follow a trail of crushed vegetation, not human scent.

The timing of the human scent is also a factor. The skin rafts take a little bit of time to start to decay. The amount of time it takes is dependant on the temperature and moisture in the air and in the skin rafts. As an average, the skin cells are at their most powerful scent between 30 minutes and 3.5 hours from the time the person made the track.

Knowing this, it is easier to understand how to use “track aging” to your advantage. If you allow 15-30 minutes to pass before to start your dog on the track you lay in vegetation, it will help them smell the human component and better understand what you want them to follow.

The other time component is the age of the start of the track vs. the end of the track. This is something dogs seem to naturally understand. It wouldn't do a dog (predator) much good to follow the trail of prey the wrong direction. If a dog encounters a scent trail left by another animal, it will always turn toward the direction that animal went, not the direction from which it came. For this reason, when you are laying a track for your dog, it is important to only walk it ONE direction. At the end, take a big step off to the down wind side and swing out away from the track to return to the start. Make sure you know where this end point is located so you know when to reward your dog and take off his harness or give some other signal to the dog that the tracking is done.

Air currents-

Wind conditions can have a major impact of how the scent moves and where settles. The stronger the wind over the track, the greater the falling skin rafts and scent will be affected. Always know and note the wind direction relative to your track. When you first start training your dog to track, you will want to walk into the wind. By having the wind directly in the dog's face, it will be bringing the most scent to the dog and encouraging him forward to find the younger scent.

As you increase the difficulty of the tracks and add turns, be aware of the wind direction and how it may be helping or challenging your dog.

Temperature and humidity-

As a general rule, the higher the temperature, the faster and higher the scent will rise. The lower the temperature, the more the scent will fall, including following terrain to its lowest point the way fog or water would do. As the temperature changes, the scent will move in the direction of the temperature (rising or falling). The more humid or damp the track, the more moisture the skin rafts will have. More moisture means higher bacteria count. And it is the bacteria and the by-products they produce that gives off the most scent. High heat and direct sun can dry out the skin rafts and reduce the effectiveness of the bacteria. Scent that has “dried out” during the day may “revive” in the damp of the evening and morning or after a light rain. Early morning, evening and at night are the best times for a dog to pick up scent. In the morning, as the temperatures are increasing, the scent starts to rise. In the evening, as the air temperature cools, the scent settles into low spots where it remains during the night.

Terrain-

Open Areas- These are most subject to wind conditions. A still day will allow the scent to skin rafts to fall directly on the track and help the dog follow it exactly. A cross breeze that maintains direction can cause a dog to follow the track but be slightly off to one side of the actual footsteps. It might also cause the dog to swing his nose back and forth between where the skin rafts have fallen and where the vegetation has been crushed by the footsteps. A strong wind will disperse the skin rafts and vegetation scent rapidly but this might help the dog follow the track more closely and carefully without trying to air scent.

Woods- These can vary from an open pine forest to a swamp with dense brush. The amount of wind blocked by or redirected by the trees, the ground cover, the temperature and humidity inside the woods and the amount of thick brush can all affect the dog's ability to search to some degree.

Hills/slopes- As with fog and water, the grade of the terrain will affect the scent most when the temperature is changing and scent is either rising or falling. This effect, if it is moving scent away from the track, may make the track more difficult for the dog.

Parallaxing-

This is a term for using two distant objects and lining them up so you can stay on a straight course of travel.

Course of travel -----> Tree #1 Tree #2

By keeping tree #2 hidden behind or lined up with tree #1, you know you will keep your path straight, even over long distances. These landmarks would be noted on your map along with the position from which you first lined up these two objects.

Mapping-

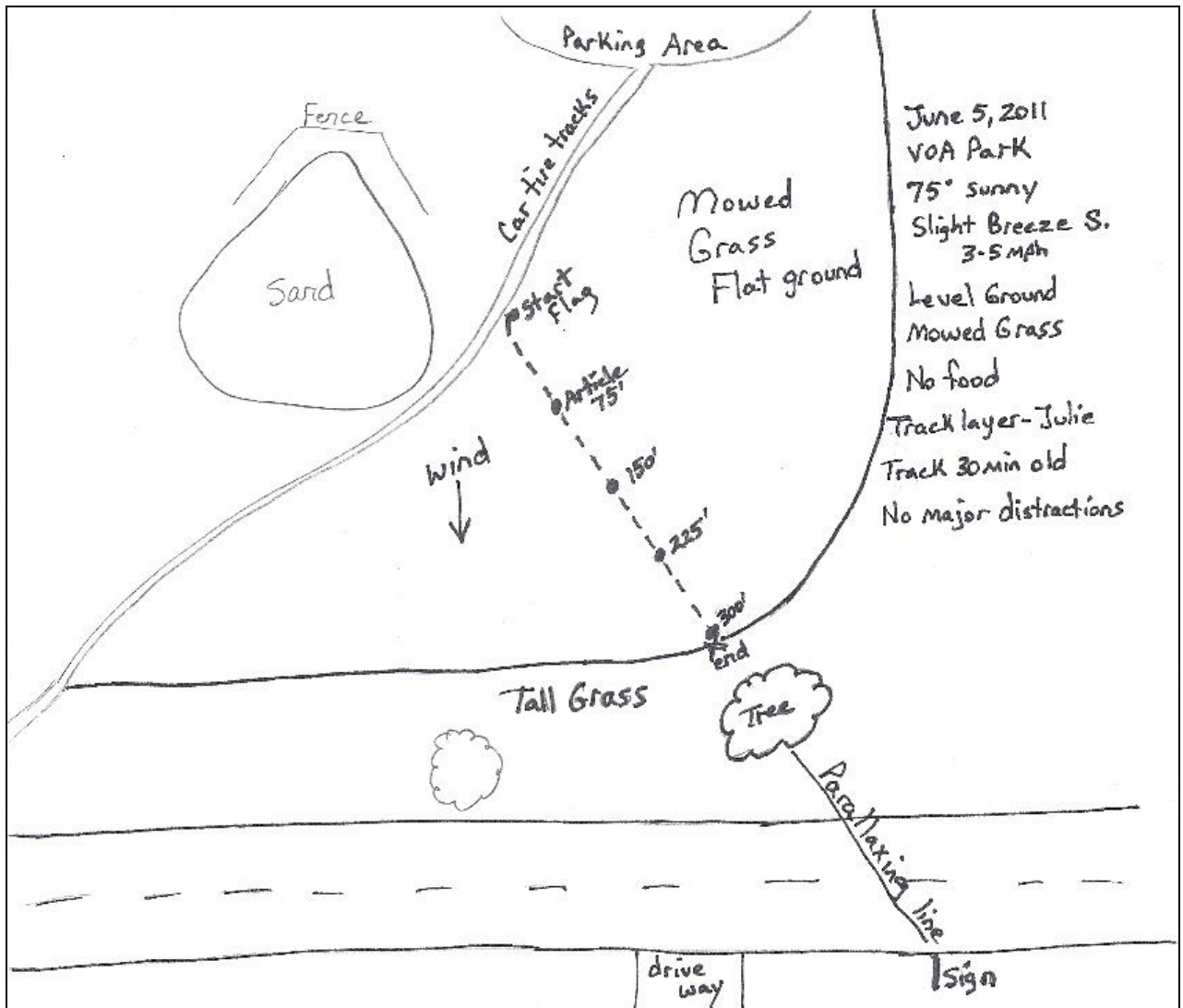
Mapping your track is essential to track your dog's progress. The maps will help you keep track of details like:

- Date/Location
- Weather conditions including temperature, wind speed, humidity, sun, etc.
- Wind direction relative to the track
- Terrain including grass, pavement, dirt, level, downhill, etc.
- Length of track
- How far apart food was placed (if used)
- Number of articles
- Age of track
- Who laid the track
- Distractions

While it may not seem hard to keep track of that stuff at first, you'll be surprised at how fast your tracks blend together. You will be able to see how many tracks your dog has had at each step (so you aren't rushing things) and you'll be able to see patterns develop in places, situations or times where your dog has some trouble.

Your map for the badge will need to show the above information, as well as:

- Start flag location
- Article locations
- Parallaxing line
- Ending location
- Landmarks



TRAINING-

Equipment needed:

- Non-restrictive “V” front harness with a ring on the dog’s back and that is not intended/ designed to reduce pulling on the leash.
- Paper/pen/clip board to make maps and take notes
- Surveyors flags or other markers to help you find your track after it is laid
- Several hundred very tiny, soft treats. These should be the size of a pea or smaller. They must be something the dog loves and wants.
- A leash at least 6’ long
- A new pump sprayer like the type used to spray weed killer- be sure yours has never been used for anything but water.
- A video camera is optional, but highly recommended to help you learn your own dog’s body language that will let you know when he is on or off the track.



Nose down walking-

The first thing you'll want to do is teach the dog to walk with his nose on the ground as explained below. This is not a normal position for most dogs, so they need to get used to it and condition/stretch the muscles to allowed prolonged walking in this position. You'll also be teaching him to not move his feet faster than his nose, which causes either "inch worming" of the dog's back or causes his back feet to "crab" sideways. You'll know the dog has mastered this when his back stays level and his back feet follow the front. As the food fades and the scent takes over, this will be more likely. But the dog still needs to learn the mechanics of walking this way. If the dog's nose comes up, you'll want to stop his forward progress until he lowers his head.

Associating human scent with good things-

While teaching the dog to walk with his head down, you can also be creating a positive association between human scent and some of the hundreds of tiny, soft treats you'll be using. Because we know that crushed vegetation has its own scent, I recommend using Steve White's HITT (Hydration Intensified Tracking Training) method. This separates the human scent from the crushed vegetation scent so the dog becomes conditioned to locate the human component.

This method starts the dog on sealed concrete or asphalt (but not freshly laid asphalt which has its own strong scent) like in a parking lot. This removes the vegetation from the scent picture and lets the dog concentrate on the human component. Because skin rafts don't stick to pavement very well, that's where the sprayer comes in. By spraying plain water in spots where you are about to step, the water gives the skin rafts a place to stick and also helps hydrate them so they give off more odor.

You will also be dropping a treat on each squirt/footstep. Unless you are really coordinated, it is easiest to do the water, leave the track to the down wind side and return in a wide arch to the start where you will go over the track again (same direction) to set the treats on each water spot. It helps to walk backwards this time so you don't have to contort yourself to set the treats behind you. Another option is to get a length of 1" PVC and use that to drop the treat into while you hold the bottom end on the water spot. This all sounds more complicated than it is, so don't let it put you off. Note that while the treats are tiny, if your pipe is too narrow, the treats take awhile to get to the bottom because they tend to spiral down the pipe. By using the 1" pipe, the treats quickly drop straight down. And you will need to work with some haste because the water will evaporate and you won't be able to see where you stepped. It's ok if the water has evaporated by the time the dog starts on the track as long as the treats are in place.

In the video below, you will see the handler spraying the water and then setting the treats. Note that she is practicing for AKC tracking, so she does a straight stream of water instead of a spot for each foot step. Also notice how she followed the ends of the parking lines so even if the water evaporates (which it will), she knows where the track is. I will reference this video again later in the training info.

Video 1: <http://www.youtube.com/watch?v=hOzkMMLHGHI>

The hotter the pavement, the faster the water will evaporate, so if you are working on a hot day, try to find pavement that has been in the shade for awhile or only work in the early morning when the pavement is the coolest. Hot pavement is also hard on the dog's

feet and nose and it makes the scent dissipate nearly as fast as the water! Most dogs will not put their nose as close to warm/hot pavement as they will with cool/cold pavement. Since we WANT the dog's nose down, it's important to only use cool/cold pavement for this.

At first, this is simply classical conditioning. The scent/water means great treats. When the dog has made that association, he will start to really enjoy looking for the scent. But classical conditioning takes repetition, so don't move away from this step too fast.

Track #1-

Prep the dog-

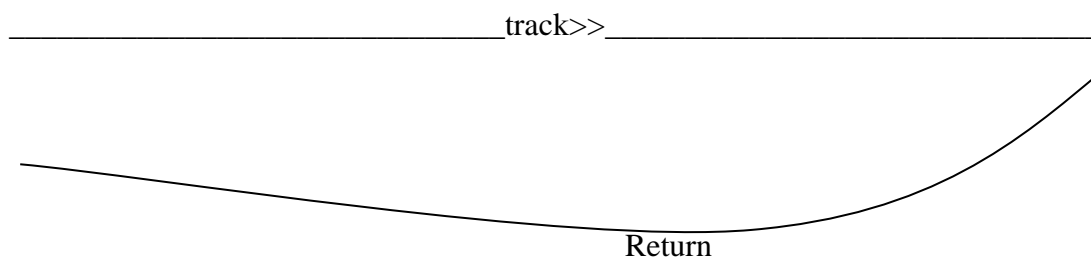
Have the dog in the car or otherwise contained/secured nearby while you prep the track. You will want to decide on a "pre-track ritual" so that the dog learns when you want him to use his nose, as opposed to a "walk in the park". This can involve putting on the harness, certain verbal cues, etc. but should always be the same. Some people put the dog's harness on when they get the dog out of the car/crate, others wait till they are at the start position to put it on. You can use verbal excitement like "Are you going to find 'em?!" "Where did they go?"

Prep the track-

But before you get the dog out, you'll want to prep the track. Find a location with cool or cold pavement, preferably with something you can use as a visual cue, like parking stall lines, so you know where the track was laid after the water dries. Check the wind direction and do your best to lay the first several tracks into the wind. You can drop a tiny bit of paper and see which direction it goes to check the wind direction. Be aware that obstacles like buildings and thick bushes can affect the wind direction and cause "swirling". Once you have the location and direction, get out your sprayer and adjust the nozzle and height so you get about a palm width spot each time you press the sprayer trigger. You don't need a puddle, just wet pavement.

As you walk the track, spray where you are about to put your foot down. Adjust your steps based on the size of your dog. The dog should be able to reach the next step/treat without too much stretching. If the treats are too far apart at first, the dog's head will bob up and down between treats.

Start with about 15 – 20' long track. At the end of the track stop spraying and take a big step off the track to the side and walk in an arch to the starting point.



After the track-

At the end of the track, you will verbally cue the dog that he is done and deliver a special reward. Take off his harness and take him back to the car/crate. Then write down your notes about that track. If you are using video, you may be able to review the video when you get home and update your notes then. But you WILL want to watch the video when you get home to note your dog's body language and signals that his body gives when he is on the track vs. when he's off the track. Seeing these signs is a matter of practice but there are certain things you can watch for.

- Pull- intensity, duration, frequency, direction, does it change, if so, where/why?
- Nose Height- in relation to the ground, the dog's body and/or to previous carriage
- Tail Carriage- in relation to the dog's top line (back), previous carriage, wagging amplitude (width), amount of curl
- Breathing-
 - sniffing (this can overheat the dog if its warm outside because it is not efficient cooling)
 - panting- cools the dog, but dog gets less scent
 - turbinate pop- an odd popping sound as the dog sniffs
 - respiration rate
 - deep or shallow breathing
- Cadence- forward speed, steady stride count, zigzagging
- Circle (if dog loses the track)- diameter, relation to wind, length of time to track recovery
- Crabbing/inch worming- head drag, internal conflict, body says go, nose says wait
- Nose anchor- casting side to side (subtle or drastic), suddenness, relation to wind direction

Take a look at the dog working in the video #1 and see how many of these things you notice.

Increasing difficulty-

Repeat track #1 a few times, then you can start adding one of the following variables ONE AT A TIME (don't increase the difficulty of two of these at once):

- Increase track length
- Decrease amount of food (every other foot step, every third step, then random)
- Change wind direction
- Level of distractions in the area

Don't Rush-

This seems like a lot of steps, but depending on how often you get out to track and how many tracks you do at each outing, it may not take very long. But this is the foundation for all the rest of the tracks and if your dog starts struggling, you will know you pushed something too far, too fast. Back up to something he can do well and build more slowly from there. Also be sure to look at the various factors that affect scent to be sure the dog is not being challenged to a track that is beyond his abilities.

When to move to grass-

When the dog is able to do a 50 – 60' track with no food and keeps nose down you can start to add grass. Use pavement that has a grass edge and start to lay the end of the track into the grass. Steve White would likely work the dog through the various surfaces listed on page 2, in the order listed. Each surface change brings its own challenges, so as you

lay tracks try to keep the surface the same unless you are purposely working on a surface change. Changing from one type of surface to another also has challenges for the dog so you will want to add food back into each footstep the first time you take the track into the grass or another surface. Remember that grass is very different from the solid surface and it brings in its own strong scent.

When you first start into the grass, go back to just the original short track length or shorter with food in each step (no water needed) and let at least 15 minutes pass between when you create the track and when the dog works it to allow the vegetation odor to lessen and the human scent to ripen. If you want to do multiple tracks, you can lay several at a time (if there is enough space that the dog won't get confused by the scent of another nearby track).

As the dog progresses, you can make the grass portion longer and the pavement portion shorter. You'll also want to fade the treats and add in the various challenges just as you did on the pavement. Then add in the articles.

ARTICLES-

Another component to the tracking badge (and most tracking tests/titles) is the indication of articles. The dog will have to indicate articles dropped by the person that laid the track and the articles have the tracklayers scent on them. This indication behavior should be taught separately from the tracking training, but you can work on them concurrently. On days that are not good for tracking, you can work on the article indication instead.

You want to teach the dog that when it's wearing the tracking harness and finds an object that doesn't belong in the area, it should do the indication. This can be a sit or down at the object or a retrieve of the object. Objects should be cloth or leather.

You can start by putting on the tracking harness and dropping one of these objects and cueing the dog to do the indication behavior. Continue this until the object becomes the cue for the indication behavior (no verbal/signal needed). Do this with different types of objects. Gradually increase the distance between the dog and the object so he has to go to it to do the indication. Then start making it slightly hidden. When the dog is able to find the object and do the desired indication every time, without any cue from the handler, your indication behavior is ready to be paired with the track. But be sure the dog has a firm grasp of tracking on grass before you add in the extra difficulty of indicating an article.

If you teach the article indication by rewarding with the dog's favorite reward and get very excited about a correct performance, that excitement can carry over to the track and the articles become a sort of reward during the track.

Sources-

Book: "Search and Rescue Dogs Training Methods" by American Rescue Dog Association 1991

Book: "Ready! The Training of the Search and Rescue Dog" by Susan Bulanda 1996

Earning the tracking badge on my Cattle Dog at Dog Scout camp in MI

Information provided by FEMA certified Search and Rescue K-9 handler Bob Deeds.