



Introduction to Scent- Level 1: Course Syllabus

Welcome to the Introduction to Scent course. You and your pup are about to embark on a rewarding and fun team building activity that taps into your dog's natural skills and stimulates their brain.

Dogs are introduced to the game through the use of boxes, containers, and tins paired with highly motivating rewards. In this class you will be teaching your dog to confidently search and alert to source (birch) with little to no help from you the handler while working with a number of unique environmental challenges.

Teaching your dog scent work is a process of tapping into natural skills and creating confidence. You and your dog will progress at your own pace as you learn. This class is designed to give you the foundational skills and basic understanding of the sport whether you plan to continue for fun or move on to many of the available competitive venues. The level of difficulty will be tailored to you and your dog's evolving skill level as we work to keep it fun for all.

This class can be repeated as many times as necessary before moving up to Odor Foundations: level 2. After those skills have been mastered there are multiple levels to move to as you and your dog advance.

We will learn:

- How to build an effective reinforcement system for scent work
- How to teach your dog to search independently for source
- Your dog will learn to communicate to you when they have located an odor
- How to build confidence and have fun searching for odor in a variety of beginner scenarios

Please take a minute to read this syllabus before the first class as there is important information to note before we meet. **PLEASE NOTE THERE ARE NO DOGS THE FIRST DAY OF CLASS. WE WILL COVER THE BASICS OF SCENT AND SEARCH PRACTICES.**

For your dog to be successful please bring the following items to each class:

- Flat collar or harness and six-foot leash (please no flexi-leashes, prong or shock collars in class).
- Treat pouch/bag (to help keep your hands free to train) and plenty of small soft treats (something they don't get every day to increase value) such as hot dogs, cheese, chicken, steak. If your dog prefers toy rewards find a good tug to use to reward in class along with treats
- Small mat or towel along with a crate (soft, plastic, or wire).
- Something to keep them busy during turns (i.e. snuffle mat, bully stick/chew item, stuffed Kong treat, favorite toy) that are safe to be left in a crate with the dog. Please do not bring toys with squeakers in them, it is too distracting.

Items you will need to practice outside of class:

- Long line: ideally 12-15 feet to start with. Using a line takes a bit of getting used to so starting with a shorter length will help you build skills. I also strongly recommend Biothane as it does not get wet, dirty, or stretches. As you progress in the sport you may need a longer line but to begin a 12' line will work.
- A source for lines are:
 - <https://a.co/d/bmXJrg3>
- Scent kit: You can purchase scent kits from several online sources and/or oils
 - <https://leerburg.com/noseworkequip.htm?loc=sportMegaMenu>
- Variety of tins, containers, and boxes. They do not need to be fancy or unused, but you should have an area to store the "hot" (used with source) and "cold" items so there is not cross contamination

Things to remember:

- If your dog is a confident pup, another dog in class might not be. They might not be as comfortable being approached by a strange person or dog. Please try to keep a safe distance between the dogs and be mindful of space when entering and exiting the building and in tighter areas such as doorways. **We have a “no nose-to-nose greetings” policy in class to ensure all the pups have a great time in class.**
- Practice makes perfect. Plan time throughout the week to practice. Skill building requires repetition.
- Please make sure to give your pup a chance to potty before class. There are waste disposal areas for solid BAGGED waste if needed out front.
- If you are unclear or struggling with a skill, please make sure that you text or email me for help. If I am with a client or in class, I will return your text as soon as possible. Emails are returned each evening when I return to my office. Please reserve phone calls for extreme training emergencies.
- Attendance is necessary for success, however sometimes life gets in the way. Please text 734-368-6608 or email info@pet-behavior.com

If you would like instructional videos on how to do some of the exercises we will learn in class please visit my website at <http://www.pet-behavior.com> On the STUDENTS page you will need to log in with a password, which is **dognerd**.

INTRODUCTION TO SCENT- LEVEL 1

The canine olfactory system is one of your dog's greatest assets. Scentwork is:

- Good for dogs that are nervous, anxious, high energy, young or old
- A way to form a greater bond with you and your dog with searching and scent games
- Adaptable to almost every environment and can be done for fun or as a competition

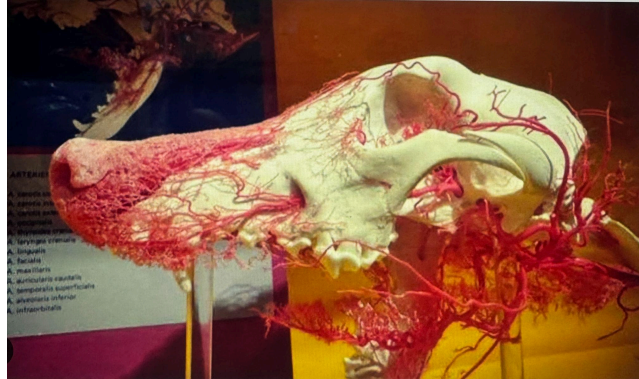
Depending on the breed, age, and health history, a dog's sense of smell is between 10,000 and 100,000 times better than our own.

They can detect a specific substance in a solution when it's been diluted so much that it only makes up a trillionth of the mixture. As well as being able to find the source of a smell, dogs can also obtain detailed information through scent. The scent from a canine's anal gland can tell other dogs about their age, sex, health and even their diet; it's why they sniff each other when they first meet. (NOVA 10/2012)

Dogs are used in a variety of situations that require the ability to detect minute particles of scent:

- Find missing persons (search and rescue/ live)
- Find deceased individuals (search and rescue/ cadaver)
- Detect medical conditions (allergies, cancer, epilepsy, diabetes, migraines, etc)
- Detect narcotics, illegal substances, detect bombs, gun powder, and other explosives
- Detect items for customs and immigration (produce, large sums of money, electronics)
- Detect and locate vermin, infestations, and biological dangers (bed bugs, termites, mold, etc)

Let's Compare	Human	Dog
Size of turbinates	Size of a postage stamp	Size of a sheet of paper
# of scent receptors	~ 5 million	~300 million
Olfactory bulb size	5-6 mm	10-12 mm
% of brain dedicated to scent	~ 1%	~ 40%
# of recognizable scents	~ 4,000.00	~ 100,000



www.caninescience.co.uk

In proportion to their head, dogs have very large noses (most breeds) which contain an infrastructure of airway and scent passages. Inside the nasal passages, the dog has layered, folded tissue called turbinates, which are scent-detecting cells and nerve receptors leading to the brain and because they are folded, they increase the surface area of the smell receptors.

But how do dogs actually do it? With a miraculous system of organs, pathways, air flow, pheromones, dedicated brain centers and nerves that work in unison to allow them to find, process, and locate minute traces of scent. Let's start with the physiology and break it down.

- Dogs can use their nostrils independently
 - New smells enter the nose and it splits into two different flow paths, one for olfaction (scent) and one for respiration
 - Processed smells go out the side slits as they exhale allowing a constant flow of scent
 - This allows them to locate the direction of odor because they nostrils can be used independently
 - Olfactory receptors within the tissue that lines the turbinates distinguish odor molecules and dispatch electrical impulses to the brain for analysis
 - Dogs can wiggle their nostrils independently
- Dogs also have a secondary olfactory system located in the bottom of a dog's nasal passage
 - The vomeronasal organ, also known as Jacobson's organ
 - Picks up pheromones, the chemicals unique to each animal species that advertise mating readiness and other sex-related details
 - The pheromone molecules that the organ detects—and their analysis by the brain—do not get mixed up with odor molecules or their analysis, because the organ has its own nerves leading to a part of the brain devoted entirely to interpreting its signals

We must also understand what the kinetic theory of matter is important to the process too. Using their unique and amazing olfactory system, dogs must work their surroundings to reach the source of any odor, which is in simple terms, matter. All matter is made of molecules and atoms which are constantly in motion so when the temperature rises it causes the particles to speed up, increasing the energy of the matter. The same applies to a decrease in temperature, just in reverse. The speed of the matter and the environment it is in all play into how the entire scent work picture looks to the dog. We will be teaching the dog to use all their skills to work scent problems in their environment.

So how do we solve scent problems as a team? Your job will be to help your dog as they search with as little guidance as possible and reward them when they find the source. We will work on dogs learning to work independently, be dedicated to source once it is found, and present them with training scenarios that will strengthen their skills (and yours).

Week One- Everything Has Odor! NO DOGS FOR THIS FIRST CLASS/ HUMANS ONLY PLEASE

- Review of training environment – discuss safety
 - Dogs will be crated or wait out of the search area
 - Discussion of crate games to play with dogs struggling with being crated
 - You must be mindful of tight spaces and other dogs moving through doorways
 - Dogs will often be overstimulated prior to a search
 - Be supportive and helpful; every dog is “our” dog
- Review guidelines for effective training
- What to do if dog eliminates
- Playing with other dogs is off limits during class
- Water is always accessible while dogs are crated or waiting. Dry noses = diminished scenting ability
- Boxes, containers and scent tins are the most common items used for searches, although training will be generalized to a variety of objects at this level
- Use of rewards – as always in training, we can encourage and reward our dogs with the use of highly desirable rewards (food and tug games are high on the list) and LOTS of verbal praise after a find
- Discussion of strongest concentration of source smell, air movement, scent trails and scent pooling in unusual locations
- Words and tools we don’t use in scent
- Pairing scent with reward
- Reading the room- how is the air around you moving (smoke demonstration)
- Scentwork log book- free and premium version available to download from their site
 - www.dogsnoseknow.com

Homework: please take a moment to read this syllabus in its entirety if you have not already, as well as the handouts provided with your welcome email. Start to gather your scent supplies to use outside of class.

Week 2- What is K9 Nose Work?

The methodology: Understand the concept of the box game

- Why boxes are used to start the game
 - The purpose and value of self-reward
 - Difference from other sports (many more dogs can play)
- Goal is to build the desire to search
 - Build the hunting drive in each dog
- The four elements of the game (containers, interiors, exteriors and vehicles)
- Why K9NW is good for dogs (fun, confidence building, their natural activity)
- Identify what motivates each dog to play the game
- Develop the handlers’ observation skills for their dog’s searching behavior

EXERCISES/ACTIVITY: Box Work

Round 1 Box Work

- Handler will keep the dog on leash, hold the dog to focus the dog and release the dog when the instructor cues it
 - The handlers job is to follow the dog, allow for a loose leash if possible, and reward at the box after the “find”
 - The handler will then lead the dog away from the search area as the instructor resets the boxes

The “Box Game”

Round 1 Box work

- Drop the dog’s treats in a box, visible to the dog, and place it on the ground and step away
 - Allow the dog to go to the box and eat

- Either allow the dog to continue investigating other boxes, or move dog away and repeat
- If the dog continues sniffing, reload that box or another box
- If your dog is a toy reward dog, toss the toy into a box and allow the dog to chase, grab, or retrieve the toy
- Repeat several times, or work one long session (typically for about 2 to 5 minutes)
- Dogs return to crate/car before round 2

Rounds 2 (3,4) Box work

Repeat work with the boxes, with the aim to keep focus on the boxes.

- Keep this session shorter so that the dog leaves wanting more
 - If the dog is focused and intense, add more box puzzles (box within box, or box slightly covering another box)
- NOTE: This round may be a repeat of the first two, or depending on the results, more options could be added.

OPTIONS:

- Off-leash (only if focus)
- Handler works on placing the rewards (with guidance from the instructor)

Things to consider:

If you are training alone you may have to set up your practice sessions with some creativity, such as

- Start by moving freely with the dog and playing the game while the dog runs loose
- Crate the dog, or put them behind a gate to allow you to preload the food/toy box
 - The dog that has played the game enough will already recognize the boxes as a cue

Homework

- Students should get five or six of their own open containers (boxes, shoe boxes, Tupperware). Ideally include size variety and boxes with and without flaps or a cover to add difficulty as the game progresses.

Having stackable or nesting containers (like plastic shoe boxes or low-profile buckets) is handy for taking it on the road. Encourage students however to spend time with primarily cardboard boxes because of the size and shape variety, and also because they are part of the foundation for container searches.

- Stress the importance of continuing the box work as done in class for at least a week.
- Choose a low-distraction, safe, secure and preferably familiar environment for first practice, Then practice in at least 5 different locations (friend's garage, secure parking lot, an office, or five different areas at their homes, but avoid grassy outdoor or distracting areas. Select locations that provide the most control over the environment.
- If a dog lives in a multiple-dog household, instruct them to play the game away from other resident dogs.

Week 3: Continuing to Add Levels To The Picture

This week we will build off of last week's foundation exercises to add in different configurations and new items in the search area.

- Discuss how to assess the dog's focus and independence:
 - Is the dog distracted by the handler's voice or movement?
 - Does the dog work differently on or off the leash?
 - Does the dog want to start searching right at the start?
 - How far away from the handler does the dog move?
- Expand the environment by adding things besides boxes.
- Place hides outside of boxes, but keep boxes in the environment
- Change the environment (option to change surface area or rooms)

EXERCISES/ACTIVITY: Box Work and more

Round 1 Box work

- Boxes are amidst other environmental objects
- One or multiple hides, but hides in boxes

Round 2 Box Work

This is another review round with environmental objects to the search area.

- Hides in things other than boxes, but boxes present

Round 3 Box work

This is another review round with environmental objects to the search area but hides may be anywhere

- Boxes are amidst other environmental objects
- One or multiple hides, hides in OR out of boxes
- Off-leash

Round 4 Box Work

If time allows, do a round with just boxes again. Keep it simple

- Change environment/location
- Enter through a different door
- Off-leash
- One hide

Homework

Continue box work with several (single and multiple) hides inside and outside the boxes. Work both on and off-leash whenever possible. Encourage training in several new places but still avoid dirt and grass. Ask students to work on being able to identify and describe their dog's change in behavior as it approaches and gets to odor.

Students often start to feel confident by week three. It is critical to practice the foundation steps and should not move too fast. Set up training scenarios where the dog will be successful, will gain the confidence that they can work it out themselves, and will not rely on the handler for help. The handler is there to support the dog and give the dog an opportunity to access the reward. **Train don't test.**

Week 4: Working As A Team

This week we will continue to use the elements of weeks one thru three and add in some more environmental challenges like different floor surfaces (tarp, blanket, grate), distraction odors (food and/or cat nip), and for the more confident dogs, some background noises (busy airport, music, weather, etc)

Make note of:

- How is your dog's focus when there is an environmental change?
- Describing your dog's COBs (changes of behavior) – What do you see?
- Add difficulty to searches (harder to access hides, deep under a chair, slightly elevated, a baby gate partially blocking hide). Dog has to make more effort to self-reward
- Note your dogs' body language; changes in breathing, head turn/head snaps, and pace for discussion following the searches

EXERCISES/ACTIVITY: Box Work and more

Round 1 Box Work

- Place hides that challenge the dog to self-reward but are still within reach; use the visual of an open box with a hide behind a baby gate for example
- Toss a reward into the open box if the dog shows reluctance to go around the barrier
- Off-leash search to allow the dog the freedom to problem solve

Round 2 Box Work: This round repeats concepts of round 1, but move objects or environment

- Conduct searches on AND off leash for variation

Round 3 Box Work: This round is the same as round 2 but adjusts difficulty based on previous rounds.

Add or remove visual aid of boxes

- Conduct searches on or off leash
- Have students note aloud the changes of behavior

Round 4 Search

This round is the same as round 3 but with no boxes in environment

- Distribute environmental objects in larger area
- Hide the food in an environmental object such as a trash can on its side or something similar in shape to a box
- Play with expectations from previous round

Homework

Handlers should continue box work with added objects. Encourage them to go to three to five different locations to practice with boxes and objects that are naturally in the environment (like someone's garage).

Week 5: Generalizing The Search & Continuing to Build Confidence

By this class you should be starting to see changes in your dog as they search, and these changes should be telling you where your dog is in proximity to the source.

- Importance of allowing the dog to drive the search and respond to their COBs
- Handler's observation skills, and ability to read their dog's COBs
- Blind hides (you and your dog will be searching without knowledge of the sources location)

Round 1 Box Work

Set up our students' first "blind" hide in clean boxes. The blind hide is not like a competition hide because no alert is required, but the location of the hide is unknown to the handler. The dog will still be self-rewarding so there is a built-in safety net. Let the dog lead the search!

Be prepared to discuss after each dog what the class observed in terms of changes in the dog's behavior.

- Run simple box search on leash with 6-10 open boxes; hide pre-set; handler follows dog

Round 2 Box Work

Repeat again in new location either indoors or outdoors (weather allowing)

- Simple box search; blind to handler

Round 3 Box Work and more (not blind)

Add barriers, or create maze to get to the hides

- Place open boxes in the search area. Load difficult to access boxes behind a barrier, or create a maze-like situation for the dog to have to access the hide.

Round 4 Box Work

Repeat barriers, or create maze to get to the hides; no boxes

- Place hide behind a barrier, or create a maze like situation for the dog to have to access the hide with no boxes in search area

Homework

Train in new areas. Searches should include hides in the boxes, outside the boxes, and without boxes (once the context for searching has been established.). Elevation should still be no higher than nose level. Be prepared to discuss the searches you set up this week.

Week 6: Exteriors

This class introduces exteriors. We will be working outdoors if the weather allows. Please dress/plan accordingly.

- Ask handlers to describe one search they set up
- Review places handlers have set up searches. Remind them of the importance of working in multiple places so the dog generalizes the search behavior in other locations.
- Discuss working outdoors and making a plan to allow the dog to potty BEFORE entering the search area.

- Discuss key benchmarks for proceeding to odor (or doing an Intro to K9NW Level 2)
- Change search area to exterior searches or completely different area indoors
- Return to only boxes in the new area (5-7 boxes)
- Create focus in potentially more distracting environment

EXERCISES/ACTIVITY: Box Work and more

Round 1 Box Work

This round and session starts with doing boxes in exterior areas.

- Begin session just like first class. Have the dog watch the first hide being placed in a box. Set expectations
- Once dog is searching, either keeping adding hides, or start again and pre-set hide
- On-leash

Round 2 Box Work: Repeats the round, but hide or hides are pre-set

- Keep searches short and simple
- On-leash, but experiment with leash length

Round 3 Box Work: Repeats the round, but hide or hides are pre-set

- Try a different area, or half indoors, half outdoors
- Change the type of boxes or container
- On-leash

Round 4 Box Work: Repeats the round, but hide or hides are pre-set

- Add box puzzles (stacked or nested boxes, tighter boxes, boxes elevated on other boxes)
- On-leash

Homework

Train in new areas both indoors and outdoors. Searches should include hides in the boxes, outside the boxes, and without boxes (once the context for searching has been established.). Elevation should still be no higher than nose level.

Handlers may start setting up box searches on grass or dirt as long as they are quick and easy.

Session Wrap Up: Explain how the Level 2 Intro to K9NW or Introduction to Odor class will progress.

Discuss pros/cons of proceeding to odor.

ODOR INTRODUCTION PROCESS

PRIMARY	Dog searches for primary reinforcer (food or toy)	Human involvement not typically needed but there may be exceptions (e.g., fearful dog). Hunting and self-reward is important.
Phase 1 PAIRED	Dog searches for primary with target odor	Key is the dog is self-rewarding at source of odor
Phase 2 PAIRED + EXTERNAL REWARD	Dog searches for target odor plus primary, Handler adds external reward	Handler may approach the dog and deliver an additional reward right as the dog finishes eating the paired reward. Handler, instructor, or someone else could alternatively toss a reward at source.
Phase 3 UNPAIRED + FAST EXTERNAL REWARD	Dog searches for target odor by itself and Handler delivers <u>FAST</u> reward	Handler rewards the drive to odor and strives to meet the dog at source. Tossing the treat may be chosen in some cases depending on hide location.
Phase 4 – Brief Assessment Tool UNPAIRED + SLIGHTLY DELAYED EXTERNAL REWARD	Dog searches for odor and handler delays <u>SLIGHTLY</u> before delivering reward. This is a very short phase used to evaluate the dog's expectation at source.	Handler delays rewarding slightly and assesses expectation and response of the dog when encountering unpaired hide. Reward should still be reasonably swift. Handler could begin final response training here if desired. Final response may change to something other than what it started as.
FINAL RESPONSE	Dog searches for odor and communicates to handler	Dog responds to the odor and communicates to the handler the location of the hide. This can be discrete behavior chosen and reinforced by the handler or a behavior or collection of behaviors the dog does naturally when landing at source.

Scent Work Glossary of Terms We Will Use

Air Movement- different patterns of air movement within a search area
Air scenting- behavior dogs use to move towards the target odor; head is usually up
"Alert"- word called out when the handler believes the dog has found the source
Active alert- a behavior that a dog gives when it's trying to get to source
Aging - the time between the source placement and the search
Aggressive alert - dog is physically interacting with the source by biting, scratching, etc and disturbs the hide
Aversive- anything the dog finds undesirable or unpleasant
Box- item to place source or a distraction in for searching and may have source in it or may be empty
Blind Search- searching with no knowledge of where source is
Blocking - handler is blocking the dog from an area by their physical position
Clear - when the search team determines that the search is complete and there is no source present
Cocktail - a combination of two or more odors
Cold - search items (box, containers, etc) that have no trace of source odor on them
Compulsion- a dog training philosophy that uses negative reinforcement and positive punishment
Container- any item that is used in a search and may have source in it or may be empty
Contamination - used when the handler drops food in the search area, moves the source, or touch the source
Convection currents- A convection current happens when warm air rises, and cool air falls which then pushes the air into a circular pattern
Cues- an indicator or signal to the dog for a certain behavior that can be verbal, environmental, or physical
Distraction- any item or scent placed in the search area to redirect the dog's attention
False alert- when searching blind the handler indicates a find and it is inaccurate
Finish - once a search is complete the handler gives the cue "finish" to the judge
Fringe - when the dog indicates close the source but not at source
Head snap - dog makes a sudden change in direction when they locate the source trail
Hide - the source odor placed in a container and hidden within the search area
Hot - anything containing the source odor
Indication- a behavior the dog gives that tells the handler they have found the source
Jacobson's Organ (also known as the vomeronasal organ)- located in the nasal cavity opening into the roof of the mouth behind the upper incisors. Serves as a secondary olfactory system for chemical communication
Marker- verbal or physical behavior given by the handler to let the dog know they are right
Olfactory - complex system the dog uses to detect odors in their environment
Pairing-process of putting two things together that communicates to the dog item A predicts item B
Passive alert-an alert where the dog stops and passively tells the handler they have found source (ex. sit or down)
Pheromones-chemicals that animals and humans release to communicate with each other
Pooling odor- when scent collects in an area without a clear direction or flow, causing issues with false alerts, as the pooled odor may have a higher concentration than the source
Redirection- teaching dogs to "do this, not that" by redirecting their attention away from distractions and back to the handler.
Reinforcement- anything (toy, food, game, affection) the dog finds rewarding and positive
Scent Cone- scent spreads out in all directions in a shape that resembles an ice cream cone
Scent pools- areas where scent has collected
Scent trails- a line of scent the dog follows to the source
Source- the location of the scent where all the scent trails, pools, and cones drift from
Tins- container for containing source odor; can be vented or closed and often have magnets on them for elevated hides
Trained Final Response (TFR)- your dog's indication at source. Can be a passive or aggressive indication.
Turbinates- soft tissue branches in the canine nasal cavity that help warm and moisten incoming air. They are made up of thin bones called maxillo-turbinates that are lined with epithelium, creating a large surface area for the incoming air to pass over
Wind effect- wind can also create a wind effect, where air continues to travel inside a building in the direction of the outside wind

Resources for your training

Organizations:

- C-WAGS: <https://c-wags.org/>
- National Association of Canine Scent Work: <https://www.nacsw.net/>
- American Kennel Club: <https://www.akc.org/sports/akc-scent-work/>
- United Kennel Club: <https://www.ukcdogs.com/nosework>

Supplies:

- K9 NWSource: <https://k9nwsource.com/akc-scentwork-supplies-essential-oils-scented-qs-kits/>
- All Good Dogs: <http://www.allgooddogs.biz/products>
- Paws 4 Fun: <http://www.paws4fun.net/>
- J & J Dog Supplies: <https://www.jjdog.com/nosework-kit-essential-oils-scent-kit>
- Leerburg: <https://www.jjdog.com/nosework-kit-essential-oils-scent-kit>