



Scentwork for Puppies: Course Syllabus

Welcome to Scentwork for Puppies. 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.

Puppies are exposed to novel odors, new environments, and easy problem solving games that will build confidence, teach them to tap into their olfactory system and broaden their socialization experience. In this class you will be teaching your dog to confidently search 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 your puppies developmental stages, genetic hard-wiring and breed characteristics. 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.

We will learn:

- How to build an effective reinforcement system for scent work
- How to teach your dog to search using their nose and visual clues
- Your dog will learn to communicate to you when they have located an odor and create dedication at source
- 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. **WE WILL COVER THE BASICS OF PUPPY DEVELOPMENT, SCENTWORK, 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
- 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

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**.

At birth, a puppy's sense of smell is significantly better than a human's, but not as developed as an adult dog's.

As a newborn, while they are born deaf and blind, puppies start using their sense of smell to find their mother and for nursing almost immediately. Their developing olfactory system becomes even more acute as they grow.

FUN FACTS:

- Studies have shown that puppies can smell odors the mother is smelling in utero and display the ability to recognize those scents once they are born.
- A new born puppy is born with their eyes and ears closed. They use their sense of smell and touch to find their mother/smell of milk to nurse. They have limited movement at this point.
 - Puppies use a receptor on the roof of their mouth, known as Jacobson's Organ, to find mothers milk.
 - Adult dogs use the same organ to smell pheromones and dog urine.
- As they develop post birth their eyes and ears will start to open up at around two weeks of age. By week three they are responding to audio and visual stimuli.
- A puppy's sense of smell continues to develop as they grow and becomes highly developed by the time they are juveniles.
- By week three the puppies are responding to each other and are getting more strength in their limbs.
- By week four their senses are all fully operational and they can see, hear, smell, and interact with their environment.
- By week five the mother is starting to wean them and food is being introduced. They are starting to explore and will respond to toys, sounds, and smells that are novel.
- By week six the puppies are fully weaned, responding to human voices, house training is beginning, they can learn basic cues such as "sit".
- By week seven and eight the puppies are exposed to new sights and sounds, are taking the initiative to relieve themselves in litter or on potty pads, many are transitioning crate training, short periods of time alone/confined, play interactively with toys and often carry objects in their mouths.
- Weeks eight to ten many puppies will experience their first fear period. It is also the time frame many are placed in their new homes.
- The olfactory region of the brain is roughly 40-50% larger than a human's. This area undergoes a period of rapid development as the puppy matures enabling them to solve complex scent problems.
- The nose is a complex system that utilizes separate airways that allows them to intake odor as they are exhaling air.
 - The slits in the nose are for exhaling and pushing air around to allow to take in odor molecules.
 - Dogs can use each nostril independently! This helps them move closer to the source of the odor.

That Amazing Nose!

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

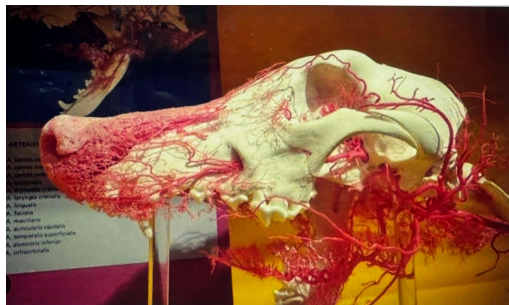
Depending on the breed, age, and health history, a dog's sense of smell is between 10,000 and 100,000 times better than our own.

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)

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

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)



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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
 - o New smells enter the nose and it splits into two different flow paths, one for olfaction (scent) and one for respiration
 - o Processed smells go out the side slits as they exhale allowing a constant flow of scent
 - o This allows them to locate the direction of odor because they nostrils can be used independently
 - o Olfactory receptors within the tissue that lines the turbinates distinguish odor molecules and dispatch electrical impulses to the brain for analysis
 - o Dogs can wiggle their nostrils independently
- Dogs also have a secondary olfactory system located in the bottom of a dog's nasal passage
 - o 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).

When it comes to detail, though, we still have the upper hand. Ever wonder why your puppy can't always see the treat right in front of them, but can usually track a treat or toy you throw? This is because dogs are natural hunters. Their eyes have

developed to detect movement, not fine details, which explains that oftentimes if they do not see the toss they will struggle to find the treat unless it is “smelly”.

IMPORTANT TO REMEMBER: Water should be available. Dry noses = diminished scenting ability! Young dogs work best with using the format of short sessions of PLAY→POTTY→REPEAT.

Week One- Engaging your puppy

- Developmental stages and your supportive role
 - Confidence levels will vary with each dog and can be changeable as your pup grows
 - NEVER force your dog to interact with something they have a fearful or uncertain reaction to
- Baseline confidence test
 - Assess your pups confidence
 - Avoid any negative associations
 - Never push your puppy or force anything, it should be their choice
 - Tight space test
 - Allows you to see your puppies confidence in spaces that are unfamiliar
- “Duck your head” test
 - Will give you another gauge of your dog’s confidence and problem solving skills
 - Items are placed around a chair and eventually under it
 - You will progress to covering the chair as they build or display more confidence
- “Did you hear that” game
 - Fun objects placed in a pile of items that move and make noise
 - Use lots of encouragement, toys, treats, and play
 - Empty water bottles with items inside that make noise when the bottle is used (rice, bells, rocks, beans, etc)
 - Note, if your puppy routinely plays with water bottles you’ll have to keep them on track to work to the source of odor
- 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 range of scent
 - Odor is complicated and interacts with the environments
 - New, aged, and residual source
 - 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
- The science of tug with your pup
 - How to tug safely and the best way to engage your pup
 - Discussion of tug toys and the pup that does not engage

Homework: please take a moment to read this syllabus in its entirety if you have not already. Please play the games we learned in class.

Week Two- learning to find scent

- Starting with source (target odor)
 - The process of pairing
 - Patterns and predictability
- Today we will be working with scented toys and allowing the pups to explore and problem solve the path to odor
- The environment
 - Air movement in the room
 - Hot air, cold air, doors/windows, and human/dog movement in the search area

- o Doors opening and closing
 - o Approaching from different directions
- Discussion of how to know if your dog is in odor
 - o Every dog is different - how does YOUR dog communicate being in odor?
 - o Look for a 90-degree head turn and other in-odor clues
 - o Changes in breathing
- Developing a training schedule and keeping track of progress
 - o Make sure to note day, time, location, environmental challenges, type of search, and source used
 - o Comment on the overall search and note items to work on moving forward
- Introduction to boxes
 - o The boxes serve as a visual pull for the puppy, are easy to replace, store, and rearrange
 - o Using box lids or short boxes, open in a pile
 - o Place treats in most and their favorite tug to play with when they locate it
 - o If your puppy is afraid of boxes take it slow and let them to decide to approach on their own
- Games we will play
 - o 1-2-3- Search!
 - Five boxes (or lids)
 - Three repetitions
 - 1st- treats in first box
 - 2nd-treats in first and third box
 - 3rd- treats in first, third, and fifth box
 - Start line, hold the puppy until they focus
 - Release them to search
 - Use a treat to magnet them away from the search
 - Play with your puppy after each finished session
 - PLAY→POTTY→REPEAT
 - You will likely need to leash, crate or separate the puppy if you do not have someone to assist you as you reset each search
- “What’s for dinner” game
 - o Using scented toys we will let them search surrounded by distracting odors and problem solve to find the food
 - Start line, hold the puppy until they focus
 - Release them to search
 - Use a treat to magnet them away from the search
 - Play with your puppy after each finished session
 - PLAY→POTTY→REPEAT
 - o You will likely need to leash, crate or separate the puppy if you do not have someone to assist you as you reset each search

Homework: play the games we worked on this week. When out and about make sure to reward your puppy for investigating new items in the environment (especially outside of their familiar areas). Lots of treats and rewards.

Week Three- Making their world a bit bigger

- This week will play more games with boxes of different sizes and add a few more to the mix
- We will also continue to add more interesting distraction items to increase their problem solving skills
- “10 box challenge”
 - o Two rows of boxes, five in each row
 - o 1st run- treat in first box
 - o 2nd run- treat in first and fourth box
 - o 3rd- food in the first, fourth, and fifth box
 - Start line, hold the puppy until they focus

- Release them to search
- Use a treat to magnet them away from the search
- Play with your puppy after each finished session
- PLAY→POTTY→REPEAT
- You will likely need to leash, crate or separate the puppy if you do not have someone to assist you as you reset each search
- For the first few sessions of this game you will repeat the search pattern at home
- For the next round you will start to add treats to other boxes, but always put a treat in the first and last box at this point

Homework: when doing your sessions at home remember, no more than three repetitions (this includes the resets), keep it short and positive, try to let the puppy work undisturbed unless you see them getting frustrated

Week Four- Box searches

- Starting dogs on source with simple searches
 - Dog will “find” a scent object as you reward
 - We are going to be using anise scented bags today
 - With a reverse pairing process, we will add value to the target odor of anise
 - Using cues to start, redirect, and end a search
 - Keep moving if you are leading the dog, do NOT stop near the source, move past and return to reward
 - Once you cue the “search” don’t talk unless you are redirecting or rewarding
 - Always keep the dog between you and the boxes, and work in two different directions
- Simple box search
 - One row of five boxes
 - Treats will be placed in the last box with the anise bag
 - Once the dog starts sniffing the anise and eating the treats step in and praise and drop more treats one after another (roughly about 4-5 treats)
 - Magnet your puppy away from the search area
 - Play with your puppy after each finished session
 - PLAY→POTTY→REPEAT for a total of three repetitions
- Terms used in a common search
 - “Search” or “find it” - the start cue
 - “Get to work” - if the dog is distracted
 - “Yes”, “good”, or other verbal mark- once your dog finds source
 - “Find another” - after finding a source if you are still searching
 - “Too far” - if the dog moves outside the search area
 - “All done” or “Finished” - ending the search
- **Remember:** No obedience cues once you give the search cue - silence is ideal. No helping the dog find the scent, unless they are frustrated - no leaning, eye darting glances or breath holding!

Homework: start with a simple box line with only one source in a distraction free room. Practice no more than once a day, every other day. If the dog disengages then stop the exercise and pick it up later. Leave the room between the searches and let them play for ten to fifteen minutes before the next search.

Week Five- Adding containers to the search

- Adding in containers into the line of boxes
 - Dog will search line of boxes with containers added to them to generalize the search, containers will have no source
 - How to encourage your dog to work independently

- o How to keep them engaged if they become distracted using common search terms
- Types of containers and how they allow source to move into the scent cone
- Continue practicing line searches

Homework: use random containers along with your boxes to set up simple searches, no more than three additional containers to your five box line. Use the same guidelines from your homework assigned last week.

Week Six- types of searches

- Starting dogs on room searches
 - o Dog will search a room with source in the open then work to find hidden sources
 - o How to encourage your dog to work independently
 - o How to keep them engaged if they become distracted
- Discussion of how a room search is different than a box search
 - o Multiple heights
 - o Competing odors
 - o Dog hasty search then detail search
- Blind searches- handler and dog will not know where the source is prior to starting the search
- Outdoor searches
 - o How do scent patterns vary outdoors
 - Wind effect
 - Temperature and what it does to odor
 - Moisture/humidity levels and how they will affect your dog
 - o If your dog is progressing well you can take all these games outside
 - Start in a low distraction area like a deck or your back yard
 - Familiarity with an area will help them ignore the usual distractions present and let them search with the new criteria

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

NOTES: