

The Association for
**Animal Welfare
Advancement**



Animal Enrichment Model Practice

ABOUT MODEL PRACTICES

Model practices are a set of guidelines that lay out efficient and effective methods to achieve optimal results. The Association for Animal Welfare Advancement (The Association, formerly known as SAWA) establishes model practices in a variety of areas that will lead to superior care of animals and help our members have more impact on their communities. The methods in this document are generally accepted as those that will produce the best results for animals housed in animal shelters.

We acknowledge that some of the activities described here may be beyond the current operational capabilities of many animal welfare organizations. As model practices these protocols and techniques are not the most accessible, but rather are the most effective. If an organization is not currently capable of implementing all of the recommendations in this document, enrichment must still be provided to animals in their care.

INTRODUCTION

Enrichment defined

From the Association of Shelter Veterinarians: Enrichment refers to a process for improving the environment and behavioral care of confined animals within the context of their behavioral needs. The purpose of enrichment is to reduce stress and improve well-being by providing physical and mental stimulation, encouraging species-typical behaviors (e.g., chewing for dogs and rodents, scratching for cats) and allowing animals more control over their environment.

Importance of enrichment

Enrichment programs mitigate the development and expression of abnormal and/or problematic behavior and contribute to the overall wellbeing of the animals in the shelter environment. From stress reduction to mental stimulation, enrichment directly benefits both

the physical and mental health of the animal and assists in maintaining this health throughout the shelter stay.

History of enrichment

Enrichment was first introduced as an important component of animal care in zoos in the 1960's. Caretakers and researchers began to acknowledge that the housing environments being provided to animals inhibited natural behaviors, created stress and inhibited natural development for newborn and young animals. Zoos shifted their focus to a desire to show how animals behave in their natural environment. In order to accomplish this, traditional housing had to change and research had to be done to determine how to encourage natural behaviors.

Around the same time in the 1960's that zoos were beginning to awaken to the need for a higher standard for animal care, the Five freedoms were being developed in England to express minimum standards for the handling of livestock. Those same Five Freedoms have been adapted by animal shelters around the world to serve as a basis for determining whether an organization is providing humane care to the animals they house.

Providing a robust enrichment program is an important tool for supporting all of the five freedoms and very directly impacts three of the five.

1. Freedom from Hunger and Thirst: by ready access to fresh water and a diet to maintain full health and vigor.
2. Freedom from Discomfort: by providing an appropriate environment including shelter and a comfortable resting area.
3. Freedom from Pain, Injury or Disease: by prevention or rapid diagnosis and treatment.
4. Freedom to Express Normal Behavior: by providing sufficient space, proper facilities and company of the animals own kind.
5. Freedom from Fear and Distress: by ensuring conditions and treatment, which avoid mental suffering.

The Five Freedoms have been used as a basis for the development of this document. A strong enrichment program will help to provide freedom from discomfort, freedom to express normal behavior and freedom from fear and distress.

Limitations of Enrichment

Enrichment programs are designed and intended to promote and permit animals to express normal behaviors while in a shelter. Animal shelters are not intended, nor should they be used for long term or lifetime housing for companion animals. The best enrichment program will not overcome the need for companion animals to be in a home or natural environment.

A strong enrichment program is intended to enhance and maintain an animal's behavioral health while in a stressful environment. While training may be used as part of an enrichment program, the focus is not to modify problem behaviors. This document is not intended to help animal shelters create a behavior modification program. Prior to creating a behavior modification program an animal shelter should have an enrichment program in place that substantially complies with these practices. While enrichment may enhance behavior modification the two programs have different objectives and require different skill sets.

Distinction between enrichment and behavior modification

Enrichment focuses on reducing an animal's stress level and increasing emotional-wellbeing, strengthening the animal's resilience and adaptation to the shelter environment is the foundation for the psychological health during their shelter stay.

Behavior modification is the process of changing an animal's behavior using operant or classical conditioning. Unlike enrichment, which works to mitigate stress and the development of problematic behavior or behavioral deterioration, a good behavior modification program works toward altering an animal's problematic behavior such as fearful, aggressive or reactive behavior. Behavior modification is often resource intensive and requires staff with a specialized skill-set.

KEY CONSIDERATIONS

General Tips for Success

The success of any enrichment program depends on its mindful implementation. The following general tips can help make your program effective and guard against unintentional harmful consequences.

- Provide variety. Offer a range of items (i.e. toys) and experiences (i.e. types of music, different scents, etc.) and rotate their use to keep things interesting and reduce habituation ¹.
- Beware of overstimulation. While stimulating the animal mentally and physically is the goal of enrichment, overstimulation can increase stress levels (i.e. playing music at too loud of a volume or for the entire day).
- Consider individual preferences and keep in mind that preferences might change. If an animal seems disinterested in a particular enrichment item, try something different. Spend some time identifying things that the animal seems to truly find motivating or reinforcing.
- Keep it positive. If training is used as an enrichment tool, all training methods used, to comply with this best practice, must be based in positive reinforcement. Punishment,

force or interactions that are stressful for animals are not an acceptable component of an enrichment program.

Special considerations for Individuals:

- If an animal shows signs of stress or fear, consider implementing stress reduction strategies such as providing a hiding spot or visual barrier to the enclosure and/or limiting exposure to possible stress triggers (noise, other animals, strangers, etc.).
- Some animals will be too fearful to find certain activities, such as walks outside an enriching experience. While this could change during the course of their stay, appropriate enrichment strategies should be chosen based on the current emotional state and observed behavior of the individual.
- While the goal of enrichment is often to increase of mental and physical stimulation (i.e. exercise, play, problem solving), many animals benefit from enrichment strategies that reduce stimulation (i.e. quiet time, reduced visual exposure).
- Some high energy, extremely athletic dogs may benefit from additional enrichment in the form of increased mental and physical exercise (e.g., more food puzzle toys and extra walks/jogs, play groups).
- If animals exhibit challenging behavior such as rough, rowdy play or mouthy behavior, limit direct contact with people to skilled designated staff and volunteers. Be sure to mount clear, noticeable signage to indicate which animals require designated handlers.

Sanitation and Safety

- To reduce the risk of disease transmission, choose enrichment items that can be thoroughly disinfected between animals. Toys can be hung in baskets on each animals' enclosure to avoid the need for daily disinfection. Toys should always be disinfected between animals or when soiled.
- To prevent enrichment items from becoming soiled on the floor of animals' enclosures, hang them from the tops or sides of enclosures/kennels.
- Give enrichment items that are edible (i.e. bully sticks or rawhide) or less durable (i.e. plush toys) at times when they can be monitored.
- If individual animals destroy and ingest bedding or toys, mount clear, noticeable enclosure signage indicating which items are allowed (and/or not allowed). Offer destructive animals robust toys, such as those made of hard rubber and sturdy canvas. If an animal ingests any non-food materials, notify a veterinarian immediately.
- When an animal is on a restricted diet (i.e. prescription food) limit edible enrichment items that are not included in their diet plan.
- If enrichment sessions are performed outside the animal's enclosure, disinfect the space that is being used between each animal. Follow your shelter's specific cleaning protocol and ensure that the supplies are convenient and readily available.

- Staff and volunteers assisting in enrichment activities should be trained in safe and effective animal handling and how to read animal body language.
- Assemble and make available kits that include relevant safety items by species. For example, a dog play group might require a kit that would include an air horn, citronella spray and Kevlar gloves, while a kit for working with fearful cats might include a towel and a feral cat box.
- Even when proper safety precautions are taken injuries can occur. It is vitally important that all staff and volunteers report all injuries no matter how slight, in keeping with your shelter's injury reporting protocol.
- Some animals exhibit fear, arousal or aggressive behavior that could pose a safety concern to staff/volunteers. Enrichment provided to these risky animals should involve strategies that require no contact or protected contact (e.g., interaction through the barrier of the enclosure). If these animals are removed from their enclosures, at least two people should be present.
- Always work in pairs (or more) when conducting dog playgroups. Create a thorough protocol around the playgroup process to include safety of the animals and the staff and volunteers running the playgroups. Include intervention and reducing tension between dogs, how to break up a dogfight, and what items are in the safety kit and how to use each item.
- Always wear protective equipment (booties, gloves, gowns, etc.) when working with animals who have contagious (such as upper respiratory infection, parvovirus) or zoonotic diseases (such as ringworm).
- It is often animals who are receiving longer-term medical treatment who would benefit from enrichment the most in the shelter environment and it is imperative that medical protocols are adhered to in order to keep any transmittable diseases from spreading.

GOALS AND OUTCOMES

What should agencies expect to invest in an enrichment program?

- Staff and volunteers will need training to understand animal behavior and how it can be positively affected by enrichment.
- Training will need to include teaching an understanding of behavior that may indicate whether the form of enrichment being used is having the desired impact on animals.
- A financial investment will need to be made in equipment used for enrichment and in some cases modifying existing housing.
- A staff person will be assigned to have primary responsibility for implementation and oversight of the program and most animal care staff will have enrichment included in their job descriptions.

What are the potential benefits of investing in enrichments programs?

- A reduction in stress ^{2,3,4,5,6}.
- A reduction of behavioral deterioration (i.e. hyper arousal, depression, stereotypic and reactive behavior) caused by stress.
- A reduction in illness (such as urinary and respiratory diseases, anorexia and vomiting)⁷ that can be triggered or exacerbated by high stress levels.
- A reduction in length of stay due to the decrease in illness that results in longer stays for medical care.
- A reduction in length of stay and an overall increase in adoption rates due to improved observed behavior.
- A reduction of euthanasia for both health and behavior.
- A more engaged and observant staff/volunteer workforce.
- Improvement in overall shelter animal quality of life.

What are the measures we may be able to observe after the implementation of an enrichment program?

- A reduction of behaviors that indicate stress, fear or boredom such as reactive or boredom barking, destructive chewing, stereotypic action patterns like spinning or circling in dogs and hiding and aggressive displays in cats. (See complete list of indicators of stress in next section).
- More animals exhibiting relaxed body postures, a calm demeanor, normal sleep patterns, and interest in appropriate social interaction.
- More animals coping with the environment, evidenced through the expression of normal behaviors for that species or individual

Monitoring the Effectiveness of Enrichment on Individual Animals

Monitoring the impact that the enrichment program has on individual animals is a critically important component of your enrichment program. Monitoring ensures that the efforts you are making with staff time and money is actually benefiting the animals. When monitoring your program it is important to assess each individual animal's response to the procedures put into place. Questions to answer include:

- Is the animal utilizing the enrichment features added to the enclosure (i.e. raised bed, crate, hide box, etc.)?
- Is the animal interacting with/responding to the enrichment strategies provided in a positive manner (i.e. toys, feeder balls, scents, sounds)?
- Is the animal exhibiting healthy social behavior with humans and conspecifics during interactions?
- How are the enrichment items and activities offered affecting the animal's behavior?

When animals are well-adjusted and their behavioral needs are satisfied, they may display the following:

- Good appetite.
- Normal activity level (movement not extremely inhibited, frenetic, compulsive or excessive).
- Sociability with people and/or other animals.
- Play with objects, people and/or other animals.
- Normal grooming behaviors.
- Restful sleeping.
- Normal, species-specific behaviors in appropriate contexts, such as chewing (dogs), using scratching posts (cats), exploring new environments, etc.

Behavioral indicators of stress, that may be caused by social conflict, pain or other suffering include:

- Poor appetite.
- Persistent retreat or hiding.
- Hostile interactions with other animals or people.
- Reduced activity or inhibited movement
- Increased activity or hyperarousal
- Social withdrawal (no or little interaction with people or other animals)
- Barrier frustration or aggression (lunging and vocalizing when animals and/or people approach or pass by a dog's kennel or a fence)
- Compulsive behaviors (e.g., repetitive spinning, pacing, patterned movements, excessive, self-injurious grooming, excessive vocalization)
- Panting when not hot
- Trembling
- Yawning, sometimes repetitive or exaggerated, and lip licking (dogs)
- Body language indicating fear or anxiety, such as tensed muscles, a crouched posture, wide eyes, flattened ears and a tucked or lowered tail.
- Physical ailments, such as persistent diarrhea

Program Monitoring and Assessment

It is critically important to monitor your enrichment program to ensure you are reaching your desired outcome (a healthier animal population). Regular assessments of the program and individual animal's behavior will ensure that adjustments are being made in a timely fashion.

- Monitoring needs to be done on a programmatic level as well as an individual level to be sure the overall goals are being met.

- General animal flow (Length of Stay, Euthanasia and Adoption Rates) should be monitored monthly (divided by species).
 - This allows for enough time to get meaningful data and still be able to react to it in a timely manner.
 - Comparisons are generally made to the same month in previous years.

GENERAL COMPONENTS AND REQUIREMENTS OF BEHAVIORAL ENRICHMENT

The following section will provide key areas of enrichment opportunities in the shelter setting. While enrichment plans should allow for modifications based on individual animals' behavioral and physiological needs, the following guidelines outline the conceptual principals of each type and our accompanying recommendations.

Interactions related to daily husbandry are not a sufficient means of enrichment. Enrichment, in order to comply with this best practice, must be provided on a daily basis much like the provision of food, water and other basic needs. Comprehensive enrichment programs focus on stimulating multiple senses, facilitate proper rest and provide comfort for animals, provide access to novel items and experiences, and include systems to monitor animals' use of enrichments and track program efficacy. Shelters should incorporate several enrichment strategies into their enclosure designs and daily operations to accomplish these goals.

Providing specific guidelines for best practices when it comes to the frequency and duration of activities related to enrichment like duration of exercise, length of exposure to auditory, olfactory, or social stimulation proves difficult. There are many factors to consider like the individual animal's life stage (age of animal), physical condition, or emotion state (i.e. fearful). While there is research available showing that enrichment can reduce stress in shelter animals more research is needed on optimal frequency, duration and types of enrichment strategies.

To provide some guidance for the frequency, duration and type of enrichment recommendations for the average physically and emotionally healthy shelter animal, we draw mainly from the experience of shelter behavior professionals working in field.

No shelter can provide the quality of life dogs and cats enjoy in homes. The longer an animal stays in a shelter, the more prone he or she is to experiencing boredom, loneliness and anxiety, so getting the animal out of the shelter as quickly as possible should always be our goal. While in residence at our facilities; however, every animal deserves an enriched living environment, regardless of length of stay. We believe that a shelter's enrichment plan for each dog and cat should satisfy the following needs, starting at intake:

- A comfortable resting/sleeping surface inside the animal's enclosure at all times.
- Access to a hiding place at all times (cats)
- Access to a chew item(s) every day (dogs).

- Access to a scratching surface every day (cats).
- Access to at least one toy rotated daily.
- Social interaction every day.
- Some form of sensory enrichment every day.
- Some form of mental stimulation every day.
- Physical exercise, appropriate to individual needs and limitations (daily for dogs; semi-weekly for cats).
- Exposure to a novel environments.
- Provide a variety of enrichment strategies to reduce habituation

The sections below provide detailed recommendations and examples of different types of enrichment strategies. We have listed each type of enrichment as a separate category to highlight its importance, but it bears mentioning that animals' enrichment needs can be met in multiple ways during the implementation of a single strategy. For example, when playing fetch with a person, a dog can receive physical exercise, social engagement and access to a novel environment, as well as visual, olfactory and auditory stimulation.

Enclosure Enhancements & Features

All shelter animals, in order to comply with this best practice, must have a clean, dry, comfortable living space. Adding features to dogs' and cats' enclosures that encourage rest during the day and sleep at night can significantly impact welfare. For example, a recent study on shelter dogs suggests that facilitating daytime rest may reduce repetitive behavior and increase behavior indicative of relaxation ⁸.

Cats and dogs should have soft bedding (towels, blankets, pet beds, etc.) on which to rest. When provided with soft bedding, it is important to monitor the dogs to ensure that they don't ingest the items. If soft bedding is not appropriate for certain dogs, a raised platform such as a Kuranda brand bed can be provided.

Cats' enclosures, in order to comply with this best practice, must have both a place to perch and a place to hide. Additionally, eating, drinking and resting areas should be a minimum of 2 feet away from the litterbox ⁹. Many shelters incorporate portholes into their cats' enclosure design to effectively create these separate functional spaces. Cats also need access to a scratching surface in their enclosure as scratching is a normal and necessary behavior for cats in order to remove dead nail sheaths, stretch muscles and leave scent marks.

Light and darkness should support the natural (circadian) rhythms of wakefulness and sleep. During the day, natural light should be provided when possible. When artificial light is used, in order to comply with this best practice, it must closely approximate natural light in both duration and intensity ⁹

Social Interaction

Dogs and cats are social animals. Unless they are fearful of people, they, in order to comply with this best practice, must have the opportunity to interact with a person at least once a day for a minimum of 15 minutes. Social time with people can include simple companionship (“quiet time” petting, grooming or massaging the animal) or more active engagement, such as play, exercise or reward-based training. Interaction can occur at the enclosure front, inside the enclosure if space allows or outside of the enclosure.

Social interaction with conspecifics should be provided to those well-socialized individuals who enjoy the company of others. Staff can take dogs for walks in pairs or groups or conduct appropriately sized, supervised playgroups with compatible individuals. Consider **cohousing** and/or group housing for compatible cats and dogs who consistently exhibit friendly behavior and body language around conspecifics.

In order to develop into well-adjusted adult pets, both puppies and kittens require extensive socialization during their sensitive developmental periods of life. It is crucial that they experience positive interactions and handling by people for a minimum of 30 minutes every day. Although socialization should continue as young dogs and cats mature into adults, the most important socialization periods occur between the ages of 3 and 12 weeks of age in puppies and between 2 and 7 weeks of age in kittens. Failure to provide adequate socialization to young animals during these times can result in the eventual development of debilitating fearful and/or aggressive behavior. Puppies and kittens should interact with multiple people on a daily basis, enjoying pleasant experiences with a variety of individuals of all ages and both sexes. Prioritize exposure to unfamiliar people. Kittens and puppies will benefit from daily interactions with like-aged playmates and known friendly adults. We realize that this population of animals will be exposed to routine vet procedures so it is imperative to counteract these less than pleasant experiences with positive interactions with people.

It is critical that puppies and kittens held in isolation due to contagious disease (e.g., parvovirus, upper respiratory infections, ringworm, or parasitic infections) receive a minimum of 30 minutes of daily socialization time with people in order to comply with this best practice, even if this means staff must take special precautions to prevent exposing the general population to pathogens. The total isolation of contagious young animals may seem the best way to safeguard physical health; however, behavioral health should be prioritized, as problems caused by under-socialization during this critical period in life can lead to serious behavioral deficits and negative outcomes in adulthood. Simple tactics can be employed to allow for socialization without putting the rest of a shelter population at risk of exposure to contagious diseases. These tactics include but are not limited to having staff provide enrichment at the end of their day or having those that are caring for dogs provide enrichment for cats and vice versa.

There can sometimes be legal requirements for quarantines, such as monitoring for signs of rabies during a bite quarantine. The legal requirements of the state must be followed, but social interaction during that time is crucial to that animal’s success if they are cleared. The

state department of health usually has jurisdiction around these quarantines and can be contacted to determine how you can legally maximize the amount of social interaction. Depending on the risk and prevalence of rabies in the state, foster can sometimes even be an option.

Most kittens and puppies spend a very short period of time in the shelter before adoption, but in some situations a longer hold is required (i.e. court cases, behavior or physical rehabilitation). In these cases socialization to novel environments, many different people and positive experiences are of the utmost importance. Kittens and puppies who are under 8 weeks of age and thus too young to be adopted, in order to comply with this best practice, must be placed into foster homes.

Cognitive Enrichment

Cognitive enrichment involves providing the animals in your care with the opportunity to engage their brain in healthy stimulating ways and to encourage the expression of normal species typical behaviors. Providing the animals with daily investigatory opportunities, problem solving challenges, and operant training sessions stimulates cognitive engagement that will help to promote their mental wellbeing.

Novel objects and toys, in order to comply with this best practice, must be added to the enclosures/kennels on a daily basis to stimulate investigation and self-engagement. Objects that encourage the display of the normal species typical behaviors such as chew items for dogs and scratching posts for cats and rubbing brushes for both species are a few examples.

Stimulating the animal's 'seeking' sense by providing foraging opportunities is another form of cognitive enrichment that also encourages species typical behaviors. Cats, being natural hunters, can be encouraged to this challenge by hiding treats around the environment for them to find. These types of 'find-it' games, access to 'scent boxes' and more formal activities such as scent tracking games (i.e. K9 Nose Work® if provided by a Certified Nose Work Instructor), provide these cognitive challenges to the dogs.

Operant training involves providing the animals with the opportunity to think and learn which offers them not only cognitive enrichment but also a sense of control, the thing they lack the most in captivity, as they learn that their behavior can earn reward. Lack of control is the most significant stressor for any captive animal ¹⁰. Marker-based training (i.e. clicker training) is often used in the shelter field, as well as the zoo and aquarium fields. This operant training technique is used to teach things such as target training, trick training and manners training ^{11, 12}.

Feeding Enrichment

Feeding enrichment involves presenting animals' meals in ways that encourage them to work for their food. In this respect, feeding enrichment overlaps with cognitive enrichment. Not

only do animals get a chance to engage in natural foraging behaviors---they also get great mental exercise as they problem-solve, trying to figure out how to obtain their food from feeding toys. Meals can be offered inside kibble dispensing balls, placed into puzzle feeders, stuffed into extremely durable hard rubber toys such as Kongs, frozen or scattered around the environment. All animals in your care should have a chance to benefit from feeding enrichment activities on a daily basis. However, it is crucial to monitor animals' use of food puzzle toys. Although most successfully interact with them, some do not, and these animals may experience significant stress if they struggle and fail to access their food

Physical Exercise

When animals live in a restricted captive environment where they are unable to exercise it is critical to provide them with opportunities for physical activities outside of their home enclosure.

Dogs should be given the opportunity to exercise every day for a minimum of 15 minutes. Activities such as vigorous walking or running, playing fetch, using agility equipment or playing with other dogs can provide valuable aerobic exercise enrichment. Exercise is equally important for the shelter cats, especially those living in small individual enclosures where movement is extremely restricted. Cats should be given the opportunity to exercise in a separate easily cleaned room or large pen at least two hours per week. Interactive play with toys (feather dancer toys, laser lights, balls, etc.) or access to a running wheel can provide valuable physical stimulation. It is important however, to identify cats who are not good candidates for out of enclosure experiences because of the increased stress they experience in a novel environment ¹³.

Novel Experiences

Novel environments can provide passive or active stimulation. A more active environment might include physical exercise, a field trip or exploring a new play yard. This opportunity can also stimulate species typical behaviors such as watching prey in cats or digging in dogs. When the novel environment is a quiet space away from the noise and chaos of the kennel (such as an office) it can provide the animal with a valuable opportunity for quality rest and recovery (an often overlooked necessity in a shelter setting). Providing the animals with regular access to novel indoor or safe outdoor areas at least 3 times per week for a minimum of 30 minutes per session provides valuable cognitive enrichment and social interaction.

Sensory Enrichment

The auditory and olfactory senses of dogs and cats are far more acute than those of humans and their vision differs from ours in many ways. While we should tap into their keen senses when providing enrichment strategies, in order to comply with this best practice, we must be mindful that reducing certain sights, sounds and smells is sometimes required to reduce stress and improve quality of life in the shelter. Loud startling noises, intense foreign odors

(chemicals), and visual access to arousing or potentially frightening stimuli or other animals should be avoided.

Visual Stimulation

Animals living in a barren enclosure environment benefit from visual access to interesting stimuli outside of the enclosure and this form of enrichment should be provided on a regular basis¹⁴. Items that are ever changing like hanging mobiles that move with air currents, lava lamps that constantly change shape, perpetual motion toys, aquariums or televisions/videos should be used for visual enrichment. When available, visual access to the outdoor environment should be allowed and can be enhanced by adding something interesting for the animals to watch such as hanging feeders to attract birds.

Auditory

The introduction of interesting sounds as well as sounds that may calm the nervous system should be a daily occurrence in the shelter environment. In order to comply with this best practice, care must be taken as to the type of sound, the volume at which it is played and the duration of exposure.

Research indicates that certain types of music can calm shelter dogs^{2, 6, 15, 16} however there is little research to show this same effect in shelter cats. If music is played it should be of a soothing nature such as certain types of classical music. Other sounds that may calm the nervous system include things like sound machines or water fountains. Playing audio books has also been found to promote relaxation in shelter dogs¹⁷

Introducing sounds that have biological significance to cats can be a valuable enrichment strategy to provide species typical mental stimulation. Playing bird song CDs can stimulate cats in this regard. Cats can habituate to these sounds if they are played too often or for too long so a few minutes at a time is best.

*It is of critical importance that all animals are provided a dark, quiet environment at night to ensure normal sleep pattern.

Olfactory

Cats and dogs have a very acute sense of smell. Daily introduction of novel scents into the environment either spritzed into the air or onto an object (never on their bedding) is encouraged¹⁸. Examples of scents used for this purpose include: essential oils (chamomile, lavender, sandalwood); extracts mixed in water (vanilla, banana, almond, etc.) dry spices (cinnamon, cumin, nutmeg, ginger). Synthetic prey scents or used unsoiled rodent bedding can also provide species typical olfactory stimulation to both dogs and cat.

Activities that trigger the seeking sense (hidden treats, scent tracking games, tracking, scent boxes, etc.) that are described elsewhere (see Cognitive Enrichment) also provide olfactory enrichment.

While catnip affects only 50-70% of cats, providing those that enjoy it with access to this herb is a wonderful enrichment strategy. Cats respond to both dried and fresh catnip, and toys can even be “marinated” in dried catnip to make them more interesting. Because some individuals become hyper-aroused when under the influence of catnip, use caution during handling and other interaction, and avoid providing it to cats in small enclosures or group housing.

Cats and dogs have complex olfactory systems that enable them to detect pheromones. Research suggests that synthetic forms of certain feline (Feliway) and canine (Adaptil) pheromones introduced into the environment may have beneficial effects for stress reduction⁴⁹ as well as providing olfactory enrichment.

Taste

The taste sense is something often ignored in the shelter environment where the animal are regularly fed a consistent diet but the introduction of novel edible items (treats, flavored ice blocks, etc.) as an occasional enrichment strategy is very beneficial.

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GLOSSARY

Arousal - excited state.

Aggressive behavior - warning signals (i.e. growling) or overt behavior (i.e. lunging, biting) that serves to intimidate or harm others. These behaviors can be defensive (distance increasing) or offensive (distance decreasing) in nature.

Biological significance - something that is inherently important to an animal because it taps into their natural instincts (like the sound of birds to cats who are natural predators of birds).

Captive environment - an environment where the animals live in a restricted way (i.e. confined to an enclosure) where they do not have free choice to leave.

Cognitive - the process of acquiring knowledge and understanding through thought, experience, and the senses.

Co-housing - housing two or more animals in the same kennel/enclosure.

Conspecific - member of the same species.

Fear - an emotion induced by perceived danger or threat.

Feral Cats - cat that have not been socialized to humans.

Habituate - to get used to a stimulus by repeated exposure.

Husbandry - the management and care of animals by humans.

Mitigate - to make less severe.

Normal Behaviors - behavior that conforms to the most common, usual, regular or natural behavior expected for the individual of a species.

Novel - new and not resembling something formerly known.

Operant conditioning training - a technique whereby the desired behavior is strengthened by either adding/applying or taking away/removing reward or punishment.

Overstimulation - excessive sensory excitement.

Pheromones - chemical messengers that carry information between individuals of the same species.

Positive Reinforcement - introduction of a desirable consequence following a behavior with the intention of increasing the likelihood that the behavior will be repeated.

Problematic behavior - behavior that poses concern to those interacting with the animal.

Behavioral deterioration - behavioral response to circumstances becoming progressively worse.

Sociability - the quality, state, or inclination of being sociable.

Socialization - the process of exposing a young animal to many different experiences in a positive or neutral way.

Stimulation - to excite, invigorate, rouse to action, or increase activity.

Stimuli - (plural of stimulus) - something external that causes an internal response (i.e. fear) or influences an activity (i.e. hiding).

Zoonotic diseases - diseases that spread between animals and people.

RESOURCE LIST

Animal Behavior for Shelter Veterinarians and Staff, Weiss, Mohan-Gibbons, Zawistowski (eds.) 2015. Wiley Blackwell. Chapter 12 - Environmental and behavioral enrichment for cats & Chapter 8 - Canine Enrichment.

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Guidelines for Standards of Care in Animal Shelters, Association of Shelter Veterinarians, 2010.

Ian Dunbar Puppy Socialization information - available at dogstardaily.com

Karen Pryor Clicker Training

Karen Pryor Academy for Animal Training and Behavior

Koret Shelter Medicine Program - University of California, Davis

Maddiesfund.org/webcasts

Maddie's Shelter Medicine Program at Cornell

Puppy Socialization Checklist - available at SophiaYin.com

Puppy Start Right: Foundation Training for the Companion Dog, Debbie Martin, Kenneth Martin

San Francisco SPCA Behavior & Training

WebMD: What Your Cat's Body Language is Saying