Purpose
This document outlines the use and approval of environmental enrichment for all vertebrate animals.

Responsibility
1. Enrichment Committee Designee: Include veterinarian, husbandry manager, husbandry supervisor or other enrichment committee members responsibly for approving new enrichment items. Approval procedures can be found under section 4.c below.
2. Trainer or Area Husbandry Supervisor: train husbandry technicians in proper technique and application of any enrichment items.
3. Husbandry Technicians: provide enrichment to the animals, record application and changing of the enrichment on the room sheet.
4. Area Husbandry Supervisor: for all USDA covered species obtain PI approval before implementing any enrichment items.

Definitions
1. Enrichment: the use of structures and resources to encourage species specific behaviors and to enhance psychological health and well-being of various species defined in this document according to the requirements of "The Guide" (eighth edition).
2. Animal Enrichment Database (AED): the central database used to track the approval status and details of all enrichment methods and items used.
3. PI: Principal investigator
4. AUP: Animal use protocol
5. Social species: species regarded as highly interactive with conspecifics and whose psychological well-being is associated with social interactions. Examples of social species include, but are not limited to, canines, primates, rodents, rabbits, sheep, and swine.
6. SToP form: Special Treatment or Procedure form.

Procedures
1. Animals That Receive Enrichment
   1. All vertebrate animals must receive enrichment regardless of their social housing status unless a SToP form is in place and it is justified in the AUP or for animal health reasons.
   2. Singly housed mammals must be provided more than one enrichment item. Additional enrichment item(s) should be different from the first enrichment item. The additional enrichment item(s) should be added at the first cage change when the animal is noted to be singly housed. Suggestions for various species include:
      1. Mice, gerbils, hamsters, voles: these animals should have at least one form of nesting material. The additional enrichment item can be a different form of nesting material, for example if mice currently have an enviropak, a nestlet could be added. Other secondary enrichment options include tubes or shelters.
      2. Rats and guinea pigs: these animals should have at least one hiding opportunity in the form of a shelter or shelf. The additional enrichment item can be a different form of hiding opportunity, for example if the rats have a shelf, a tube or shelter could be added. Other secondary enrichment options include chewing item such as a small ball, wooden block, or nylabone. Nesting material can be provided as a secondary enrichment item to rats, however nesting material is generally not considered as valuable for rats as it is for mice.
      3. Large animal species such as rabbits, pigs, sheep, cows, cats and ferrets: at least two different items from the species’ approved enrichment database should be provided to singly housed large animals. Where possible, different categories of enrichment should be provided. For example, rather than providing two different kind of balls, provide a ball and a mirror or chew toy. Where possible, enrichment items should be rotated for novelty on subsequent cage changes.
      4. Dogs and NHP: for suggestions for these species, please see the species specific SOPs in the related documents section.
   3. To encourage novelty of environmental enrichment items and to alleviate resources, limit the number of items given appropriately (i.e. offer only 2 items to a singly housed animal; for a pair of larger animals, offer 1-2 items per animal).
2. Providing Enrichment
   1. Provide enrichment to animals unless a SToP form is in place stating otherwise.
   2. Review enrichment options as described in the AED and select an appropriate enrichment item.
3. Change enrichment items at regular intervals or when required per AED and, with non-rodent species, rotate items to maintain novelty.
   1. Record the date and the type of enrichment item.
   2. Rodent enrichment is added, replaced or sanitized at cage change. Type of enrichment does not need to be recorded

3. Approval of New Enrichment Items
   1. Use of any enrichment item not found on the AED must be approved prior to implementation.
      1. Contact the enrichment committee with new enrichment ideas or examples via this survey link Request for Approval of New Enrichment Item. Provide the following information relevant to the enrichment item:
         1. Costs for each item (purchase price or labor to construct)
         2. How labor intensive the enrichment is projected to be
         3. Novelty of enrichment item
         4. Proposed schedule of applying and rotating enrichment
         5. Item disinfection requirements

   2. Enrichment committee designee evaluates each item and determines if the item should be approved. Once an item is approved, the enrichment committee designee ensures the details are entered into the AED. Information to be included in the AED include:
      1. Item name
      2. Item description
      3. Approved species use
      4. Application schedule
      5. Approved disinfection procedures (if applicable)

   3. Certain items may be used on a trial basis before approval. This will be determined by the enrichment committee designee and must be done only after prior approval is obtained from the PI.

   4. If an item is not approved, the information will be entered into the AED along with the reason why the item was not approved.

4. Training
   1. Husbandry technicians applying enrichment items must be trained in proper application and use of items before employing use of any items. Trainers or area supervisors ensure training of all relevant items in their area.

   2. Training can be done by:
      1. Providing detailed descriptions of application of items via the AED.
      2. Demonstrations of application must be provided for any items that:
         1. involve safety concerns for the humans or animals (i.e. NHP enrichment)
         2. are not routinely used
         3. involve direct handling of the animals (i.e. hand walking canines)

5. Cleaning/Sanitizing Enrichment Items
   1. Clean, disinfect, sanitize or discard items in accordance with the information in the AED.
   2. Certified wood enrichment items must not be sanitized or disinfected. Once placed in a cage, wood enrichment items must be transferred with animals to clean caging until the wood becomes soiled, splintered or brittle.
      1. Soiled, splintered or brittle wood enrichment items must be discarded and replaced as needed.

5. Related Documents:
   1. Dog Husbandry SOP
   2. Environmental Enrichment For Nonhuman Primates
   3. Animal Enrichment Database
   4. Identifying Single Housed Animals SOP