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THE SHAPE OF ENRICHMENT is dedicated to sharing ideas, inspirations, and practical knowledge of enrichment strategies among those working in the field of animal care. It is an open forum for keepers, trainers, curators, researchers, exhibit designers, administrators, volunteers, and anyone else interested in approaches to captive enrichment. All of our staff are volunteers.

We are always looking for new submissions, from feature-length articles to short blurbs. We accept submissions in any form, polished or not. Let us, and your colleagues, hear from you!

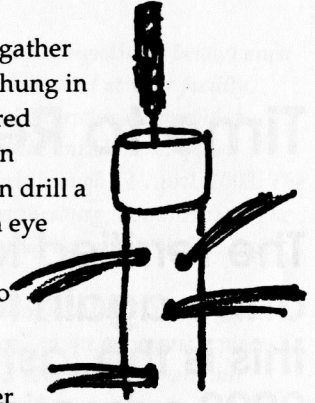
THE SHAPE OF ENRICHMENT presents enrichment ideas of all kinds from a variety of sources. We urge you to consider, assess, and evaluate any idea carefully before applying it to your own animals and exhibits. If you have concerns or opposing views, we will be happy to accept letters and articles that express them—our purpose is to establish an ongoing dialogue. As the editors, we present these ideas for your consideration only; we do not take responsibility for their effectiveness or feasibility.

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Nesting Material Holder for Penguins

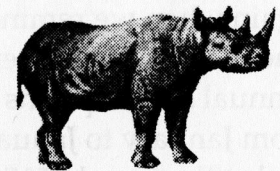
To provide a more challenging way for penguins to gather nesting material, a specially designed holder can be hung in the exhibit. Take a section of PVC pipe that is a desired length and cap it with an end cap. Drill small holes in staggered locations around the sides of the pipe, then drill a hole through the center of the end cap and secure an eye bolt into the hole. The eye bolt is then attached to a plastic chain using a cable tie. The chain is secured to the ceiling or other appropriate part of the exhibit with a second cable tie, so that the holder hangs at a height the penguins can reach. Pampas grass or other suitable nesting materials are then placed in the holes, sticking out so the penguins can pluck them out with their beaks.



The PVC pipe can be spray painted with non-toxic paint to camouflage it, or a blow torch can be passed over the PVC pipe to give it the brown and crinkled appearance of wood. Additionally, a Boomer Ball could be substituted for the PVC. Several holders could be placed throughout the exhibit to provide options. The holders might also be used with other bird species that use grasses, moss, or leaves for nesting material.

—Kara Masaschi and John Adamski, Seneca Park Zoo; adapted with permission from the *Enrichment Notebook, 2nd Edition*, published by the American Association of Zoo Keepers (AAZK).

THE SHAPE OF ENRICHMENT



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Not Your Typical Rhino and Giraffe Enrichment

By Nichole Bouwens, Keeper II, Zoo Atlanta, Georgia

At Zoo Atlanta, we are always looking for new and improved enrichment ideas, particularly for our black rhinos and Masai giraffes. Thanks to research and departmental teamwork, we have come up with some new ideas that challenge the

animals, increase their activity levels, and decrease boredom.

The Buoy-Bowl

It is quite difficult to come up with enrichment that will challenge our female black rhino, Rosie, because she tends to ignore enrichment items that have been successful with other animals. We finally hit the jackpot when we combined two previously ignored items: a soft-plastic buoy 12 1/2 inches in diameter, and a 3-gallon bowl made of reinforced molded rubber. The buoy had been sitting in a closet unused for an extended period of time, and the bowl was about to be thrown away because it had a

hole in the center of it. First, a small piece of plywood was attached to the bottom of the bowl to prevent the hole from getting any larger. Then we tied a rope onto the buoy and put a knot in it about two feet up. The end of the rope was put through the hole in the bowl so that the bowl rested on the knot. When finished, the buoy hung about 2 feet below the bowl.

The basic premise of this enrichment is to fill the bowl with treats and to hang it in the stall so that the rhino can only reach the buoy. The buoy is hung high enough so that the rhino cannot become entangled in the rope. In order to retrieve the treats, the animal has to hit the buoy hard enough or with the right technique to rock the bowl. Rosie's technique is to hit the buoy hard from below so that it either hits the bowl directly, or it jerks the bowl enough to flip it upside down, dumping out the treats. She tends to use this

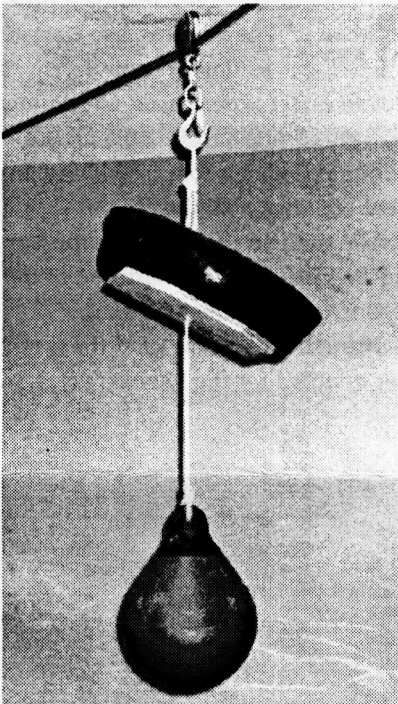
contraption longer than any other enrichment we offer. Often she is seen bopping the buoy up and down like a paddleball in the mornings when all of the food is gone.

The Bamboo Windchimes

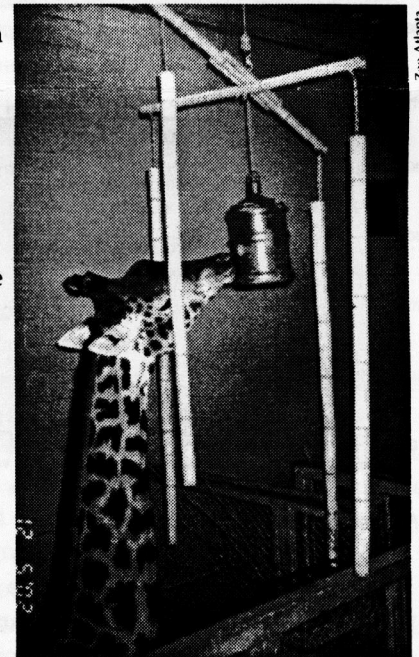
When we are stumped about what enrichment to offer our male black rhino, Boma, we cannot go wrong if we offer him bamboo windchimes. This is a very simple item to make. We used 4 pieces of bamboo culm (the stalk) 78 inches in length, and 2 pieces 48 inches in length. Culm size can vary, but the thickness and length should be similar among the four pieces. We also used 4 short links of dog chain (10 inches long), 8 bolts, 9 locknuts, and an eyebolt. Bolt and eyebolt length can vary depending on the thickness of the culm. To construct the windchimes, we formed a cross with the 48-inch pieces of bamboo and bolted them together in the center with an eyebolt. Bolts were put through the ends of the longer bamboo and through the ends of the cross. On each piece, we put the bolt through a link on the chain and secured it using locknuts. To prevent the cross from turning on its axis, the center of the cross is reinforced using small pieces of bamboo.

Boma uses these windchimes in a variety of ways. When he is calm, he stands in the center of the windchimes so that the four long culms are

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Above: The Buoy-Bowl.
Opposite: A giraffe makes use of both the bamboo windchimes and the Tongue Feeder.



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touching various parts of his body, while he eats his hay and grain. In the morning when we ask him to come over for a treat, he stretches his neck as far as possible so as not to lose his perfect spot under the windchimes. When he is aggressive, he will repeatedly charge through the windchimes causing the culms to fly in all directions and

crash together making a great amount of noise.

The bamboo windchimes have also been given to the bongos and giraffes with great success. For the giraffe, we cut 2-inch holes at the top of each segment on the culms and put grain inside. The giraffes have to use their long tongues to extract the grain. Once the grain is gone, they spar with the windchimes.

Tongue Feeder Jacks

For a long time, our giraffes' grain was presented in a bin attached to the mesh caging. A group of us got together and discussed how to offer the grain in a more challenging way and thereby increase feeding time. We decided to hang a jug used for water coolers with a 4-inch hole in the top (used for filling and cleaning) and three 2-inch holes placed just above where the grain level is in the jug. Our giraffes receive 10 pounds of grain per day, which takes up about one-third of the jug, so the small holes

are about one-third of the way up from the bottom. The jug—or "Tongue Feeder" as we call it—hangs on a pulley, so that the giraffes can reach into the small holes but are unable to reach the large hole or the pulley rope. With the Tongue Feeder, the giraffes must use their long, prehensile tongues to extract grain from the 2-inch holes in the jug, and the level of difficulty increases as the amount of grain in the jug decreases.

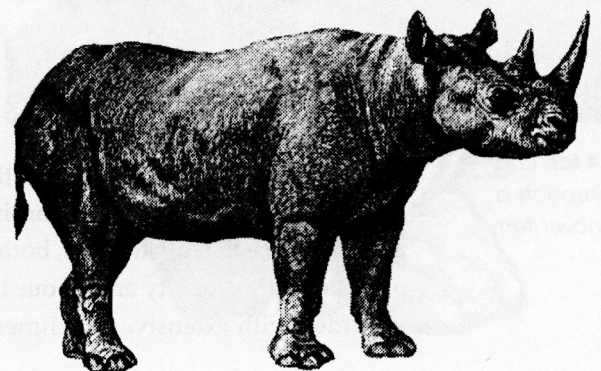
It did not take long for our giraffes to figure out this enrichment, so we reduced the number of 2-inch holes from three to one. Again, they finished their grain quickly, so we added another

level of complexity. In the wild, one of the preferred foods of giraffes is acacia, a bush that has very long thorns that the giraffe must navigate around to get to the favored leaves. In order to simulate this in a captive environment, we took 1/2-inch PVC pipes, 6 to 8 inches long, and put 5-inch bolts through them in different places and at different angles. We put one of these "jacks" in each tongue feeder. It took a while for the giraffes to negotiate these jacks, but they did quite well with them. Now we can use up to four jacks in each Tongue Feeder.

We also use thin bamboo culms, branches, or varying thicknesses of PVC pipe to vary the complexity of the Tongue Feeders. Each giraffe has its own complexity threshold. Some do well with very complex feeders and some only do well with simple feeders. This enrichment was so successful with our giraffes that we currently use the Tongue Feeders almost exclusively and rarely use the old bins. ♦

Acknowledgments

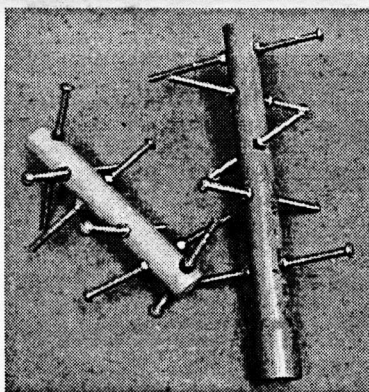
I would like to stress that these enrichment items were a group effort. I would like to acknowledge my fellow co-workers past and present: Meredith Bashaw, Matthew Fugate, Kelly Holt, Timothy Kurkowski, Sprina Liu, Todd Maki, Jonathan Miot, Richard Sartor, and Lisa Smith for the hours of brainstorming, building, and implementing these and other enrichment items.



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Above: The Tongue Feeder with "jacks" inside, and close up of the jacks. Opposite: The bamboo windchimes.

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