



### **Food Trough**

Allows placement of food in a feeder outside of an enclosure that encourages orangutans to pull food through the mesh. Can also be filled with substrates and forage material, browse, etc.

*(Danielle Fogarty- Brookfield Zoo)*

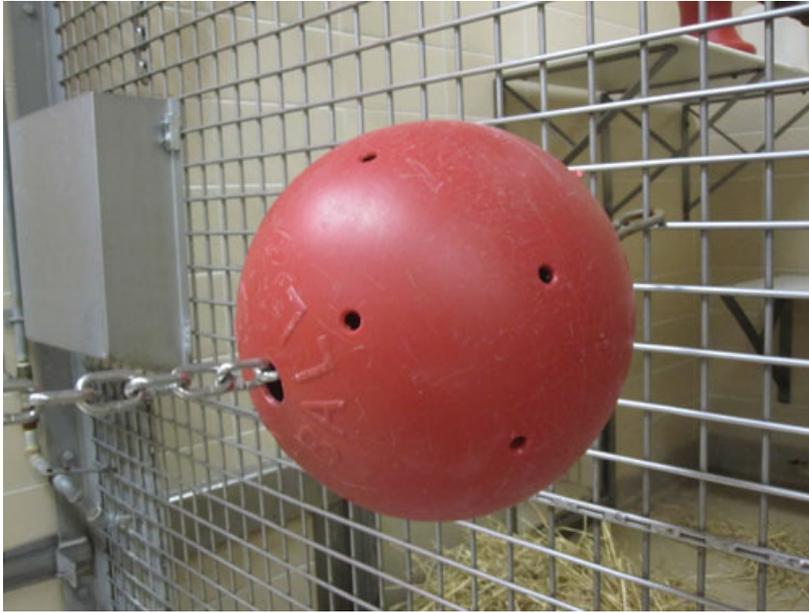




Forage Board

(Danielle Fogarty – Chicago Zoological Society/Brookfield Zoo)

Pre fabricated forage board purchased from an enrichment company. Hung on the outside of the enclosure. Holes are deep and angled making it easy for raisins, honey, applesauce, yogurt, etc. to stay in place until orangutans get to them.



### Hanging Forage Ball

(Danielle Fogarty - Chicago Zoological Society/Brookfield Zoo)

Each end drilled with a hole large enough for a piece of chain to pass through. Small holes randomly drilled throughout. Holes are small enough that a raisin cannot easily fall through. Attach chain at each end so food cannot be easily shaken out. Use a large hard plastic jolly ball.



Hose Hook-up

*(Danielle Fogarty – Chicago Zoological Society/Brookfield Zoo)*

An apparatus that can be clipped or locked onto the outside of an enclosure. Using a quick release and a male connector, keeper can connect hose and provide warm water play. The orangutans can direct their piece of hose wherever they choose! It is important to make sure there is a hose band on each side of the hardware so that an orangutan cannot push or pull it through and fish through the keeper's hose. It is also important to keep the keeper's hose taught on a hose reel, if possible, for security. Once orangutans wear out their hose piece, a new one can be put in its place. This is a great enrichment device that keeps the orangutans entertained for a long time.

Supplies needed:

- $\frac{3}{4}$  piece of hose 3-4' in length
- 2 clips or padlocks (if your orangutans can take clips off)
- 1 male quick connect (and corresponding female quick release on keeper's hose)
- 1 threaded female coupling (3/4")
- 1  $\frac{1}{4}$ " hose clamps (need 2) and a hose bander tool
- 1  $\frac{1}{2}$ " Metal Cam and Groove Hose Coupling (can be with threaded female pipe connection). Brass or stainless steel are recommended so that device will not rust.
- 1  $\frac{1}{2}$ " threaded seamless pipe nipple (if metal cam and groove hose coupling doesn't have female connection). Stainless steel is recommended to prevent rusting.
- 1  $\frac{1}{2}$ " x 1" threaded reducing coupling. Again, brass or galvanized is recommended.
- ORDER OF PIECES WHEN LOOKING AT PHOTO: male quick connect screwed into threaded female coupling. This is secured in hose with hose clamp. Then 1  $\frac{1}{2}$ " x 1" reducing coupling is connected to nipple which is connected to metal cam and groove hose coupling. A hose clamp is placed underneath the last piece so that orangutans cannot push hose out the front. The length of hose is in the enclosure with the orangutans. If using a different hose size, adjust hardware accordingly to be able to move hose through (i.e. this is  $\frac{3}{4}$ " hose with 1  $\frac{1}{2}$ " hardware).
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### **Jell-o Boards and Balls**

(Danielle Fogarty – Chicago Zoological Society/Brookfield Zoo)

Each device is filled with Jell-o and then allowed to set in refrigerator. Board is made of lexan material or a thick cutting board can be used. Shallow holes of varying sizes are drilled out on 1 side. A small or medium sized hard plastic jolly ball is used with 1 small hole drilled.



### **Juicer**

Encourage foraging for liquid enrichment on the outside of enclosure mesh.

Offer juices with long socks or similar pieces of absorbent fabric.

*(Danielle Fogarty – Brookfield Zoo)*

What you will need:

- PVC pipe (4" diameter, 8" long- that way you can purchase a 2' piece and make 3 juicers)
- 4" PVC cap (on the bottom)
- 4" PVC coupling (on the top)
- PVC cement (and primer if you want)
- Chain- stainless steel recommended
- Bolt, 2 washers, nut- stainless steel recommended and secured with Loctite super glue
- 2 clips (or 2 padlocks if orangutans can unfasten clips) to attach to mesh



## Open Hanging Ball

(Danielle Fogarty – Chicago Zoological Society/Brookfield Zoo)

Hard plastic jolly ball is cut open at one end. 3 holes are drilled to place 3 pieces of chain that are connected at the top. Device should be hung outside of an enclosure, on a bracket or similar structure where it is out of reach by hand. Orangutans must find a tool to push it with until it swings close and can be caught. Tool used to extract food at bottom as well.





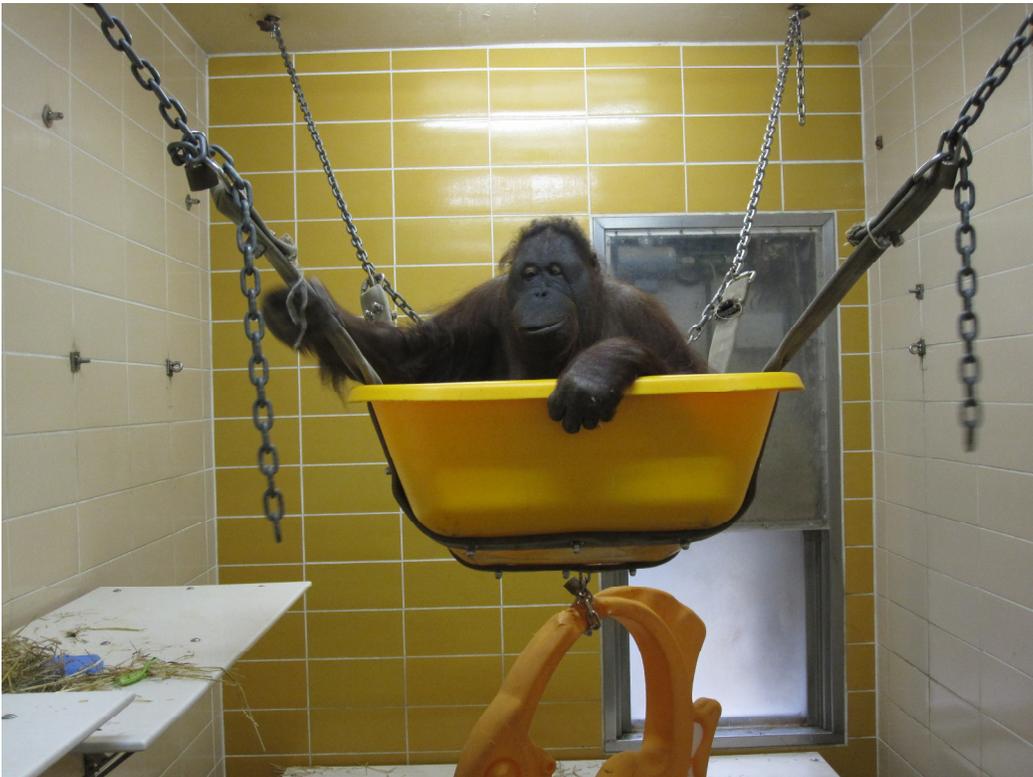
### **PVC Forage Tubes**

Encourage tool use to extract food items from foraging device

*(Danielle Fogarty- Brookfield Zoo)*

What you will need:

- A piece of StarBoard plastic wood
- 2 U bolts that come with plate and 2 nuts: 3.5" long with threads to 2", 1.75" inside width (recommend stainless steel)
- 2 PVC female threaded coupling pieces (different diameters if desired) secured with glue and screws into drilled out wood
- 2 PVC tubes with male threaded coupling each with a threaded screw cap on outward end



## **Wheel Barrow Top Hanging Structure**

Hanging structure used to encourage arboreal foraging, resting and nest building  
(*Danielle Fogarty – Brookfield Zoo*)

What you will need:

- Plastic wheel barrow top
- Fire hose
- Various hardware- stainless steel recommended
- Loctite

Materials needed to fasten fire hose directly onto wheel barrow:

1. 12 bolts- 2" length, 3/16" diameter
2. 12 washers- 3/16"
3. 12 lock washers- 3/16"
4. 12 cap nuts- 3/16"

To attach each fire hose to an oblong stainless steel connector, fold fire hose through the connector and attach it back to itself using a 2" bolt, washer, lock washer and 2 nuts (everything x 2 for each fire hose which equals 8 sets of hardware). Make sure the fire hose is attached to the outside of the wheel barrow then threaded through a 3.25" x .75" hole toward the inside of the wheel barrow. Complete structure by drilling drain holes in the bottom.