Newspaper plaits

Enrichment for: *gibbon, macaques*

*Construction time: 5 minutes per plait*

*Materials:* newspaper, dried food treats

*Directions:*

- Take three sheets of newspaper
- Place a small amount of seeds, nuts or dried fruit long ways along the edge of one of the sheets of paper.
- Roll the piece of paper so that the seeds, nuts or dried fruit are now inside
- Repeat this with two more pieces of paper
- Take the three pieces and fold them over each other at one end and then plait them together.
- Fold the other end over

*Natural behaviours encouraged or the benefits of this enrichment:*

Gibbons generally painstakingly unwrap the plait and carefully extract the contents thus increasing the amount of time they are engaged with their food item. The macaques on the other hand tend to tear the newspaper to shreds and then jump down to retrieve the contents from the floor. Orangutan will tend to be quite delicate also to ensure that they don’t miss any morsel, they also enjoy playing with the newspaper long after the treats are gone. Bears will use their excellent sense of smell to locate the plaits, and they do tend to tear them to shreds. They will also then spend a lot of time foraging through the remains to ensure that nothing has been left behind. Basically the goal of this enrichment item is to present food in an interesting way which increases the length of time that they animal is engaged with their food item.
Pass the parcel

Enrichment for: gibbons, macaques

Construction time: 30 minutes per parcel

Materials: eggs, hessian sack, newspaper, leaves, string, needle, dried treats such as nuts and raisins.

Directions:

- Hard boil eggs
- Collect large leaves
- Fold the leaves around the egg and then tie them into place
- Fold newspaper around the leaf layer and place some dried treats in that layer
- Repeat with a leaf layer and another newspaper layer, placing a small amount of dried treats in each layer.
- Cut hessian into rectangles of approximately 10cmx20cm
- Place the egg parcel on one side of the hessian and then fold the hessian over the egg and sew tightly around the edges.

Natural behavior encouraged or benefits of this enrichment:

This activity encourages the primates to persevere to obtain high quality food rewards. The item has many layers, thus mimicking the way they might have to manipulate items such as fruits, nuts and seeds if they were foraging in the wild. The gibbons tend to find the hessian layer quite challenging to get into which is good as it keeps them occupied and engaged with their environment for a long time.
Piñatas

Enrichment for: Macaques, gibbons, orangutan

Construction time: 40 minutes per balloon

Materials:
Flour, balloons, a large bowl, water, string, dried treats, vines

Directions:
• Mix flour and water together to form a thick paste
• Blow up several balloons
• Tie a piece of string to the balloon and hang from something so that you can work on the balloon while it is suspended
• Rip up newspaper into small pieces
• Coat the pieces of newspaper in the paste and stick the newspaper to the balloon
• Do this until none of the balloon except for a small hole around where it is tied is visible.
• Allow the first layer of papier-mâché to dry
• Repeat until the balloon is covered in several layers and is hard when it dries
• Pop the balloon and remove it through the hole where it was tied
• Place a small amount of nuts or dried fruit into the piñata and then stuff the hole with browse
  • Make a needle sized hole next to existing hole in the balloon and tie a piece of string through the hole
  • Suspend the balloon from a the string and hang it from the ceiling of the animals enclosure

Natural behaviours encouraged or benefits of this enrichment:
The piñatas are a fun way to increase the activity levels in the animals. Clearly they are not a challenge for the strength of an orangutan or even a macaque but they present the food in a novel and interesting way and by hanging the piñatas it can encourages the animal to move about in their enclosure or night den to obtain the food. This is excellent enrichment for the gibbons; they are not as strong as the macaques so they may not pull the piñata down or break it immediately and will thus need to work patiently, manipulating the object to obtain the treats inside.
PVC puzzle feeder

Enrichment for species macaques, gibbons

Construction time: 10 minutes per animal

Materials: 100mm PVC piping, jigsaw, shelving brackets, food items

Directions:
- Using the jigsaw cut shapes in the PVC
- Attach a shelving bracket at each end of the PVC tubing.
- Smear jam, peanut butter, porridge (oats), rice or any other sticky treat food inside the PVC.
- Sprinkle nuts, dried fruit or seeds on top.
- Make sure the treat food is evenly dispersed down the length of the PVC not just at each end.
- As an optional extra you can also stuff browse (leaves) into the device so that they must pull the leaves out before getting to the bounty.
- Have a staff member affix the item onto the outside of the cage.

Natural behaviours encouraged or benefits of this enrichment:

For the macaques and gibbons, having a person hand them their food seems to invoke stress in most individuals. It is also not helpful for rehabilitation candidates to learn that food can be acquired by simply taking it from a human’s hand. Therefore, for their welfare as well for rehabilitation purposes it is important to keep hand feeding to an absolute minimum. These enrichment devices are extremely useful as they allow the staff member to simply hook or tie the item onto the outside of the cage and then walk away so that the animal can calmly empty the device of its contents in their own time. In addition, individuals spend a long time picking these devices clean, thus greatly extending the time which they are involved in an activity that is mentally stimulating whilst also providing them with some of their daily caloric requirement.
Raisin Boards

Enrichment for: **gibbons**

**Construction time:** 10 minutes per animal

**Materials:** plastic chopping board, power drill, small drill bit, medium drill bit, string, raisins, peanut butter or porridge.

**Directions:**
- Using a power drill make several holes in the chopping board of various sizes
- Tie a piece of string through the handle of the chopping board
- Fill the holes with raisins, peanut butter or porridge
- Hang the raisin board on the outside or inside of the enclosure.

**Natural behaviours encouraged or benefits of this enrichment:**

The aim of this activity is to present the food in an interesting and challenging way. The gibbons will need to use their fingers to pick out the contents of the raisin board, and this keeps them occupied for a long time as they have to manipulate the object to get just a small amount of treats from each hole on the board.
Honey Sacks

Enrichment for: sun bears

Construction time: 10 minutes per nest

Materials:
• Hessian bags, scissors, leaves, honey, dried treats

Directions:
• Cut hessian into squares (approximate 10cm²).
• Sew around the edges and pull to form a bag
• Fill bags with leaves and some dry treats
• Suspend bags from platforms and fill with honey

Natural behaviours encouraged or benefits of this enrichment:

The hessian sacks are a great material to use for sun bear enrichment as they are very durable and the bears find it challenging to rip into the sacks. Hanging the sacks encourages the bears to use their amazing climbing ability to search for their food. They must then manipulate the object and pull it down so that they can tear into the bag. Therefore this type of enrichment encourages three main natural adaptations/behaviours; using their keen sense of smell to locate the honey sacks, climbing ability to retrieve them and their strong claws and jaws to rip the sacks apart to get the treats inside, simulating the way they would use their claws to rip open rotten logs.
Treat Bottles

Enrichment for: gibbons, macaques

Construction time: 15 minutes per bottle

Materials: empty plastic water bottles, string, needles, vines, food

Directions:
• Wash water bottles thoroughly, focusing on the mouth piece to ensure that no germs are transmitted.
• Remove any labels from the bottles.
• Collect vines and other browse that is small enough to pass through the top of the bottle.
• Smear the browse in jam, peanut butter or honey.
• Place the browse inside the bottle until it is tightly packed.
• Sprinkle some finely chopped fruit, dried fruit, seeds, nuts, raisins or dog biscuits (or a combination of these) into the bottle and shake so that everything is randomly mixed.
• Make two holes on either side of the bottle and feed a piece of string through each side.
• Tie the bottle to the ceiling or other structures in the enclosure with the pieces of string tying away from each other in a v shape to mitigate choking hazard.

Natural behaviours encouraged or benefits of the enrichment:
This activity to provides the primates with treat food that requires both climbing and manipulation. They will need to manipulate the object whilst it swings around. The harder the bottle is to get to the better as this will encourage them to engage all their climbing skills to their fullest in order to manipulate an object which is almost out of their reach. A plastic bottle is no challenge for the teeth of these primates so hanging it means that they have to first use their hands to take hold of it and then pull it down rather than simply being able to tear straight into it with their teeth.
Browse Sacks

Enrichment for: orangutan, sun bears, clouded leopard

Construction time: 30 minutes per sack

Materials: hessian sack, browse, newspaper, food treats, string

Directions:

- Chop the animals’ food up finely
- Collect a large amount of browse or use newspaper
- Fill the bag with the browse or newspaper (or a combination of the two)
- Wrap a small amount of food in newspaper or leaves until you have multiple small parcels of food.
- Place these parcels inside the sack with the existing browse and newspaper and mix everything together.
- Smear a very small amount of jam or peanut butter on some of the leaves.
- Tie or sew the bag closed.
- For an extra challenge you can hang these in the night dens.

Note: For clouded leopard use meat and in the layers put cat biscuits. Hang the sack from the ceiling in the enclosure.

Natural behaviours encouraged or benefits of this enrichment:

Orangutan: In the wild orangutan have to travel across vast areas in search of food and have extremely good spatial memory for where to find various food items. Their ability to find food not only relies on this spatial memory but also their ability to plan into the future and estimate when various trees will be fruiting so that they can move between areas accordingly. In captivity, orangutan do not have the need to use this incredible cognitive adaptation and must therefore be provided with enrichment that will challenge them mentally as well as physically. The aim of this exercise is to present their food in an interesting way which encourages perseverance to obtain high quality food items, mimicking the fact that high quality food does not come easily in the wild. Every orangutan has their own unique method
for opening their sacks which shows that they all employ their own unique problem solving skills. The sacks are made so that they are difficult to open but also intricate so that even when the bag is ripped apart the orangutan must carefully sift through every item to get its food. An additional benefit to this exercise is that it removes the immediate relationship of humans as “food providers”. As a secondary form of enrichment the orangutan love to play in and nest with the sacks once they have emptied them of their contents.

Sun bear: these sacks stimulate the bear’s strong sense of smell so that they are motivated to open them without being able to actually see what’s inside. They then use their strong teeth and claws to rip into the sacks as they might do to a log or a termite nest in the wild. This activity keeps them occupied for a long time because even once the sack is open they make sure that every parcel is opened and every leaf is licked clean. Like the orangutan the bears love to wrestle with and sleep with their sacks after they’ve finished eating what’s inside them.

Clouded leopard: these sacks encourage the clouded leopards to use their teeth and claws to rip the sack apart in the same way they would a prey animal. The leopard’s strong sense of smell is also stimulated which motivates them to interact with the sack.

**Health and Safety:**
For clouded leopard: ensure this enrichment is removed the following day so that any uneaten meat does not become fetid in the enclosure.
Browse Tub

Enrichment for: orangutan, macaques, gibbons

Construction time: 30 minutes

Materials:

- Large solid plastic tub
- Substrate such as sand or sawdust
- Variety of dry and fresh leaves and twigs
- Food items e.g. nuts, seeds, mealworms and grubs

Directions:

- Fill the tub with leaves, twigs or sawdust
- Add in food treats and mix well
- Place tub in cage

Natural Behaviours encouraged:

This enrichment exercise encourages the animals to preserve to obtain high energy food rewards, most will spend a great deal of time sifting through the substrate to ensure that they have harvested every single treat! However, this exercise also encourages play as the primates will often play in the saw dust and other substrate or the container itself.
Cardboard boxes

Enrichment for: sun bears, orangutans, gibbons, macaques

Construction time: 15 minutes per box

Materials: cardboard, newspaper, material, leaves, food treats, mixed spice, dry treats

Directions:

• Cut food portion into small pieces and if the animal has more than one type of food item then mix the different items together like a salad.
• Separate the portion into small handfuls and tie them tightly inside brightly coloured material.
• Take a handful of dry treats (these will vary depending on the species you’re enriching).
• Disperse the handful of dry treats between several sheets of newspaper. Scrunch the newspaper up and place both the newspaper and fabric parcels in the cardboard box.
• Fill the cardboard box with newspaper or browse or both.
• Sprinkle mixed spice or another scent throughout the box and shake well.

Natural Behaviours encouraged or benefits of this enrichment:
This activity adds interest to the way food is presented. The animal must spend a long time engaged with their food item in order to extract all the treats. Not only this but each parcel will have a different combination of treats within it thus creating variation and holding their interest. In addition to this many of the animals play with the cardboard box, hide in it or use as nesting material.
Sweetcorn Chain
Enrichment for species: Porcupine
Construction time: 15 minutes per animal

Materials:
• 10 pieces of corn on the cob, string

Directions:
• Tie the corn to the string with about a metre between each piece of corn
• Tie the chain between structures in the enclosure so that it is off the ground

Natural Behaviours:
This encourages natural foraging behaviour and presents their food in a novel way.
Logs

Enrichment for species sun bears, macaques, porcupines

Construction time: 15 minutes per animal

Materials: Logs, Power drill, rope, food treats

Directions:

Sun bears and porcupines:
- Go for a walk around the centre to look for large logs
- Using a power drill and a large drill bit drill several holes about one inch deep in each log
- Fill the holes with porridge, peanut butter, honey, jam or meal worms

Variation 1 for bears: To add an extra challenge, drill a hole all the way through the log and thread a strong length of chain through the hole. Hang the log to a structure which is strong enough to support the logs weight as well as a bear or two hanging off it in the pursuit of the treats!

Variation 2 for bears: Select rotten logs and rather than drill holes you can smear them with porridge, peanut butter, honey or jam.

Macaques:
- Go for a walk around the centre to look for small logs
- Using a power drill and a large drill bit drill several holes about half an inch deep in each log
- Fill the holes with porridge, peanut butter or meal worms.
- At one end of the log drill a hole which goes all the way through the log
- Thread a piece of rope through the hole and tie the tog to the ceiling of the enclosure or another existing structure.

Natural behaviours encouraged or benefits of this enrichment:

Sun bears: In the wild sun bears often overturn or rip open rotten logs in order to consume the insects which are hiding inside the crevices. Therefore, by giving the bears rotten logs this natural foraging behaviour is encouraged. Drilling holes in the logs adds an extra challenge for the bears as we can get the treats deeper inside the log making it more difficult for the bears to extract.

These logs are great for the monkeys, not only do they present food in a challenging way which requires perseverance they also act as a novel play structure which the monkeys can swing on a jump off.
**Bamboo treat swing**

*Species: macaques, gibbons*

*Construction time: 40 minutes per swing*

**Materials:** bamboo, twine, browse, food treats, drill, jam honey peanut butter

**Directions:**
- Select large pieces of bamboo and saw them so that there is one open end and one closed end
- Drill two holes at each end of the bamboo (four holes total)
- Smear a mixture of jam, peanut butter and honey on the leaves and stuff the bamboo with these leaves
- Sprinkle a few treats such as nuts and raisins on top of the leaves
- Repeat these layers of leaves and treats until the length of bamboo is full. Make sure to stuff the end with leaves so none of the treats fall out.
- Thread a piece of twine through each end of the bamboo.
- Tie to the ceiling of the night den so that the bamboo is hung horizontally.

**Natural behaviours encouraged or benefits of this enrichment:**

This activity is excellent for a number of reasons. The way it’s hung makes it extremely difficult for the primates to extract all the treats, they really have to physically work to get their food, holding onto other structures and leaning in so they can reach to the end of the bamboo, some may also use their teeth to attempt to rip into the bamboo. When the primates have extracted all the treats they may also use the empty bamboo as a swing, further promoting physical activity.

**Health and safety:**
When tying this enrichment to the ceiling make sure to tie each piece of string to a separate point on the roof. This is to mitigate the choking risk. By tying this way it means that if one end of the bamboo should fall down then the remaining end cannot wind around itself.
Hammocks for Gibbons

Enrichment for species Gibbons

Construction time: 20 minutes per animal

Materials: hessian bag, string, browse, food treats

Directions:

- Collect some browse
- Smear a small amount of jam, peanut butter or honey on the browse
- Cut a hessian sack in half long ways
- Make a role in each corner of the material
- Using string tie each corner to the ceiling of the enclosure, ensuring that the string is long enough that the hammock sags down
- Place the browse inside the hammock
- Sprinkle a small amount of nuts, dried fruit or meals worms on top of the browse

Natural behaviours encouraged or benefits of this enrichment:

It is important to provide gibbons with places to rest and sleep off the ground as they would in the wild. By adding browse to the hammocks the gibbons are encouraged to climb up and reach into or get into the hammock which moves in a way that aims to simulate the way trees move as wild gibbons move through them looking for fruit.
Hanging browse Sacks

Enrichment for: Macaques, gibbons

Construction time: 30 minutes

Materials:

- Hessian sack, rope, dry food e.g. nuts seeds, raisins, meal worms or boiled eggs, a variety of dry and fresh leaves and twigs

Directions:

- Roll over the top of the hessian sack and sew the rope into the roll
- Fill sack with leaves and twigs and sprinkle with treats
- Hang sack from the ceiling of the cage so there is an entry point at the top

Natural behaviours encouraged:

This activity encourages play as well as foraging. The macaques in particular enjoy jumping in the sack and playing with the contents. This activity is quite challenging and thus keeps the primates interested and engaged with their environment for a long time. Hang the sack also encourages physical activity as the primates must balance on the top of the sack whilst it swings around as they reach inside to get their treats.
Hose ladders
Species: macaques, birds, gibbons
Construction time: 40 minutes per ladder

Materials: hose piping, vines, food treats, jam, peanut butter, porridge, needles, twine, small u-bolts

Directions:
• If using old hose wash it with disinfectant and then rinse.
• Cut hose into pieces 50-70cm long
• Sew one piece of hose to itself at each end to create a loop. Then place a small u-bolt over the twine and tighten as much as possible.
• Place a second piece of hosing through the loop and then sew this one to itself so that the two pieces are now concentric circles. U-bolt over the twine.
• Continue the previous two steps until there are three or four loops.
• Attach the ladder to the roof using the same technique but ensuring to fix the bolt on the outside of the ceiling of the enclosure.

Variation:
• collect vines and smear them with treats such as jam or peanut butter or porridge.
• stuff each piece of hose with some of the vines
• add a sprinkle of treats such as nuts, raisins or tofu.

Natural behaviours encouraged or benefits of this enrichment:
These ladders are a great play structure as they move dynamically in every direction. They encourage the animals to exercise and stay off the ground, which is particularly important for the gibbons whom are very susceptible to contracting parasitic worms if they spend much of their time on the floor of their enclosure.
They not only encourage the birds to climb but also to use their beaks to extract tasty food items with the added challenge that the ladder swings as they do so.
Hanging newspaper parcels

Enrichment for species: sun bears

Construction time: 15 minutes per animal

Materials:
- Newspaper, mosquito net, string, dried treats such as dog biscuits and nuts and raisins.

Directions:
- Place a small handful of dried treats inside some newspaper
- Loosely scrunch the newspaper up and then wrap several loosely packed layers around the treat layer so that you have a ball roughly the size of a coconut
- Wrap the ball in mosquito net and using string tie the mosquito net in place
- Cut the net so that there is roughly a 30cm “tail”
- Hold the “tail” and swing it as you throw and release the parcel, aiming for the leaves of trees that are too tall to reach

Natural behaviours encouraged or benefits of this enrichment:
Bears are excellent climbers and if the enclosure allows, this behaviour should be encouraged as much as possible. This enrichment item has been developed so that treats can be suspended in places that humans aren’t necessarily able to reach but which provide an extra challenge for the bears.
PVC Browse ladders
Enrichment for: Gibbons
Construction time: 40 minutes per ladders

Materials:
1-1.5 meters of pvc tubing (diameter 10cm), Drill, jigsaw, Sandpaper, 3 meters of rope (minimum diameter 1cm), leaves and food treats e.g. jam, peanut butter, nuts, seeds or diced fruit

Directions:
• Using the jigsaw, cut PVC tubing into 50-60cm lengths. Then cut different sized shapes into the tube.
• Drill two holes in opposite sides on each end of the tube
• Use sandpaper to smooth down any rough edges
• Thread the rope through the holes at the ends of the tubes. Tie off before adding another PVC rung to the ladder
• Smear wet treats such as jam and peanut butter on the inside of the tubes. Fill with leaves and sprinkle in dry food items i.e. nuts or seeds
• Suspend the ladder from the ceiling of the cage or outside the cage.

Natural behaviours encouraged or benefits of this enrichment:
This activity encourages the primates to forage off the ground. The ladders will swing as the primates liberate the food rewards, mimicking the way trees might move dynamically if they were foraging in the wild. In addition to being a food puzzle this also adds temporary in-situ enrichment to the enclosure as the primates enjoy swinging on the ladders.
PVC hose ladder

Enrichment for: Gibbons

Construction time: 40 minutes per ladder

Materials: a length of hose which hangs about 2/3 of the way from ceiling to floor of the enclosure, 4-5 large PVC elbows, drill, u bolts, vines, food items.

Directions:

• Drill a hole in the top and bottom of each PVC elbow that is large enough for the hose to feed through.
• Feed the first elbow onto the hose and push it to the end which will be closest to the ground. Orientate the elbow so that it curves up.
• Tie a knot in the hose under the elbow to hold it in place.
• Leave a gap in the hose of about 10-30cm depending how long your length of hose is, then tie another knot and feed the next elbow on and so on.
• Using the U-bolt hook the hose over the ceiling or structure in the cage and then U-bolt it to itself.
• Collect vines
• Smear the vines with jam, honey, peanut butter or porridge.
• Fill the u bolts with the vines then sprinkle some nuts, seeds or raisins in as well.

Natural behaviours encouraged or benefits of this enrichment:

This activity encourages them to forage off the ground. They will have to either climb the hose to liberate the treats in each layer or climb within their enclosure and pull the hose towards them. Either way this will require them to hang on with some limbs whilst manipulating the object with their free limbs. In addition to the forage enrichment this activity offers it also provides an in-situ enrichment item for the gibbons to swing and play on. Hosing is a particularly good material for this purpose as it will stretch under their weight and thus it swings and bounces back more than rope does.
Treat Bottle bunting

Enrichment for: gibbons

Construction time: 15 minutes per length of bunting

Materials: water bottles, needles, string, jam, peanut butter, dried treats such as seeds, nuts and raisins.

Directions:

- Wash the water bottle thoroughly and remove all labels.
- Pierce a hole through the bottom of each bottle and out the other side
- Thread 3-4 bottles onto a length of string and space the bottles apart.
- Cut the top off each bottle
- Smear the inside of the bottle with jam, peanut butter or other sticky treats and then sprinkle items such as seeds or breakfast cereal in so that they stick to the first layer.
- Tie the bunting high off the ground too structures within the enclosure.

Natural behaviours encouraged or benefits of this enrichment:

This activity encourages the gibbons to forage off the ground. They must also move from one bottle to another and in doing so will need to climb and hold other structures in order to have a hand free to manipulate the bottle. Therefore, it not only provides food based enrichment but encourages general physical activity at the same time.
Bucket Ice blocks

Enrichment for: sun bears, orangutan, clouded leopard, macaques

Construction time: 15 minutes per bucket

Materials:
- Bucket, vines, dried treats
- One of the following: chicken or beef stock cube, tablespoon honey, tablespoon marmite, rehydration sachet, teaspoon fruit cordial, chicken blood (for clouded leopard only)
- One of the following: a clean piece of material, a tug of war toy, a kong filled with frozen porridge, a raw hide animal chew

Directions:
For orangutan
- In a bucket dissolve any of the following
  - A chicken or beef stock cube
  - A tablespoon of marmite
  - 5 drops of fruit cordial
  - A rehydration sachet
- Into the bucket drop any of the following
  - A clean piece of material
  - A kong filled with frozen porridge
  - A material tug of war toy
- Add vines and dried treats to the bucket
- Freeze then hide in outdoor enclosure or night dens once frozen.

For sun bears
- In a bucket dissolve any of the following
  - A chicken or beef stock cube
  - A tablespoon of marmite
  - 5 drops of fruit cordial
  - A rehydration sachet
  - A tablespoon of honey
- Into the bucket drop any of the following
  - A raw hide animal chew
  - A kong filled with frozen porridge
  - A material tug of war toy
- Add vines and dried treats to the bucket
- Freeze and hide in outdoor enclosure or night dens once frozen.
For clouded Leopard
- In a bucket dissolve a chicken or beef stock cube or dilate blood from chickens.
- Into the bucket drop any of the following
  - A raw hide animal chew
  - A material tug of war toy
- Freeze and hide in outdoor enclosure or night dens once frozen.

Natural behaviours encouraged or benefits of this enrichment:

Orangutan: This activity requires perseverance whilst also hydrating the orangutan. They are always very determined to get to the item in the middle. Orangutan often chew their food and then hold it in their mouths and suck it for a long time. Therefore, adding material items which will have taken on the taste of the ice solution provide the orangutan with a tasty treat to suck once the ice has melted as well as a novel item to play with.

Bears: The bears will use their strong claws and jaws to chip away at the ice to get to the treats. This activity requires perseverance. Many of the bears will play with a new toy such as a Kong even after they have extracted all the food from it.

Clouded leopard: This is great scent enrichment for the leopard whilst also adding hydration. The chew or tug of war toy offers a novel play item as well as something to gnaw at, as a felid would on their prey.
Ice Treats

Enrichment for species Sun bears, orangutans, gibbons, macaques

Construction time: 10 minutes per animal

Materials: water bottles, fruit cordial, dried fruit or nuts, fresh fruit

Directions:
For sun bears and orangutan:
• Clean all the drinking bottles well, especially concentrating on the mouth piece
• Chop several pieces of fruit into small pieces
• Place them inside the bottles
• Add 5 pieces of dried fruit
• Collect some vines or ferns and place them in the bottle
• Pour a 3 drops of cordial in the bottle
• Fill with water
• Replace cap and shake to mix all the ingredients together
• Place the bottles in the freezer ready to be distributed the next day

Variation:
• Follow the same directions as above but use a piece of bamboo as the mold
• Cut the bamboo so that one end is open and one is blocked
• Tie the bamboo together to help it balance upright when you place it in the freezer

Variation for gibbons and macaques:
• Use an ice tray instead of bottles, buckets or bamboo
• Dilute some cordial in a container and pour the diluted solution into the ice tray
• Place 2 pieces of dried fruit in each cube of the ice tray
• Place in the freezer ready to be distributed the next day

Natural behaviours encouraged or benefits of this enrichment:
Ice blocks provide a more challenging and fun way to supply the animals with some of their daily fluid intake. The bamboo variation is particularly good for sun bears. Normally bamboo is no challenge for the sun bears and their incredibly strong jaws and claws but when you freeze the contents to make it solid it becomes a lot more difficult for the bear to rip open.

Health and Safety:
Orangutan are able to catch illness such as colds and flu from us so it is critical that bottles are washed thoroughly before being used for orangutan to avoid the transmission of illness.
Banana Sucker

Enrichment for: Orangutan, sun bears, macaques

Construction time: 15 minutes per animal

Materials:
- Banana sucker, manual drill, honey, dog biscuits, nuts and seeds

Directions:
- Cut banana sucker into lengths roughly 30cm long
- Drill 10 holes of varying depth around the circumference and down the middle of the segment
- Drizzle honey into the holes
- Plug the holes with dog biscuits or dried fruit and nuts
- Place inside enclosure or night den

Natural Behaviours:
This activity encourages the bears’ natural digging behaviour, the way in which the bears have to rip the banana sucker open to retrieve the treats from each layer simulates the way they might rip a rotten log open to retrieve insects.

For the orangutan and the macaques this activity provides them with an enrichment device which they will carefully unfold to liberate all the treats inside.
Birds Nest

Enrichment for: Leopard cat, clouded leopard, civets, binturong

Construction time: 1 hour per nest

Materials:
- Twine, twigs, leaves, vines, eggs or live chicks

Directions:
- Harvest twigs, leaves and vines.
- Use a long flexible stick and tie its ends together to create a circle.
- Use several other flexible sticks and tie these across the circular frame, they should be slack to create a somewhat concave frame.
- Weave vines and leaves among the twig frame, thus creating something which resembles a nest.
- Using twine secure the nest to a climbing platform in the animals enclosure.
- For binturongs and civets: Place eggs (raw or boiled) or live chicks in the nest
  For leopard cat and clouded leopard: Place live chicks in the nest

Natural behaviours encouraged:

Felids and viverrids both hunt live prey and the civets and binturongs also raid bird’s nests for eggs. In the wild felids do not necessarily eat every day, they may fast for several days and then gorge after they make a kill. However, in many captive settings they are often fed every day so it is important to find other ways to simulate the random nature of food acquisition in the wild. This can be achieved by varying their diet, hiding food to encourage foraging and hunting behaviour, changing the locations where food is placed, changing feeding times and presenting food (particularly when live food is not available) in ways that require manipulation or interaction on the part of the animal. This enrichment activity presents food in a novel way and promotes their natural hunting and foraging behaviours. The nest can be hidden anywhere in the enclosure thus their olfactory and auditory senses will be engaged in order to locate the nest whilst also promoting climbing, thus simulating the lengths these animals go to when hunting live prey or raiding nests in the wild. This enrichment activity also adds a novel object to the enclosure which will be covered in various jungle scents and thus the animal will be further enriched by this and may respond by scent marking the nest.
Browse Chain

Enrichment for: orangutan, macaques, gibbons

Construction time: 30 minutes

Materials:
- Browse and string

Directions:
- tie leafy branches onto a length of rope or string
- hang between the climbing platforms in the outdoor enclosures and nigh dens

Variation: repeat as above but tie a sock filled with treats to the browse chain so that it is concealed by the browse. Alternatively you can smear the browse with food treats such as jam, porridge or peanut butter.

Natural behaviours encouraged:

This activity presents food in a novel way and encourages exercise whilst foraging. In addition to this the orangutan in particular will enjoy playing and nesting with the leaves of the browse chain.