



Enrichment and Enclosure Design trail

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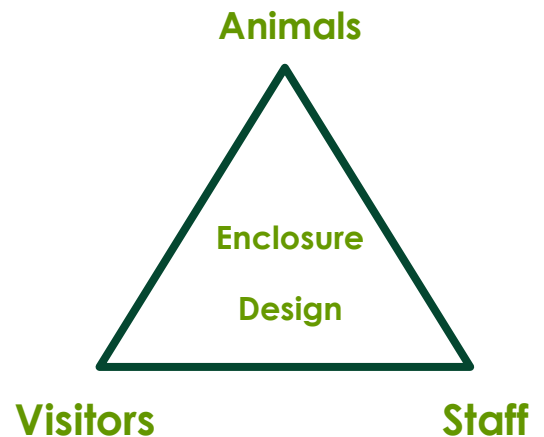
Enrichment aims to stimulate animals both mentally and physically, whilst preserving natural behaviours and preventing the development of abnormal behaviours in captivity.

Enclosure design is an important part of enrichment since enclosures, including their furniture, need to be designed in a way that enriches and stimulates the animals they are designed for whilst promoting natural behaviours.

The design of any enclosure needs to take into account the **five freedoms** of animal welfare:

- 1. Freedom from hunger and thirst**
- 2. Freedom from discomfort**
- 3. Freedom from pain, injury and disease**
- 4. Freedom to behave normally**
- 5. Freedom from fear and distress.**

When designing an enclosure you need to consider the needs of, not only the animals, but also of keeping staff and visitors to the zoo.



At Marwell Zoo we provide our animals with a variety of enrichment opportunities. Apart from the way in which an enclosure is designed, enrichment can include how the animals are fed, the provision of apparatus, sensory stimulation and social husbandry.

As you go around the zoo, look at how different enclosures are designed and what other forms of enrichment our animals are provided with.



1. PENGUIN COVE



Humboldt penguins are named after the Humboldt Current which runs past the coasts of Chile and Peru where these birds live.

a) What natural behaviours might you expect to see a penguin to exhibit?

b) How has the penguin enclosure been designed to enable penguins to exhibit these behaviours?

c) How has this exhibit been designed to enable good viewing opportunities for visitors?

2. GIRAFFE

In the wild, giraffe eat a variety of plants but most often eat from acacia trees, which are very thorny. To protect their tongues from these thorns, as well as to help with digestion, giraffe produce a lot of saliva.



a) What food can you see for the giraffe in the giraffe house?

We cannot provide giraffe with enough trees to eat from at Marwell since they would quickly strip any trees bare. However, giraffe still produce a lot of saliva that they need to use/get rid of somehow. To help with this, sometimes the keepers hang browse (leafy branches) up for the giraffe to feed from.



b) Can you see any browse in the enclosure today? Why do you think the keepers hang browse up high?

c) Giraffe are some of the largest land mammals and as such need a lot of space, at Marwell our giraffe herd have access to an indoor area, an outdoor hardstand and a large paddock. How have we tried to ensure that guests can usually view the animals wherever they are?

Browse isn't always available, especially in the winter. Therefore keepers may hang up food-filled plastic bottles with holes in the side, like the one in the picture.

c) This might be a very unnatural object for the giraffe but it can still promote natural behaviour. How?

In order to provide the giraffe with enrichment and daily food the keepers need to be able to safely access their enclosure.

d) What feature of the giraffe house allows the keepers safe access?



3. LEMUR LOOP



Our walkthrough, 'Lemur Loop' opened in July 2017 and is home to three different species of lemur, allowing guests to get up close to these primates. All lemurs have evolved from a common ancestor and adapted to the variety of habitats found on Madagascar. Over time they have evolved into over 100 different lemur species we find on Madagascar today!

a) Look at the ID signs and list the three species of lemur housed in this enclosure.

b) Although it is fun to get close to the animals, it is important to make sure they do not get stressed by the experience. Name some ways the enclosure offers the lemurs the ability to choose whether or not to interact with guests.

c) The lemur species housed in the Lemur Loop have different needs. Look around the enclosure or ask some of our friendly staff to help you answer the following question. Name the ways the enclosure attempts to provide the different species with opportunities to exhibit natural behaviours



4. LEOPARD LOOKOUT



The Amur leopard is one of the most threatened species of cat, with as few as 70 individuals left in the wild. Any enclosure attempts to meet the needs of the animals, visitors and staff. Our Amur leopard enclosure was designed to showcase this beautiful threatened species in a way that also meets those needs.

a) In the box below draw a sketch of the Amur leopard enclosure.

b) Annotate the features that provide enrichment for our Amur leopards and explain what natural behaviours this enrichment promotes (e.g. den rest in).

c) Annotate the features of the Amur leopard enclosure that enhance visitor experience as well as those features that help to keep guests safe (e.g. wire mesh roof so leopards can't climb out).





5. WILD EXPLORERS

The wild Explorer's area is a mixed species exhibit housing four large African animals; our southern white rhino, scimitar horned oryx, Grevy's zebra and ostrich.

a) This enclosure doesn't contain lots of apparatus such as poles and ropes like some of our other enclosures, why do you think this is?



b) The Wild Explorers enclosure largely consists of a large open paddock. Why is this suitable enrichment for these animals?

At Marwell we are involved in reintroducing certain species. For example, we are currently part of a programme for the reintroduction of the (extinct in the wild) scimitar-horned oryx into its former range in Chad, as well as previous successful reintroductions into protected reserves in Tunisia.

c) Why do you think allowing species to mix is important enrichment?

c) Some additional enrichment is provided in the form of mud wallows and sand mounds in the paddock. What natural behaviour does this promote?



d) Why do you think it is important to promote this natural behaviour?





6. MEERKATS

The keepers often scatter the meerkats' insect feed around their enclosure and sometimes place bugs into the crevices of logs and rocks.



a) Why do you think the keepers feed the meerkats in this way?

B) Meerkats are found in most regions of southern Africa, and are adapted to life in arid conditions. What can you see in the enclosure that helps the meerkats in the temperate conditions found in Hampshire?

7. AMUR TIGER

Amur tigers are mostly found in south-eastern Russia and northern China. The Amur River runs through the range of these tigers.

a) Why do you think pools are provided in the tiger enclosure? Try to give 2 reasons.



b) Platforms are provided for the tigers within their enclosure. Why do you think they are important for the tigers?



A large part of keeping zoo animals healthy is providing the correct diet and nutrition. At Marwell, our cats, including the tigers, have a fast (starve) day twice a week.

b) Why do you think our tigers are not fed every day?

8. SIAMANG

The siamang is an arboreal (tree dwelling) primate native to the forests of Malaysia, Thailand, and Sumatra.



a) Many of the ropes in this enclosure move and swing around. Why do you think they have been designed to do this?

b) Like many of the animals at Marwell zoo the siamang are sometimes given novel (new/not seen before) food items as well as devices like feeding balls. What natural behaviour does this stimulate?





9. ASIAN SMALL-CLAWED OTTER

Our Asian small-clawed otters, like the other animals at Marwell, are provided with dens to rest and shelter in.



a) Which two of the five freedoms listed in the introduction do you think this feature is most relevant to?

b) The Asian small clawed otters have access to fresh flowing water why is this a necessary part of their enclosure?

10. SNOW LEOPARD

Wild snow leopards are found in the Himalayan Mountains.

a) What would you expect the conditions to be like in the snow leopards natural habitat?



b) How is this habitat simulated in the snow leopard enclosure?

c) What natural behaviours does this promote?



Sometimes the snow leopards, as well as some of our other cats, are given a sack feed, whereby their food is wrapped in a hessian sack and hung up in their enclosure.



Although this is not the same as hunting their own prey (it would be unethical to put live prey in with the snow leopards), it does stimulate many of the same natural behaviours.

d) What natural behaviours do you think are stimulated through providing the snow leopards with food in this way?

e) Sometimes scents including herbs and spices are placed around the enclosure of snow leopards and some other animals. Why do you think this type of enrichment is important for a territorial carnivore?

Well done! You have completed the enrichment and enclosure design trail. At Marwell zoo we provide our animals with a variety of enrichment so try to spot any enrichment items there may be in the enclosures. Also, look out for other ways our enclosures are designed for the specific needs of the other animals you see around the zoo.



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1. Humboldt penguins
2. Giraffe
3. Amur leopard
4. Wild explorers
5. Meerkat
6. Amur tiger
7. Siamang gibbons
8. Asian small-clawed otters
9. Snow leopard



Information correct: 04/18.