Themed notes: Enclosure design

Designing an enclosure
When designing an enclosure there are three groups you must consider; the animals, the keepers and the visitors. Each group will have their own needs and sometimes the needs of one group conflict with another group. This is why designing an enclosure can be very tricky.

Animal considerations
When designing an enclosure you must consider the animals needs. You must think about where the animal comes from, the habitat it lives in, normal social groupings and behaviour, how big the animal is, how dangerous, how active, and what the animal is adapted to do (is it a climber or a swimmer?). You will also need to think about making the enclosure interesting for the animal.

Red panda

Background
- Red pandas are found in the Himalayas and mountainous regions of northern Myanmar and western China.
- They have thick coats to provide warmth and even their feet are covered in hair.
- Red pandas are crepuscular which means they are most active at dawn and dusk.
- Red pandas are suited to life in the trees and are much more agile in the trees than on the ground.

Things to do and think about:
- What would you put in a red panda enclosure to provide them with the correct environment.
- Consider where red pandas are normally found in the wild. Do you think zoos in the UK would need to worry about heating a red panda enclosure all year round?
- Have a look at the enclosure. Where are the animals? What are they doing? What items have been put in the enclosure for the red pandas and why do you think they are there?

Otters

Background
- Asian short-clawed otters need land and water.
- They have a small head and a streamlined body allowing them to move easily through the water.
- Asian short-clawed otters are sociable and live in family groups of up to 12 members.
- The otters will rest out of the water and will take time to groom each other.

Things to do and think about:
- Walk round the otter enclosure and look at it as a whole. Why do you think the island was built like this? Do you think the different plants on the island were put in for the otters or so it looks nice for the visitors?
- Can you find the otters shelter?
- Can you find where the keeper can get on to the island without letting the otters off? How do they do that?
**Cairo spiny mouse**

**Background**
- These mice are found in the rocky outcrops, cliffs and canyons of northern Africa.
- They live in social groups.
- They are adapted to arid (hot and dry) conditions.
- They are mostly nocturnal.
- They eat insects, snails and seeds.

**Things to do and think about**
- Have a look at their enclosure. Do you think the person who designed this enclosure thought about where the mice live in the wild? Give reasons for your answer.

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**Sloth bear**

**Background**
- Sloth bears are found in a wide variety of habitats from grasslands to forests in Nepal, Bhutan, Bangladesh, India and Sri Lanka.
- Sloth bears are mainly active in the day.
- They eat insects like termites. They break into the hard termite mounds with their long, sharp claws and strong forelegs.
- Sloth bears are large and males can weigh up to 145kg.

**Things to do and think about**
- Sloth bears are strong and have the potential to be dangerous. Look at the enclosure, both outside and inside, to see how the animals are kept safely thinking about it from an animal, visitor and keeper point of view.

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**Giraffe**

**Background**
- Giraffe are the tallest land mammal. Males can reach 5.3m tall and can weigh up to 1,900kg.
- Their height and size can make designing an enclosure for them a challenge.
- In the wild giraffes live in the savannah grasslands and open woodlands of Africa, south of the Sahara desert.
- They live in loose herds and are not territorial.
- They eat using their long (45cm), prehensile tongue to pick leaves from the trees and can eat up to 134kg of leaves a day.

**Things to do and think about**
- Look at the giraffe house and think about the height of a giraffe. How has the house been designed to accommodate the giraffes. Can you spot where the drinking water and feeding posts are?
- Cold English winters can be a problem for animals adapted to warmer climates. Can you spot the radiators in the giraffe house? Where have they been put?
Animal considerations: enrichment

Enrichment is any change to an animal’s environment that improves the animal’s physical fitness and mental well being. Enrichment can take all sorts of forms and helps to keep the animals active, healthy and stop them from becoming bored. The different types of enrichment include:

- Food-based enrichment—providing their daily food in a new way
- Physical enrichment—new items or objects in an enclosure
- Sensory enrichment—new sights, smells or noises
- Cognitive (thinking) enrichment—problems to solve

Training animals can also be classed as enrichment.

As you go round the Zoo keep an eye out for anything you see in an enclosure that could be enrichment and make a note or take a picture of it.

Could you design a piece of enrichment for an animal at the Zoo? Make sure you think about what the animal can do e.g. can it grip hold of things? Also think about what material you would make your enrichment out of.

Background

- An adult female Asian elephant can weigh up to 2,700kg and an adult male can weigh 5,700kg.
- Elephants are very intelligent.
- An elephants trunk has over 100,000 muscles. This makes it very dextrous and they can use their trunk for all sorts of thing e.g. picking up food or scratching their eye.
- At Whipsnade we train our elephants and take the females and calves out on a daily walk around the park for exercise and a change of scenery.

Things to do and think about:

- Walk round the elephants’ grass paddock and visit the sand yard which is to the left of the house. What enrichment can you see and what is it made out of?
- Can you see any of the elephants using the enrichment?

Chimpanzee

Background

- Chimps live in the equatorial forests of Africa in countries like Gabon, Zaire and Cameroon.
- They have long arms and mobile shoulder joints which makes moving through the trees easy.
- They have very muscular and strong arms.
- They have opposable thumbs which allows them to grip.
- Young chimps love to play and can often be seen play fighting with others.
- Chimps are very intelligent, they can use tools like sticks and they can solve puzzles.

Things to do and think about:

- Find the chimp house and have a good look through the window into the chimps’ indoor space. What enrichment has been put into the enclosure? What materials is it made out of?
**Visitors also need to be considered in the enclosure design process. Visitors want to see the animals and be able to get close to them. They want to see animals in a natural environment and find out information about the species they are looking at.**

**Cheetah**

**Background**
- Cheetahs are mainly found south of the Sahara desert in Africa. Although there is also a small population in Iran.
- Male cheetahs will form small bachelor groups while females are solitary.
- Cheetahs have excellent eyesight and like to view their surroundings from a high point.

**Visitor considerations**
- What jobs do you think keepers would need to do on a daily basis.
- How might these jobs might affect the design of an enclosure.
- While you are going round the Zoo look at the animal houses and consider what else those buildings might be used for.
- Do you think there are storage areas for bags of food, hay, straw, meat, vegetables?
- Where do you think all the keepers go for a break or to eat their lunch?

**Things to do and think about:**
- Visit Cheetah Rock and have a good look round. What information is there in and around the enclosure for the visitors? What methods are used to give visitors information. Do you like the way information is presented?

**Ring-tailed lemur**

**Background**
- Ring-tailed lemurs live in groups.
- Ring-tailed lemurs are found in the forests of Madagascar off the east coast of Africa.
- They are active during the day searching for food e.g. fruit, leaves, flowers, bark and sap.

**Visitor considerations**
- Visitors also need to be considered in the enclosure design process. Visitors want to see the animals and be able to get close to them. They want to see animals in a natural environment and find out information about the species they are looking at.

**Things to do and think about:**
- Visit the ring-tailed lemur enclosure, have a good look round and list reasons why this enclosure is good for the visitors. Is there anything you think isn’t good from the visitors point of view?
- What information is there in and around the enclosure for the visitors?