

# Teachers Tour guide pack: Animals and Their Habitats

## KS1 upwards

This pack is designed to aid teachers in leading a fun but educational tour to their students about animals and their habitats.





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# How to use this pack

The first few pages of this pack are designed to give teachers background information outlining the characteristics of certain habitats and what animals live there. This can be covered pre-visit to Ponderosa so the students have background knowledge before their visit.

The map included shows the whole zoo with key species to visit highlighted.

There are fact files about the animals included in this pack which allows for the animals to be spoken about when taking a tour of the zoo.

Activity worksheets have been offered in this pack. They can be completed during or after the visit. These worksheets are suitable for KS1 upwards. We encourage the use of these for the students to get the most out of their experience and to keep them engaged during their tour of the zoo.



# Background information

## What is a habitat?

A habitat is the natural home or environment for a plant, animal or other organism. A habitat is made up of different things such as temperature, light, soil, food and weather. These are called Biotic and Abiotic factors.

Some examples of habitats include:

- Polar
- Rainforest
- Desert
- Ocean

In habitats you can also find microhabitats. Microhabitats are a small part of a bigger habitat that supports plants, animals and other organisms. An example of this is fallen logs in a forest. On this log you will find mushrooms, moss and other plants. Inside you might find insects etc. These organisms have chosen to live in this smaller microhabitat rather than the larger habitat.

### **Polar Regions**

Polar habitats are found at the top and bottom of the Earth. They are very cold, snowy and windy places. The polar habitat at the top of the world is called the Arctic and the one at the bottom is called Antarctica. Polar habitats only have 2 seasons, summer and winter.

In the Arctic it can get to  $-50^{\circ}\text{C}$ . Most animals in the Arctic are carnivores as they can't rely on eating plants due to it being too cold for them to grow. You can find Polar bears, Arctic foxes, Walruses and Narwhals here.

In Antarctica it can get to  $-89^{\circ}\text{C}$ . It is the highest, driest and coldest continent in the world. It is the driest continent as it only receives around 50 to 100 millimeters of water (Snow) a year. You can find Penguins, Seals and Orcas living here.

### **Deserts Regions**

Deserts are very hot and dry; they have strong winds and little vegetation growth. Most of the plants that live in deserts are cacti which store their water inside their stems. Most deserts get less than 10 inches of water each year and can get as hot as  $50^{\circ}\text{C}$ .

Many of the animals that live in the desert are nocturnal. You can find Foxes, Snakes, Spiders, Antelope and much more in the desert. The plants include cacti, tumbleweed and some trees/shrubs



## **Tropical Rainforest Regions**

Rainforests are very warm, wet and humid because of where they are on the planet and how much rain they get. They can get at least 200cm of rain a year. They contain lots of

plants and really tall trees. Scientists think that more than half the world's plants and animals live in these habitats.

Rainforest are made up of 4 different layers:

- Emergent layer
- Canopy layer
- Understory layer
- Forest floor

The emergent layer is formed by trees that grow above the canopy layer. You can find Birds, Butterflies, Bats and Monkeys in this layer.

Around 80% of life in the rainforest is found in the canopy layer. The leaves of the canopy layer form an umbrella over the rest of the forest. You can find Snakes, Frogs, Monkeys, Toucans, and Sloths etc in this layer.

The understory layer is where it is most hot and humid. Lots of young trees and shrubs can be found here. You can find Insects, Lizards, Jaguars and more Frogs living here.

The forest floor is mainly dead leaves, soil and small vegetation. You can find Elephants, Tapir, Armadillos and Boar living here.

## **Ocean Regions**

The Ocean covers more than 70% of the earth's surface and holds around 97% of the earth's water supply. The ocean is high in salt, minerals and gases. The deepest part of the ocean is called Challenger Deep and is approximately 36,200 feet deep.

You can find many plants and animals in the ocean. Some examples include algae and seaweed, Fish such as sharks and clownfish and marine mammals like whales and seals.

# Background information

## What habitats do the animals at Ponderosa live in?

**Scottish Wildcats**  
Forest and woodland



**Marmoset**  
Tropical forest



**Reindeer**  
Arctic tundra



**Serval**  
Savannah



**Pancake Tortoises**  
Scrubland





# Map of Ponderosa Zoo

This map shows all the species at Ponderosa Zoo and where you can find them. Highlighted are the species discussed above so that their adaptations can be seen in person.



# Scottish Wildcats

(*Felis silvestris*)



**Habitat:** Forest and woodland areas.

**Distribution:** West Highlands of Scotland.

**Diet:** They are carnivores and eat a variety of meats such as birds and small mammals. However they will occasionally eat eggs as well.

**Lifespan:** Around 7 years old in the wild and 15 years old in captivity.

**Population numbers:** Estimated to be between 1,000 and 4,000 individuals.

**Status:** They are listed as Least Concern by the IUCN however, they are a priority species under the UK Biodiversity Action Plan and are protected by the Convention on International Trade in Endangered Species (CITES). Some areas class them as Critically Endangered as there is a lack of pure bred individuals.

## About our Wildcats

We have 2 female wildcats; they are called Iona and Isla.

They may look like a domestic cat however they do have their differences. Scottish Wildcats have thicker fur than a normal domestic cat does. This is to make sure they can stay warm in the Highlands of Scotland. They also have thick solid black lines along their body and a perfectly ringed, banded tail. They have a much more angular jaw also, as they need the power in order to catch and eat their prey.

They are very shy illusive animals and blend in very well with their surroundings. To see Iona and Isla you need to have good eyesight, look very carefully and stay quiet. One of the main threats to Scottish Wildcats is hybridisation. As they are so closely related to domestic cats, they are able to breed with them and produce viable offspring. This taints the gene pool and causes changes in appearance. There will soon only be hybrid Scottish Wildcats left in the wild.

Zoos are working hard to breed these cats back to purebreds so that they can be released back into the wild. We are hoping to introduce a male to our females so we too can take part in the breeding programme.



# Common Marmoset

(*Callithrix jacchus*)



**Habitat:** Rainforests.

**Distribution:** Brazil.

**Diet:** They eat fruit, leaves, gum and insects.

**Lifespan:** 12 years in the wild and around 16 years in captivity.

**Population numbers:** Unknown due to high fragmentation.

**Status:** Common Marmosets are classified as Least Concern by the IUCN and have a Stable population.

## About our Marmosets

We have 7 Marmosets; 3 Females and 4 males. They are called Pablo, Stitch, Mycroft, Simba, Myla, Millie and Moriarty.

Marmosets communicate through a variety of calls, a lot of which are high pitched. Some of these calls are too high pitched for the human ear to hear. They also communicate using scent. They also use this to mark out territories. They are a very social species and in the wild would live in groups of 3-13 individuals. The entire group will help care for any offspring. This helps reduce the death rate of infants. The Marmoset's main threat is habitat loss caused by deforestation and the pet trade. Deforestation is done in order to create room for agriculture, to allow for mining and for logging. Because of this, they are losing homes, food sources and becoming fragmented.

The pet trade is when people illegally harvest and sell animals as pets. As marmosets are small and cute they are highly sort after, meaning they are one of the most common species found in this illegal trade.

To help control this, they are listed as appendix II of CITES. This means the trade of this species is heavily regulated to help protect them.

# Reindeer

(*Rangifer tarandus*)



**Habitat:** Tundra, Mountains and woodlands.

**Distribution:** Alaska, Canada, Greenland, Northern Europe and Northern Asia.

**Diet:** They mostly eat lichens and moss as well as leaves and grasses.

**Lifespan:** Around 12-15 years.

**Population numbers:** An estimated 2.1 million individuals left in the wild

**Status:** They are currently classed as Vulnerable with a decreasing population.

## About our Reindeer

We have 3 reindeer; 2 males and 1 female. Our female is called Faline; she is small and has a light/white coat colour. Our big adult male is called Thunder, he also has a light/white coat colour and Odin is our young male. He is smaller than Thunder and has a dark colouration.

Reindeer are also known as Caribou depending on where in the world they are found. Reindeers are the only species of deer where both the male and female grow antlers. These antlers fall off every year and grow back bigger the next. In the winter they use their antlers to dig for food under the snow. They also use them during rutting season to fight other males.

They are social animals and live in groups called herds. These herds can consist of 10 individuals up to hundreds.

The biggest threat to Reindeer is climate change. Due to the arctic climate warming, vegetation is moving which means reindeer have to travel further for food. In order to do this they must adapt the range in which they travel currently. They also suffer from industrial development as their habitat is destroyed and built upon for houses etc.



# Serval

(Leptailurus serval)



**Habitat:** Savannahs with plenty of water, African bush with tall grass and dry reed beds.

**Distribution:** Servals are native to 38 countries in Africa. Some of these include Kenya and Zambia.

**Diet:** Servals are carnivores and will eat a variety of meat such as small mammals, birds, reptiles and insects.

**Lifespan:** In the wild they can live to around 10 years old and in captivity it can be 20 years.

**Population numbers:** Unknown however, the population is currently stable.

**Status:** Servals are listed as Least Concern by the IUCN as they are a widespread species and have a stable population.

## About our Serval

We have one female Serval here at Ponderosa Zoo and her name is Venus. Servals have the largest ears of any cat species and the longest legs in comparison to body size. Their large ears help them detect prey which makes them very successful hunters. Servals can make a kill 50% of the time. They can also jump 2.7 metres in the air in order to catch birds mid flight.

The main threat to Serval populations is the pet trade. Venus herself was rescued from the pet trade when she was just under a year old. Many Servals are taken from their mothers in the wild as kittens, in order to be bred to provide Servals in the pet trade. When kept as pets their needs are often not met and they are kept inadequately. Another threat to them is hunting. Servals have a very similar coat to Cheetahs and often get mistaken for one. This means they get hunted for fur. They are also hunted for sport in several areas of Africa.

Zoos and Conservationists are working hard in spreading the message of the pet trade to try and aid this species and many others. As well as teaching native people that they are not the pests they believe them to be.

# Pancake Tortoises

(*Malacochersus tornieri*)



**Habitat:** Savannahs and Scrublands.

**Distribution:** East Africa in Southern Kenya, Northern and Eastern Tanzania.

**Diet:** East Africa in Southern Kenya, Northern and Eastern Tanzania.

**Lifespan:** Up to 35 years in captivity and around 25 years in the wild.

**Population numbers:** Unknown.

**Status:** They are listed as Critically Endangered by the IUCN.

## About our Pancake Tortoises

A tortoise carapace is made out of keratin; this is the same thing our finger nails are made out of. They cannot go into their carapace as this is where all their bones and organs are kept.

Unlike other tortoises this species have a flat shell, hence the name pancake tortoise. Because of this, the shell is lightweight meaning they are the fastest of all tortoise species. They are also very good climbers.

The shell of a pancake tortoise doesn't provide as much protection as the shells of other tortoises. Due to this, if there is danger they will hide in and amongst rocks.

The main threat to pancake tortoises is habitat loss and destruction as well as the illegal pet trade. Agricultural development is the main cause of habitat loss. Measures have now been put in place to ban the export and trade of this species to help in protecting them.

# Pre-visit ideas

1. Learn key words with students so that they can further understand signage and information in this document (some vocabulary to learn is offered on the next page)

2. Do some background research on other species we have at Ponderosa Zoo

3. Cover and discuss the topic of animal adaptations



# Key words

<b>Habitat</b>	The place an animal lives (e.g. Wetlands, Rainforest etc.)
<b>Ecosystem</b>	A community of plants and animals that interact with each other in a specific habitat (e.g. A coral reef in the ocean)
<b>Species</b>	A group of animals that is made up of similar individuals and share similar characteristics. They can produce offspring together (e.g. Ring-tailed Lemur)
<b>Captivity</b>	To be kept in a confined and carefully controlled environment
<b>Endangered</b>	They might go extinct as there are not very many left and they have major threats effecting them
<b>Extinct</b>	All of this particular species is dead and cannot be found anywhere in the world
<b>Deforestation</b>	The act of cutting down and removing lot's of trees so that the land can be used for something else (e.g. farming etc.)
<b>Poaching</b>	The illegal hunting of wildlife
<b>Pollution</b>	Anything that is put in an area/nature and doesn't belong there (e.g. litter, chemicals etc.)
<b>Pet trade</b>	The illegal collecting of exotic animals from the wild to be sold and traded as pets
<b>Invasive species</b>	An animal or plant that has been placed in a new environment; accidentally or on purpose, where it takes over (e.g. Grey squirrels)
<b>Native species</b>	A plant or animal that is naturally found and belongs in a certain environment
<b>Carnivore</b>	An animal that eats mainly meat
<b>Herbivore</b>	An animal that mainly eats plants
<b>Omnivore</b>	An animal that will eat meat and plants
<b>Predator</b>	Something that hunts and eats animals

# During visit activity sheets

Below are some activities than can be completed whilst visiting the zoo to help keep students engaged.

1. Zoo Scavenger hunt

2. Zoo quiz

3. Endangered animal description- Different age level sheets

4. Zoo spotters guide

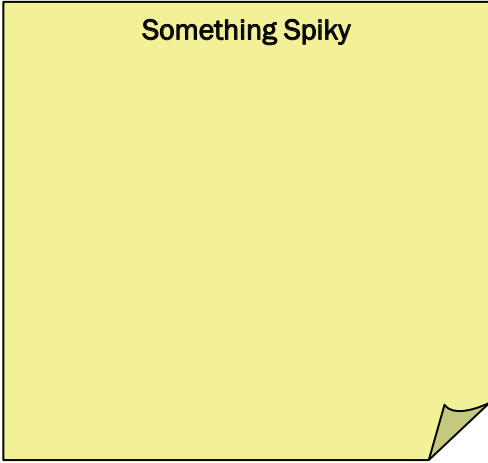
5. Animal behaviourist

6. Animal adaptation worksheet

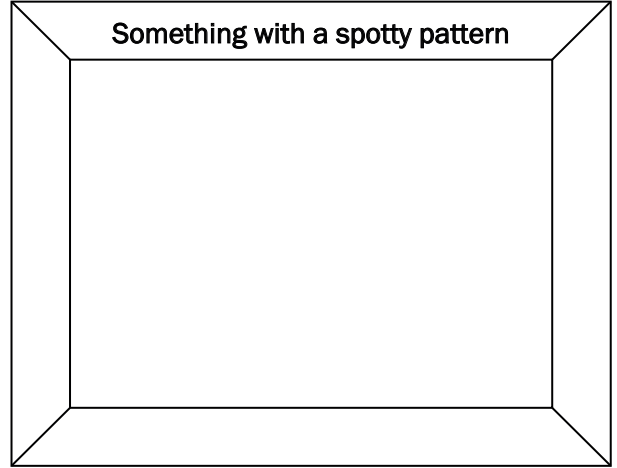
# Zoo scavenger hunt

Draw a picture of an animal or a thing you find around the zoo that matches each of the descriptions

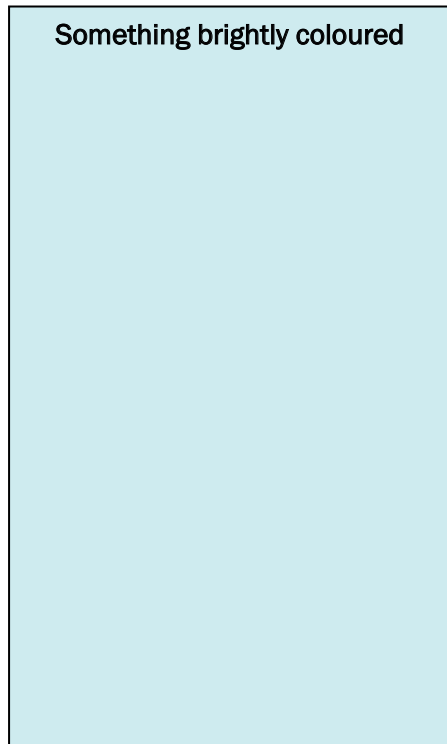
Something Spiky



Something with a spotty pattern



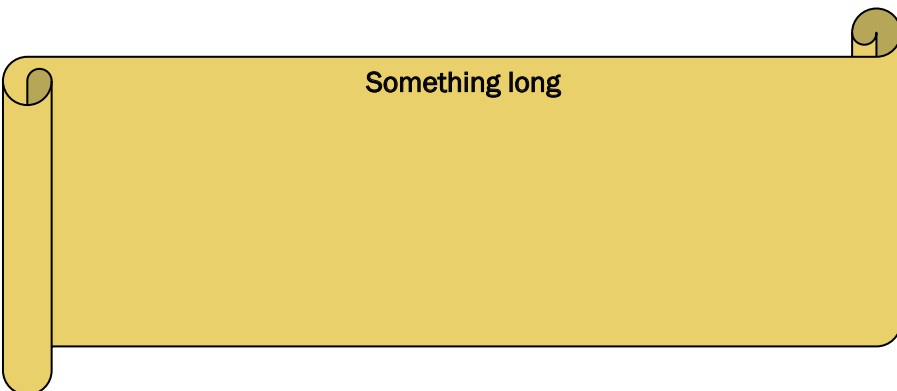
Something brightly coloured



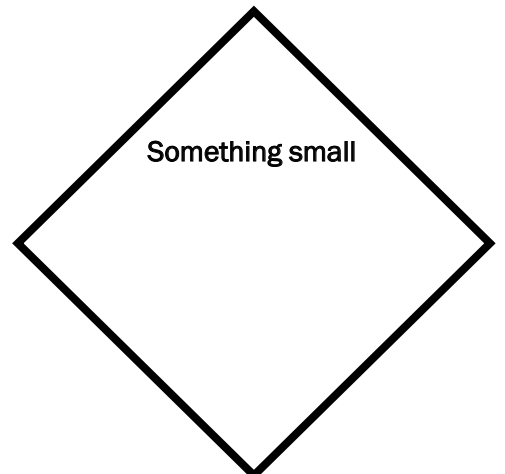
Something smelly



Something long



Something small





# Zoo quiz

Complete this quiz as you walk round the zoo, you may need to look carefully and read some signs

1. Where do Meerkats come from?

2. Name one conservation charity the zoo supports.

3. Which type of parrot do these feathers belong to?



4. Who does this footprint belong to?



5. How high can Servals jump?

6. What is the Scientific/Latin name for Reindeer?

7. What IUCN Conservation Status do Black and White Ruffed Lemurs have?

8. What are Scottish Wildcats also known as?

# Endangered Animal description- Higher level

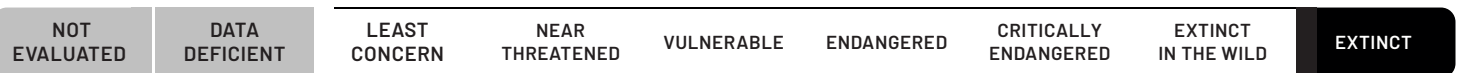
Whilst in the zoo, fill out the following information about 1 animal of your choice

Species Name:

Scientific Name:

Describe the classification of this species (Is it a vertebrate? Is it a mammal? How do you know?)

IUCN Red List Status (Circle the correct one- this can be found on the signs)

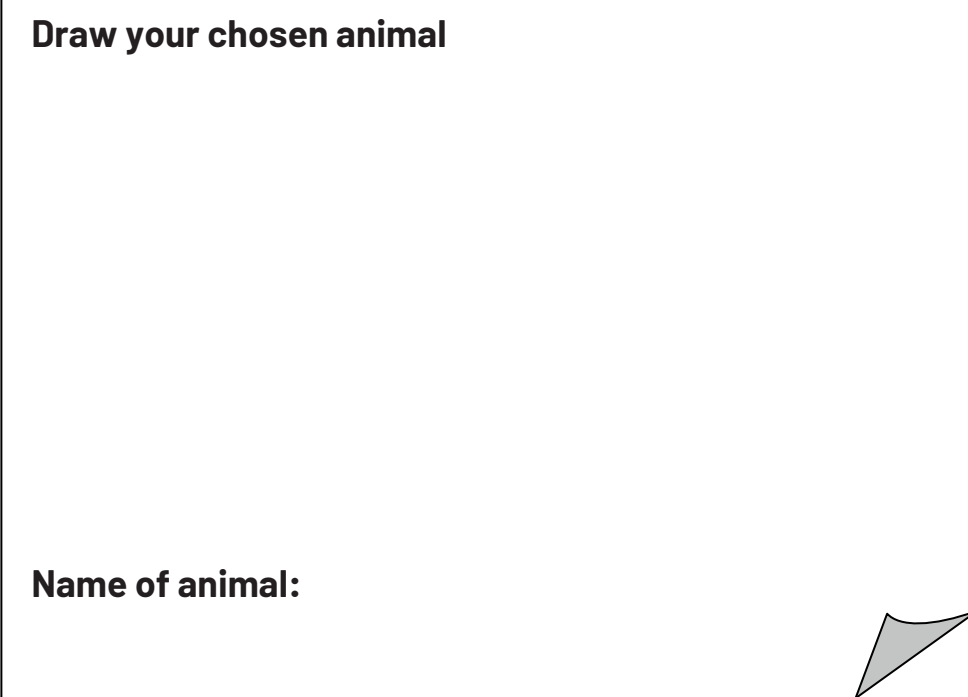


Write down one interesting fact about the species:

# Endangered Animal description- Lower level

Choose 1 animal and fill out the information below

**Draw your chosen animal**



**Name of animal:**

**This animal eats:**

**It comes from:**

**Its habitat is:**

**Something special about this animal is:**

**It is (Circle one):**

NOT  
EVALUATED

DATA  
DEFICIENT

LEAST  
CONCERN

NEAR  
THREATENED

VULNERABLE

ENDANGERED

CRITICALLY  
ENDANGERED

EXTINCT  
IN THE WILD

EXTINCT

**Because of:**



# Zoo spotters guide

Tick off the animals on the sheet when you have found them



# Animal behaviourist

Choose an animal and observe it for 10 minutes. When it does one of the following things, mark it down.

**Name of animal:**

<b>Walks/runs/flies/swims</b>	<b>Sleeps</b>	<b>Eats</b>	<b>Makes a call sound</b>
<b>Sits</b>	<b>Drinks</b>	<b>Lies down</b>	<b>Plays</b>

How can you tell your animal apart from the rest of the group?

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Is your animal the leader of the group? How can you tell?

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What did your animal do the most? Why do you think it did that?

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Is there anything for the animal to play with? What was it?

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Did your animal play with it?

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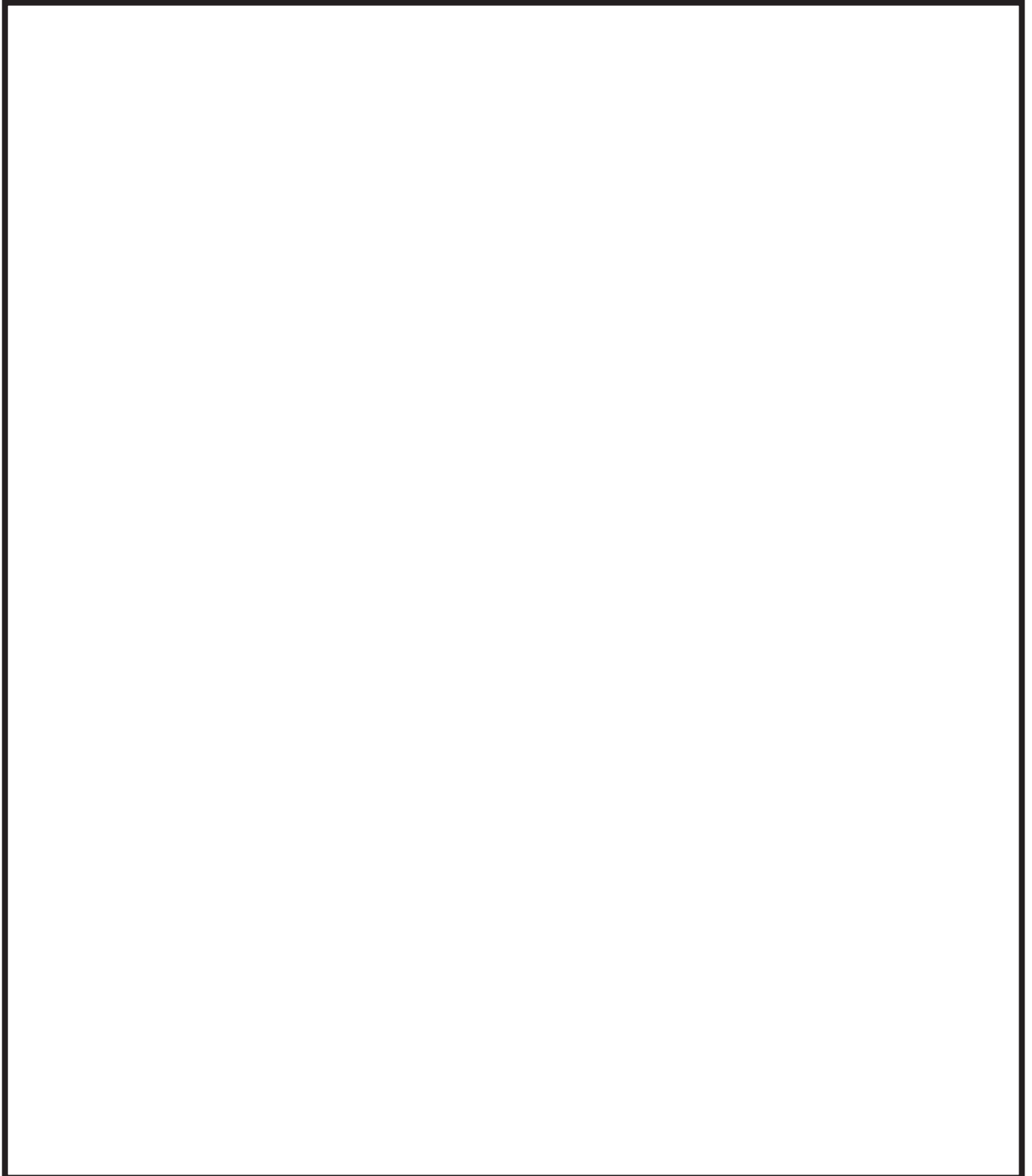
What would you give the animal to play with?

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# Animal Adaptation worksheet

Choose an animal and draw it. Label the parts of the animal that are their adaptations and then describe each one (Why they have them, Why they look like they do etc.)

A large, empty rectangular box with a black border, intended for a student to draw an animal and label its adaptations. The box occupies most of the lower half of the page.



# Post visit activity ideas

Below are some activities that can be used back in the classroom to help students re cap on what they learnt whilst visiting the zoo, as well as put their new knowledge to the test.

1. Discuss as a class what was learnt from their time at the zoo
2. Create a poster showing an animal in its natural habitat. Describe the key features of the habitat.
3. Research other animals and what habitats they are found in.
4. Create one of the habitats discussed above in a tank, shoebox, jar etc.
5. Role play-pretend to be an animal living in one of the harsh habitats. What is it like? How do you feel? How do you move? Etc.