

# **Teachers Tour guide pack: Endangered Animals**

## **KS1 Upwards**

This pack is designed to aid teachers in leading a fun but educational tour to their students about endangered animals and the flagship species Ponderosa Zoo holds.

# Contents

How to use this pack.....	4
Background information- About Zoos .....	5
Education .....	6
Research.....	6
Recreation.....	6
Background information- Ponderosa Zoo.....	7
Background information- Conservation classification.....	8
Not Evaluated (NE).....	8
Data Deficient (DD).....	8
Least Concern (LC) .....	8
Near Threatened (NT).....	8
Vulnerable (VU).....	8
Endangered (EN).....	9
Critically Endangered (EN) .....	9
Extinct in the Wild (EW).....	9
Extinct (EX).....	9
Background information- Why animals become endangered.....	10
Over hunting/ over exploitation .....	10
Poaching.....	10
Habitat loss .....	10
Climate change.....	10
Pollution.....	10
Invasive species.....	11
Map of Ponderosa Zoo.....	<b>Error! Bookmark not defined.</b>
Animal Fact file- Scottish Wildcats.....	12
Animal Fact file- Black and White Ruffed Lemurs.....	13
Animal Fact file- Asian Short Clawed Otter.....	14
Animal Fact file- Serval.....	15
Animal Fact file- Ring-tailed Lemur.....	16
Pre-visit ideas.....	17
Key words.....	18
During visit activity sheets.....	19



Zoo quiz.....	21
Endangered Animal description- Higher level .....	22
Endangered Animal description- Lower level .....	23
Zoo spotters guide .....	24
Animal behaviourist.....	25
Post visit activity ideas .....	26

## How to use this pack

The first few pages of this pack are designed to give teachers background information outlining Zoos, Ponderosa Zoo, Conservation Classification and the main issues causing animals to become endangered. 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.

## Background information- About Zoos

A zoo is an establishment which keeps a collection of wild animals; typically in parks or gardens, for the purpose of study, conservation, education or display to the public.

Zoos were originally wealthy people's private collections of exotic animals; these were known as menageries. Public zoos became popular in the 18<sup>th</sup> century during the age of enlightenment. During this time, zoology became an area of research in order to study animal behaviour. The first modern zoo was built in 1793 in Paris. This was called Ménagerie du Jardin des Plantes. Early zoos such as this were more like museums of living animals, rather than animals in natural habitats that we are used to seeing today. Animals were kept in tiny areas with as many species as could fit in it. Today, zoos are regulated and inspected by the government and have sets of rules and guidelines they must abide by, in order for the best welfare for the animals. Most good zoos are members of BIAZA, EAZA or WAZA which are organisations that ensure these guidelines are being met.

Historically the main purpose of a zoo was to just display animals to the public however; modern zoos have changed their purpose and goals.

The 4 main goals of a modern zoo are:

- Conservation
- Education
- Research
- Recreation

### **Conservation**

One of the main aims of zoos is conservation. Captive breeding of endangered species allows us to have population safety nets, meaning if they go extinct in the wild, we have a captive set that can be released. They also go into the field and aid conservation projects across the globe.

Ponderosa supports 5 different charities that we help raise money for through various events and keeper talks. These charities are:

- The World Parrot Trust
- International Animal Rescue
- TRAFFIC
- The Amphibian and Reptile Conservation Trust
- Scottish Wildcat Action



**Ponderosa  
Zoo**

### **Education**

Zoos have a duty to educate the public on different species of animals, their threats and what they can do to help. This is highly important if we want to see certain species in the future. Most zoos have educational programmes for schools groups, signage and displays at animal enclosures and keeper talks.

### **Research**

Research is very important to zoos. It allows for more in depth knowledge in enclosure design, animal behaviour, husbandry techniques etc. By having this knowledge they can ensure the animals' needs are correctly met and it can also be transferred over to help save animals in the wild.

### **Recreation**

In order for zoos to meet their goals they need visitors and for visitors to enjoy themselves. It allows for the visitors to gain a respect for certain animals and want to care for them. This is vital for the protection of species.

## Background information- Ponderosa Zoo

Ponderosa Zoo is small zoo in Heckmondwike. We were set up in 1992 as a rare breed's farm. Our original purpose was to be a therapeutic centre for people with disabilities and people with learning difficulties.

We are home to over 120 animals including some domestic species and some exotic species. Our animals range from pigs to reindeer, lemurs to otters, reptiles and many more. We recently became a BIAZA member in 2017 which means we treat our animals well and work up to a high standard when it comes to animal husbandry.

Our personal mission is to educate people of all ages and backgrounds on the natural world and the threats species face on a daily basis. We aim to promote the work zoo's do globally through education surrounding conservation.



# Background information- Conservation classification

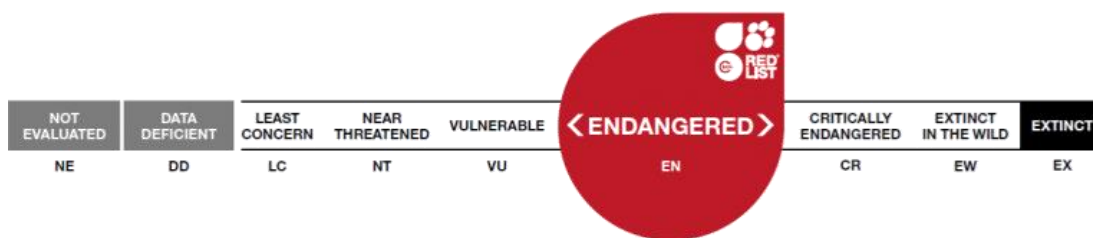
The International Union for the Conservation of Nature (IUCN) created a list of all the species that were threatened with extinction. This list is called the IUCN Red List. This was created in 1964.

The animals are assessed and given a classification based off of:

- Rate of population decline
- Population size
- Amount of population fragmentation
- Current risks to the population
- Geographic distribution

This list is reviewed regularly and animals can move up or down it.

The categories are



## Not Evaluated (NE)

These are animals that have not been assessed against the above criteria

## Data Deficient (DD)

This means there isn't enough information on the species to make an accurate assessment

## Least Concern (LC)

Least Concern animals are at the lowest risk of extinction. It means they are widespread and that there are a lot of individuals in the population.

## Near Threatened (NT)

These species are still quite low risk however; they are likely to drop into the threatened category (Vulnerable).

## Vulnerable (VU)

The animals in this category are now considered threatened. There is now a risk that they could become endangered in the wild if their population continues to decline.

**Endangered (EN)**

Again, the animals in this category are threatened and there is a very high risk that these animals will become extinct in the wild if not correctly managed.

**Critically Endangered (EN)**

These species are likely to go extinct unless drastic action is taken. However, these populations are too far gone to save.

**Extinct in the Wild (EW)**

These species only survive in captivity.

**Extinct (EX)**

The last individual from this species population has died and they now no longer exist in the wild or captivity.

More than 27,000 species are threatened with extinction:

- 40% of amphibians
- 25% of mammals
- 34% of conifer species
- 14% of bird
- 31% of sharks and rays
- 33% of coral reefs
- And 27% of crustaceans are threatened with extinction



# Background information- Why animals become endangered

It is important to know and understand why animals become endangered as a lot of the reasons are caused by humans. If we understand the causes we can better prevent them.

The main reasons include:

- Over hunting/ over exploitation
- Poaching
- Habitat loss
- Climate change
- Pollution
- Invasive species

## **Over hunting/ over exploitation**

Over hunting is when one species is hunted/used too much for things such as food. This means they don't have enough time to breed and increase the population which leads to the population decreasing. This is very unsustainable and is a major problem in the fishing industry.

## **Poaching**

Poaching is the illegal hunting of wildlife. Hunters poach animals for their horns, tusks, skin etc as they can make a lot of money from these products. Especially from ivory; (elephant tusks). This is having a big impact on certain species such as elephants, rhinos and tigers.

## **Habitat loss**

Habitat loss due to destruction, fragmentation, encroachment etc is one of the biggest threats to wildlife. One of the major causes of destruction to habitats is deforestation. This is happening because of agriculture and mining etc. Loss of habitat is causing animals to lose their homes, they have less places to breed and less food available.

## **Climate change**

Climate change is causing environments and conditions to change drastically meaning animals are struggling to adapt and survive. If the animals can't adapt they die out.

## **Pollution**

Pollution is something that doesn't belong in the environment. This can be anything from chemicals in water sources to plastic in bushes etc.

Pollution is affecting animal's homes and food sources. Many animals are now ingesting these pollutants which are affecting them massively.



**Invasive species**

Invasive species are animals or plants that are introduced into an environment that they don't belong in. This causes the native species to have competition for food and habitats, as well as it unbalancing the natural ecosystem. Some examples of invasive species include grey squirrels, signal crayfish and Himalayan balsam etc.

# Animal Fact file- 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 number:** 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.

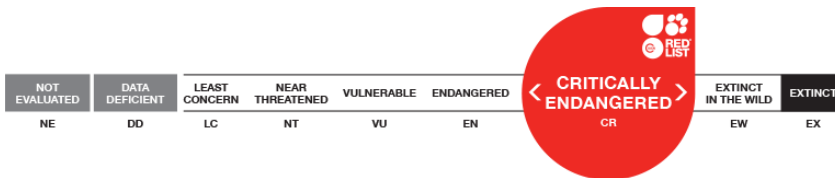
Zoos are working hard to breed these cats back to purebreds so that they can be released back into the wild. We are hoping to introduce a male to our females so we too can take part in the breeding programme.



Ponderosa  
Zoo

# Animal Fact file- Black and White Ruffed Lemurs

## (*Varecia variegata*)



**Habitat:** Rainforests.

**Distribution:** Eastern Madagascar.

**Diet:** They eat fruit, seeds, leaves and even nectar.

**Lifespan:** Around 18 to 20 years in the wild and 20 to 25 years in captivity.

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

**Status:** Black and White Ruffed Lemurs are classified as Critically Endangered by the IUCN and have a decreasing population.

### About our Lemurs

We have 3 male Black and White Ruffed Lemurs. They are called Amina, Julian and Oddbod. Oddbod is the smallest of the 3 and Julian is the largest.

You may hear the lemurs calling. Black and White Ruffed Lemurs are one of the most vocal of the lemur species. The call is also said to be the second loudest out of all the primate species. They use these calls in the wild to warn other lemurs of predators, to call for mates and also to protect their territory.

They are a very social species and in the wild would live in groups of around 16. The females in these groups are dominant over the males.

The lemur's main threat is habitat loss caused by deforestation. This is done in order to create room for agriculture, to allow for mining and for logging. Almost 90% of forests in Madagascar have been destroyed. Because of this, they are losing homes, food sources and becoming fragmented. This means they cannot reach other populations in order to breed. As a result the gene pool is weakening and the population is declining.

Zoos and national parks in Madagascar are protecting this species through close management and breeding.



Ponderosa  
Zoo

# Animal Fact file- Asian Short Clawed Otter (*Aonyx cinereus*)



**Habitat:** Wetlands, rivers, streams, mangroves.

**Distribution:** Asia, Philippines, Taiwan, China and India.

**Diet:** They mostly eat crustaceans, molluscs and fish. However they will occasionally eat small mammals, insects and even snakes.

**Lifespan:** Around 8-10 years in the wild and up to 20 years in captivity.

**Population numbers:** An estimated 5,000 individuals left in the wild

**Status:** They are currently classed as Vulnerable with a decreasing population. They could soon be reclassified due to this.

## About our Asian Short Clawed Otters

We have 3 male Asian Short Clawed Otters, Vinnie, Ollie and Mr. Chips. Vinnie is the smallest of the 3 with a pink nose. Ollie is the biggest and Mr. Chips is in the middle.

This species of otter is also known as Asian Small Clawed Otters. They are the smallest species of otter and spend less time in the water than the other species. This is because they only have partially webbed feet.

You will often see our trio sticking closely together, this is because in the wild they are very social animals. They will often be found in groups of around 10 to 12. They are also very vocal and use a variety of calls to communicate within these groups. Some calls include, barks, whistles and chattering noises.

The biggest threat to Asian Short Clawed Otters is habitat destruction. Habitat destruction is mainly occurring to make room for agriculture and housing. This is causing the loss of streams. Wetlands and mangroves (a big part of the otters habitat) are being drained to allow for fish farms. This also portrays the otters as pests due to them going to eat the fish.

There are certain legislations put in place to help protect this species. However, these do not apply in all of the countries they can be found in.

# Animal Fact file- 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.

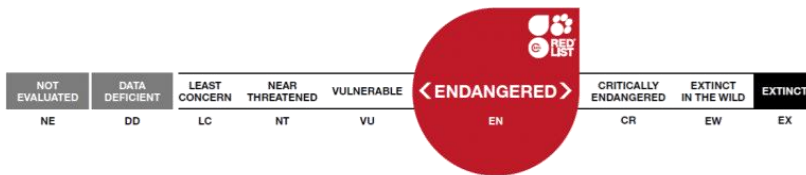
Servals have the largest ears of any cat species and the longest legs in comparison to body size. Their large ears help them detect prey which makes them very successful hunters. Servals can make a kill 50% of the time. They can also jump 2.7 metres in the air in order to catch birds mid flight.

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.

# Animal Fact file- Ring-tailed Lemur (*Lemur catta*)



**Habitat:** Lowland forest, dry scrubland areas, rocky canyons.

**Distribution:** Madagascar.

**Diet:** Their main diet is leaves, fruit, flowers and sap. They will also eat bark and occasionally insects.

**Lifespan:** Around 15-16 years in the wild and 20-30 years in captivity.

**Population numbers:** There is an estimated 2,000- 2,400 left in the wild.

**Status:** Listed as Endangered by the IUCN.

## About our Ring-tailed Lemurs

We have 5 Ring- tailed Lemurs here at the zoo; 3 females and 2 males. They are called Zuri, Lexi, Anya, Percy and Rakoto. Percy has a very long nose, narrow face and yellow eyes. Anya has a narrow face too but has darker orange eyes compared to Percy. Lexi has a rounder face with puffier cheeks. Zuri has yellow eyes like Percy but has a wider face and tufts on the tips of her ears. Rakoto has very dark eyes and a small face, with less ear fluff than the others.

Ring-tailed Lemurs get their name from the distinct bands present on their tail. They usually have 13 rings on their tail. Their tails are very important when it comes to balancing during climbing and jumping.

They are social animals and tend to have a larger group size than other species of lemur. The group sizes are between 3 and 25 individuals.

Unlike the Black and White Ruffed Lemurs, vocalisations are not very important to this species. Instead they use scent marking. This is done by both males and females and is used to fight and establish dominance. The very little vocalising they do consists of barks.

The main threat to Ring- tailed Lemurs is habitat loss caused by agriculture, logging and mining. This species is also often caught up for the pet trade. Within the last 24 years, 20-25% of the Ring-tailed Lemur population has declined.



## 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 endangered animals
4. Cover the topic of extinction and allow for students to express their feelings about it through letter writing, drawing, storyboards etc.

## 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>Legislation</b>	A law or set of rules that is put into place for a particular purpose such as, protecting a species
<b>Predator</b>	Something that hunts and eats animals
<b>Prey</b>	Something that is eaten by animals

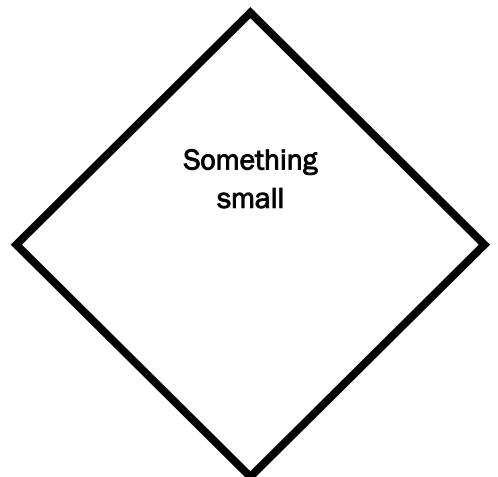
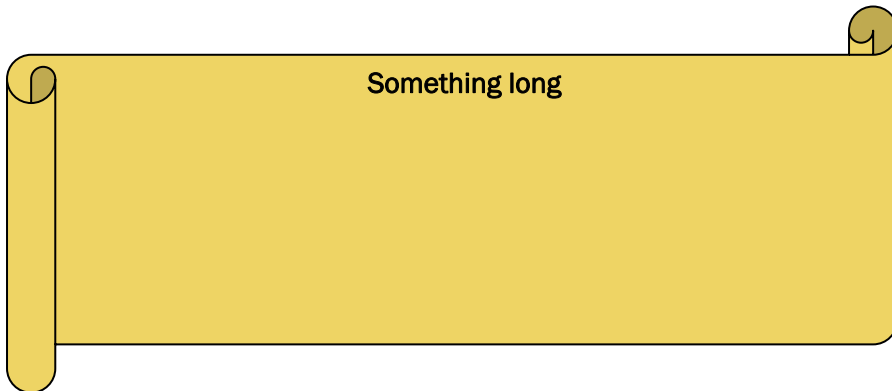
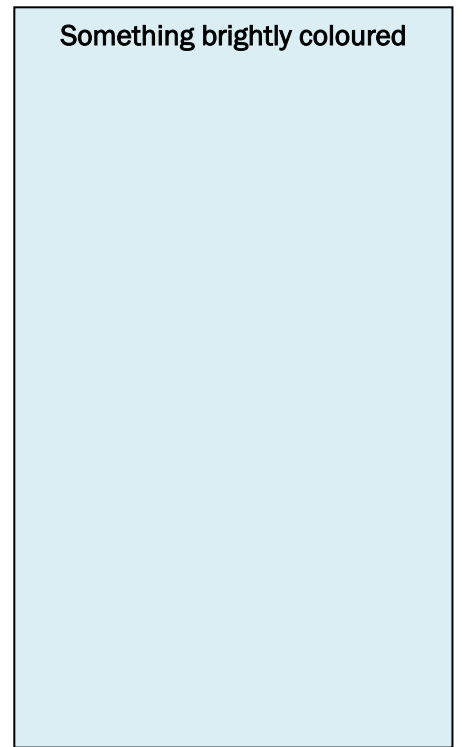
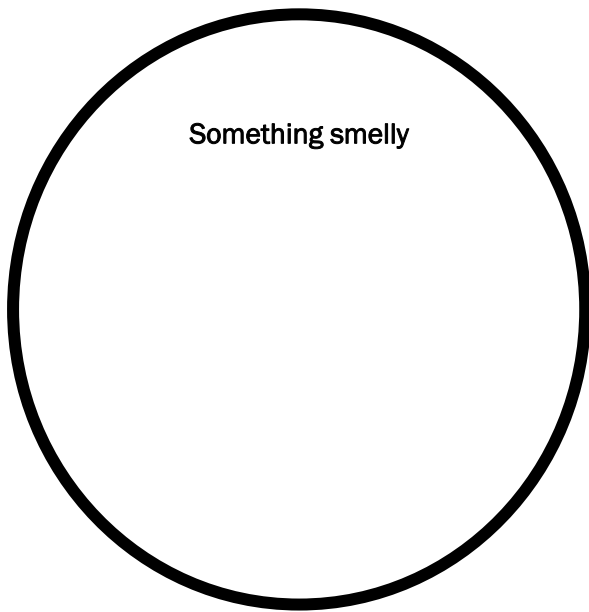
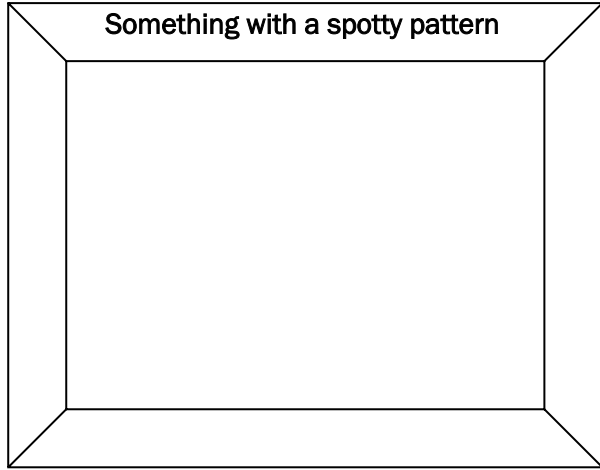
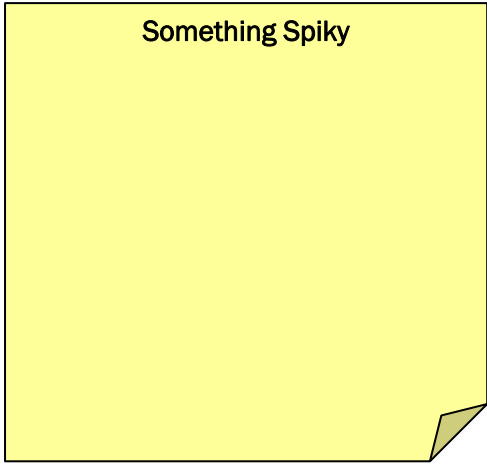
## During visit activity sheets

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

# Zoo scavenger hunt

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



## 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)

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

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:

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This animal eats:

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It comes from:

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Its habitat is:

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Something special about this animal is:

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It is (Circle one):

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

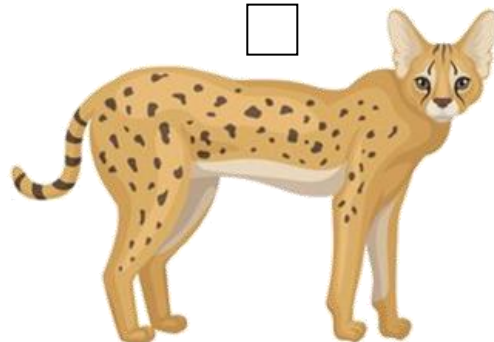
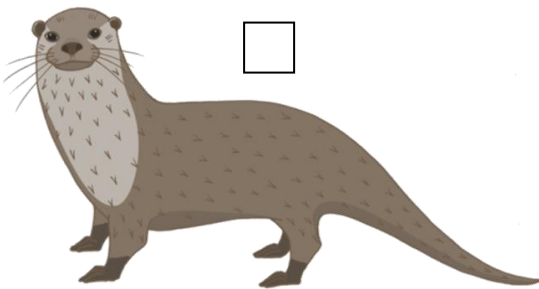
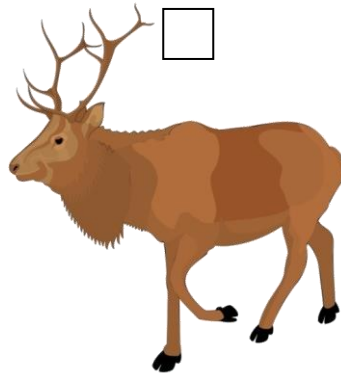
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# Zoo spotters guide

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:

Walks/Runs/flies/swims	Sleeps	Eats	Makes a call sound
Sits	Drinks	Lies down	Plays

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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## 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 aiming to help save endangered species (Include: why they need saving, facts about the animal, pictures etc.)
3. Research an extinct species and write about it (Include: When it went extinct, why, what it looked like etc.)

