

## African Savannah



## Overview

**Purpose** – To raise awareness of the ways in which animals interact with, and adapt to, life in the African Savannah.

**Description** – Students examine the interdependence of life through examining simple predator-prey relationships as well as examples of animal adaptations for survival. They are also introduced to conservation strategies to help preserve the biodiversity of the savannah ecosystem.

**Duration** – 45 minutes.

**Conservation Message** – The relationship between the plants and animals in the African Savannah is very delicate. Poaching, habitat destruction and the tourist trade in animal artifacts are threatening the survival of many African species.

## Links to Curriculum

**Sc**  
Science

**Life and Living** – Students understand their own biology and that of other living things, and recognise the interdependence of life.

**V**  
Values

**Environmental Responsibility (Diversity of Species)** – Each person should recognise a need to preserve native habitats and arrest the extinction of presently-surviving native species.

**S+E**  
Society &  
Environment

**Place and Space** – Students understand that the interaction people have with places in which they live is shaped by the location, patterns and processes associated with natural and built features.



## Enriching Your Experience

The Education team at Perth Zoo whole-heartedly supports an approach to conservation education that incorporates cooperative, discovery and student-centred learning, including experiences that are interactive, engaging and fun. We hope to light a spark within children's minds, and ultimately allow them to make informed choices which will make a difference to the world around them.

## Topic Web

Your Education Experience at Perth Zoo can be a great springboard for exploring a range of topics within the classroom. You might like to consider the following to enrich your topic.

### Diet

- carnivores
- herbivores
- omnivores

### Adaptations

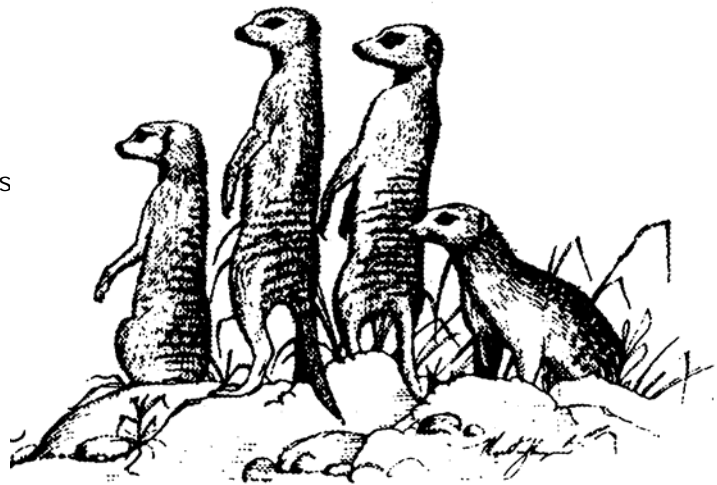
- finding food
- finding water
- reproduction
- camouflage
- defence

### Savannah Species at Perth Zoo

- Cheetah
- Rothschild's Giraffe
- Hamadryas Baboon
- Spotted Hyaena
- African Lion
- Slender-tailed Meerkat
- African Painted Dog
- Southern White Rhinoceros
- Grant's Zebra

### Threats and Action

- land clearing
- introduced species
- hunting & poaching
- poverty
- breeding programs
- release and monitoring
- conservation groups



### Social Relationships

- names of family groups/collective nouns
- hunting behaviours
- living in groups or solitary way of life

## Before, During and After...

### Before Your Zoo Visit

It would be very useful to consider the following topics prior to your 'African Savannah' Zoo education experience.

Feeding Relationships – An introduction to simple food webs, involving terms such as producers (plants), herbivores (plant-eaters), carnivores (meat-eaters).

Habitats – Overview of the different types of habitats in Africa: savannah, deserts, rainforest, coastal etc

Adaptations for Survival on the Savannah – Adaptations for protection, obtaining food, reducing water loss and temperature control.

### At the Zoo

*Please assemble at the designated meeting place at least five minutes prior to your education experience.*

Activity sheets for your class visit can be downloaded from Perth Zoo's website. Follow the links to Education Experiences for Middle Childhood. Feel free to photocopy these for your visit to the Zoo. Don't forget that drawing and photography are also great ways to record an experience.

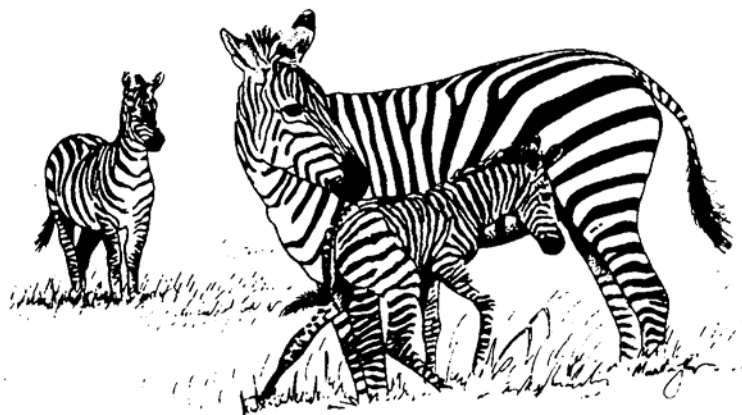
### Back at School

The 'African Savannah' Education Experience explores the interdependence of life through examining simple feeding relationships and examples of animal adaptations for survival. Students are also introduced to conservation strategies to help preserve the biodiversity of the savannah ecosystem. Consider exploring some of the ideas below in addition to those from the 'Topic Web' on page 2 to extend your students further.

Creative Presentation – As an alternative to a written report, students could research a topic and incorporate this information in a form such as a board game, TV game show or an Arts project.

Food Chains – Consider various food chains for African animals. Compare the effect of introduced species and other human impacts on these food chains.

Action! – Find out more about or get involved with conservation projects in the wild such as Painted Dog Conservation Inc <[www.painteddogconservation.iinet.net.au](http://www.painteddogconservation.iinet.net.au)>. Alternatively consider some projects for your own 'backyard' such as planting some native trees or even develop a litter reduction strategy for your school.



## Resources and Support

### Audiovisual

*Africa: The Serengeti* 2002, DVD, RajonVision, USA.

Go on an extraordinary journey through East Africa to view spectacular mass migrations of wildebeasts, zebras and antelope and the predators that pursue them.

### Online

Painted Dog Conservation Inc 2007, Perth, viewed 22 August 2007

<[www.painteddogconservation.iinet.net.au](http://www.painteddogconservation.iinet.net.au)>

This organisation's mission is to conserve and increase the range and numbers of the African Painted Dog by providing conservation tools and education material that can be used to protect this endangered carnivore.

Perth Zoo 2007, Perth, viewed 22 August 2007 <[www.perthzoo.wa.gov.au](http://www.perthzoo.wa.gov.au)>.

Perth Zoo's website contains information including species profiles and information on endangered species. Follow the 'Schools' link for an overview of available education experiences and resource materials.

International Rhino Foundation 2002, viewed 22 August 2007 <[www.rhinos-irf.org](http://www.rhinos-irf.org)>

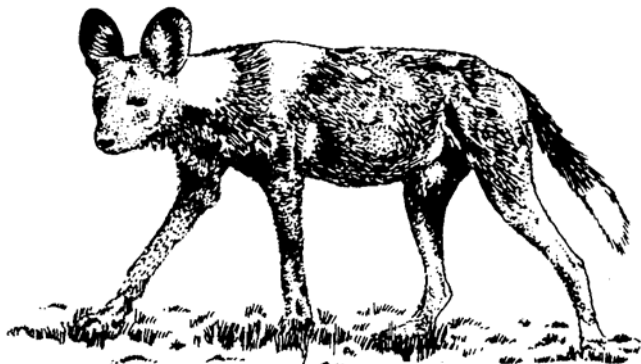
The International Rhino Foundation is a not-for-profit organisation dedicated to the worldwide conservation of the five living species of rhinoceros: Black, White, Indian, Javan and Sumatran.

## Booking your 'African Savannah' Education Experience

You have three options for booking your excursion –

- Option 1 – complete the **Online Booking Form** ([www.perthzoo.wa.gov.au/edbooking](http://www.perthzoo.wa.gov.au/edbooking)). This is the best option for bookings of either one or two classes from your school for a single visit.
- Option 2 – complete the **Booking Request Form** ([www.perthzoo.wa.gov.au/bookinginfo](http://www.perthzoo.wa.gov.au/bookinginfo)) and return it by **fax or mail**. This is the second best option for bookings of either one or two classes from your school for a single visit.
- Option 3 – **telephone** our Bookings Officer on 9474 0365. This is the best option if booking three or more classes from your school or multiple visits.

You will receive a written confirmation for your booking within seven working days. Please telephone 9474 0365 if you do not receive a letter within this time. We will endeavour to fulfil your booking request and will contact you by telephone if we are unable to do so.



## African Savannah: The Ecosystem

The savannah habitat comprises much of east Africa including the countries of Kenya, Tanzania, Botswana, Mozambique, Zambia and Uganda. It is tropical grassland, open or dotted with trees and rocky outcrops.

### Climate

There are no winter and summer seasons on the savannah but usually two rainy seasons and two dry seasons a year. This varies according to latitude and may consist of one very short, wet season and one long, dry season. The changes between the wet and dry seasons are drastic and plants and animals must adapt to survive.

### Seasonal Habitat Changes

During the wet seasons, although rainfall is high, most of the water does not soak into the soil but collects or becomes runoff. Drinking water is abundant and humidity is high, reducing evaporation. New aquatic habitats are created. Reproduction and growth are prolific as food for all species is in good supply.

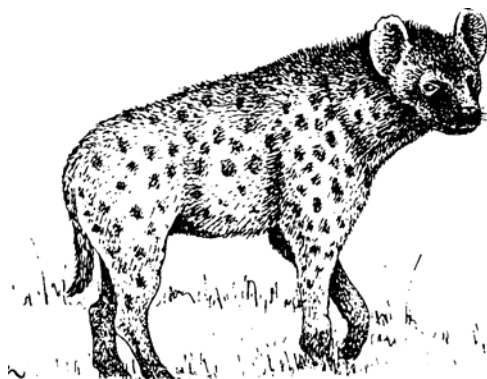
During the dry seasons, only permanent water remains and low humidity makes water loss extreme. Many small animal species either aestivate or die, in some cases leaving their eggs to hatch with the rains. Large animals must migrate, change their diet, or do without food and water. Fires occur during the dry seasons, encouraging re-growth of grasslands.

### Plants

The savannah grassland consists of many species of grasses (Elephant Grass, Kikuyu), clovers and other legumes, small herbs and succulents. The larger plants which are scattered through the grasslands show the characteristic narrow, shiny leaves of drought resistant plants. Many species, such as the Acacias, also have long spines to deter browsers.

### Animals

The perfect conditions for plant growth during the wet season mean the habitat can support a profusion of animal life of great diversity. Herbivores make up the great bulk of these, with species ranging from insects such as grasshoppers, to large ungulates such as zebra and giraffe. These in turn support an enormous number of carnivorous birds, mammals and reptiles. Scavengers, including vultures and jackals, also play a large part in this ecosystem.



## African Savannah: Diversity

The number of species of animals present from season to season varies as a result of the following factors:

**Life-cycles** – many invertebrates and amphibians, such as grasshoppers and frogs, lay eggs and then die at the beginning of the dry season. The eggs do not hatch until the next rains.

**Aestivation** – species which aestivate (go into a period of dormancy), such as snails and tortoises, are not visible during the dry season.

**Migration** – animals dependent on daily water such as zebra, wildebeest and oryx move to areas with permanent water during the dry season. Migratory birds such as eagles, swallows and storks arrive with the rains from North Africa and Europe to escape the northern winter.

**The population size of any one species is influenced by several factors:**

**Water availability** – most species reproduce at the beginning of the rains but carnivorous, aquatic birds reproduce when water is low and fish are easy to catch.

**Food availability** – infant mortality in big cats increases as food becomes scarce; scavengers are more abundant when other animals are dying from starvation.

**Predation** – the ratio of predator to prey has been found to be remarkably constant in different areas.

**Parasites and diseases** – parasites take their toll on weakened members in a population. Trypanosomiasis (sleeping sickness) is carried by most species of savannah mammals and transferred between species and to humans by the Tsetse Fly. Certain species appear to show resistance while it is fatal to others.

**Fire** – both natural and man-made fires occur frequently, preventing the development of bush land but encouraging grasslands which generate well after fires.

