

Learn something new!



African Adventure Teacher's Support

Dublin Zoo opened its doors on September 1, 1831, making it one of the oldest zoos in Europe. We now have over 545 animals which include 119 different species and 32 subspecies within our 28 hectares



Dublin Zoo And Education

Dublin Zoo's rich biodiversity is a great tool to help stimulate learning and lifelong appreciation of the natural world. Environmental education encourages students to become engaged in real life issues currently threatening our planets ecosystems and biodiversity. Today's young people will have an important role to play in the stewardship of our shared planet, therefore the education role of zoos is to interpret living collections to attract, inspire and enable people from all walks of life to act positively for conservation.

Conservation

The primary aim of a zoo is to promote the conservation and survival of our planets species. The World Association of Zoos and Aquaria (WAZA) is the unifying organisation providing partnership of all zoos around the world. This is broken down further into EAZA for European zoos and BIAZA for zoos in Britain and Ireland. The European Endangered Species Programme (EEP) is a successful breeding programme by EAZA which aims to conserve and protect captive populations of endangered species by ensuring genetic diversity and preventing inbreeding. All zoos involved with these organisations and programmes must be of a high standard and follow strict protocol in order to keep animals in a comfortable and engaging environment whilst also fulfilling the primary aim. This is carried out through public engagement, wildlife conservation, research and education.



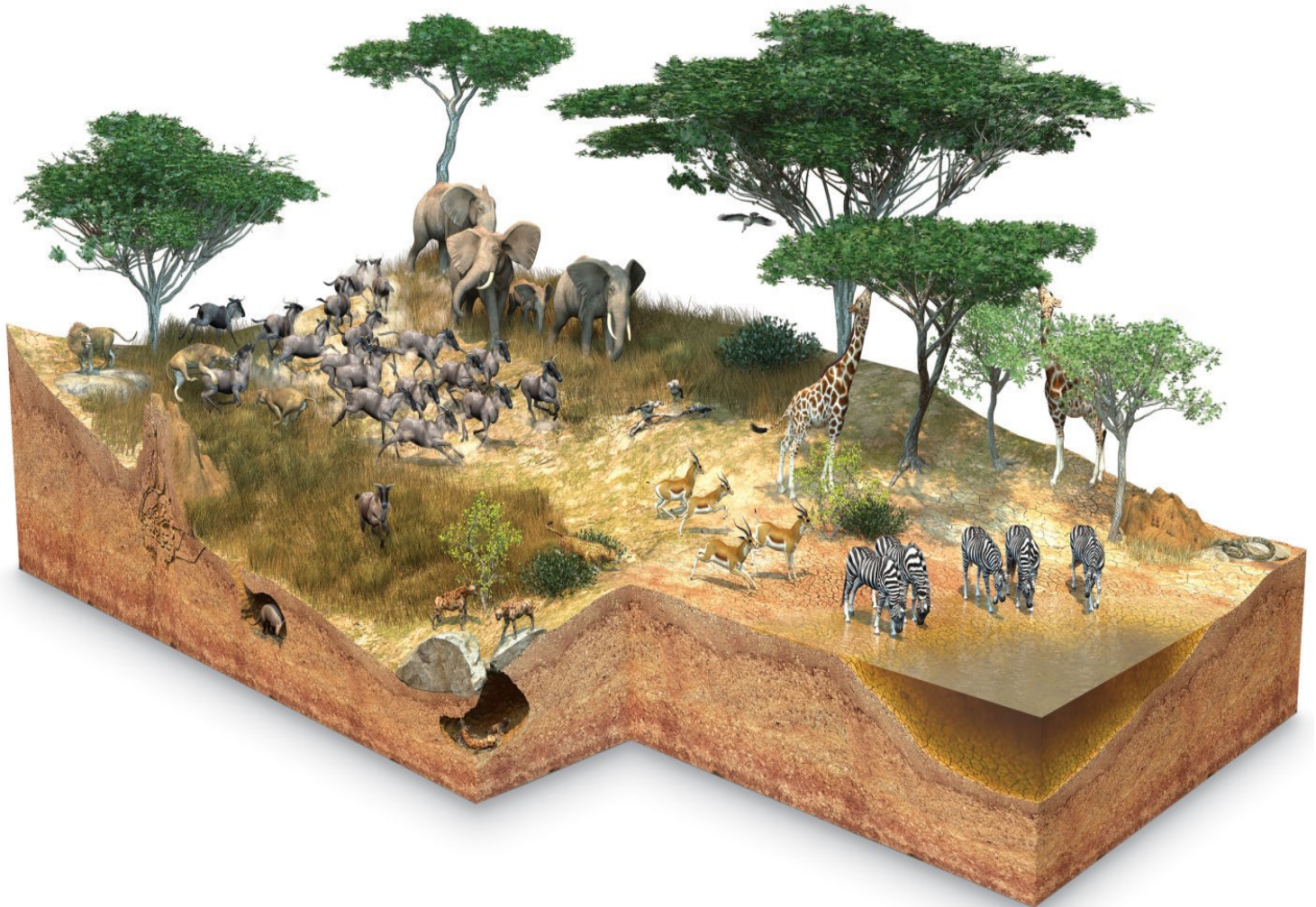
On your trip you will venture through our African Plains, the home of our savannah and rainforest residents. This journey will teach your students about African ecosystems and biodiversity while highlighting the importance of conserving our natural world. This teacher's support will provide you with an introduction to Dublin Zoo's role in conservation, threats currently facing Africa's wildlife and the IUCN Redlist of endangered species as well as a few facts and figures which will help your class get the most from your Dublin Zoo primary programme.



Learn something new!

African Ecosystems and Biodiversity

Savannah:



The savannah is covered and dominated by grass. This helps to support a vast variety of large, group living, herbivorous mammals including elephants, zebra, warthogs and giraffe. The savannah experiences prolonged periods of both wet and dry climates leading to a varied availability of food.

Animals must migrate over huge distances to ensure they have enough food and find optimal habitats for breeding. Millions of wildebeests and zebra take part in the Serengeti wildebeest migration in Kenya annually in order to ensure that they have enough resources to survive.

An area full of herbivores will always attracts carnivorous animals like African painted dogs, lions, leopards and cheetahs. This predator-prey relationship is crucial for the survival of many delicate food chains. If one species were to disappear, a knock on effect would cause many animals to go hungry and populations could diminish.



Learn something new!

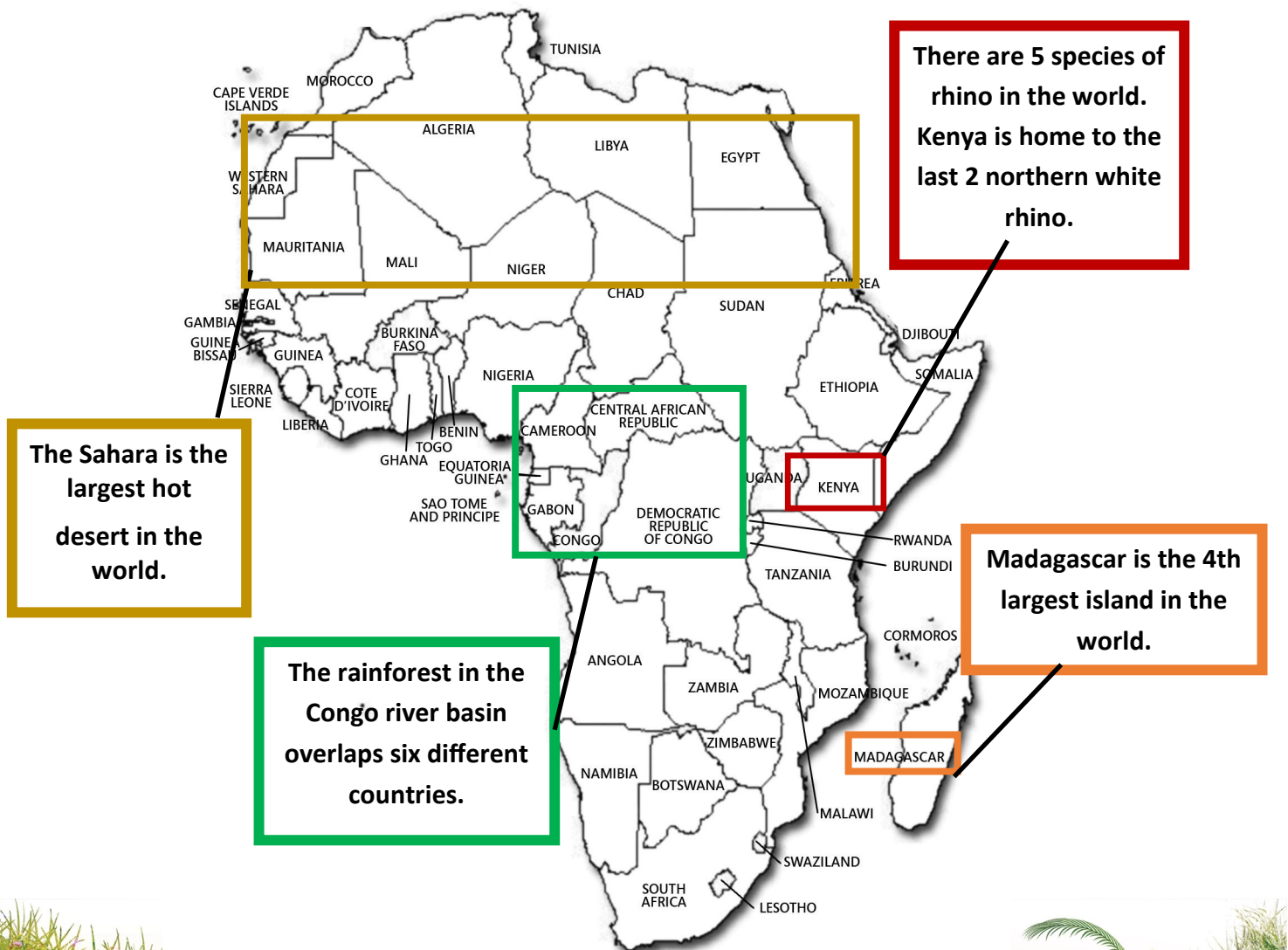


Tropical rainforest:

The world's oldest ecosystem is the rainforest. Although only occupying 6% of the surface of the Earth, they house half of the world's biodiversity. These magnificent forests are found around the equator of our planet and normally have a very hot and humid climate. The Congo is the largest rainforest in Africa (1.5 million square miles) comprising over 600 plant and 10,000 animal species. Tropical rainforests are known for their rich biodiversity and their ability to sustain a large variety of life. Within Dublin Zoo's collection hippos, gorillas, Okapi and chimpanzees, can all be found within the Congo rainforest.

The Okapi is an animal that looks like a cross between a giraffe and a horse and is often called a 'forest giraffe'. All herbivores living in a rainforest, unaware to them, are an integral part of shaping the landscape. By ingesting vegetation, these species are helping to spread seeds through their faeces. Okapi are listed as endangered in the wild due to loss of habitat from deforestation. Loss of this animal could have a detrimental impact on this delicate ecosystem.

In an ecosystem every living and non-living thing is connected and is dependent on one another.



Learn something new!



IUCN



The International Union for Conservation of Nature’s (IUCN) role is to gather the conservation status of all species living on Earth in order to identify populations threatened by extinction. This organisation was founded in 1964 and is the worlds most comprehensive conservation database.

The IUCN Redlist of Threatened Species is a public listing of the conservation and population density status of all living things. This list is used to determine a species likelihood of extinction in order to prevent and protect biodiversity abundance. Species who are experiencing a higher risk of extinction are categorised as **Critically Endangered (CR)**, **Endangered (EN)** and **Vulnerable (VU)**, while **Near Threatened (NT)** are close to reaching this threatened status. The **Least Concern (LC)** category is the goal and indicates that a species is thriving and surviving in this ever changing world.

Species can also be categorised as **Extinct (EX)**, meaning no living organisms within that species exists either in human care or the wild, while **Extinct in the Wild (EW)** highlights species only surviving in human care. One example of this is the Scimitar Horned Oryx. This Oryx was once widespread across northern Africa but due to overhunting and habitat loss this species gradually disappeared. Dublin Zoo houses a breeding group of scimitar-horned oryx, which is part of this international breeding programme. Since 2013, Dublin Zoo has financially supported the reintroduction programme for the scimitar-horned Oryx in Tunisia. At present 200 individuals have been reintroduced into semi-wild areas in four national parks across Tunisia.



Threats to African wildlife

Poaching:

‘Animal Poaching’ occurs when an animal is killed illegally. Iconic animals like the rhino, elephant, and large cats are poached in order to obtain desirable body parts including horns, ivory and furs. These items are considered a symbol of wealth and are extremely valuable. One poaching expedition can support a poacher for an entire year making this a very tempting option for very poor communities. Body parts of poached animals are also used in traditional medicines used to promote health, strength and fertility.



Learn something new!



Dublin Zoo supports the Lowveld Rhino Trust in Zimbabwe who are currently monitoring the critically endangered white rhino populations, developing community outreach projects, actively treating injured rhinos and translocating threatened individuals to safer areas.

Habitat loss:

Human population density is at an all-time high and expected to reach 9.7 billion by 2050. With this growth comes an intense pressure to produce adequate food and shelter. This pressure is ultimately leading to a destruction of our natural world. Wild spaces are being cleared for agriculture, crop plantations (palm oil) and infrastructure development such as roads, houses and urban sprawl. Scientists believe that agriculture is the leading cause of deforestation. In order to further grow agriculture productivity and feed the world, large areas of rainforests have been cleared for cattle grazing.

The Okapi Conservation Project works to protect the natural habitat of the endangered Okapi. Protecting areas rich in biodiversity like the Okapi Wildlife Reserve is crucial to help prevent the further reduction of many threatened African species. Support for the OCP comes from a global network of zoos (including Dublin Zoo), conservation funds, and private donors.

Human-wildlife conflict:

As humans expand and dominate, we push animals to the brink of survival. Habitat loss is leading to a reduction of food resources for the wildlife in Africa. This is causing elephants to raid farmer's crops and big cats to hunt livestock instigating human-wildlife conflict. Development of oil pipelines have also been documented to disrupt the route of many seasonal migratory animals which would have a serious negative impact on their likelihood of feeding and breeding annually.

Mining

Mining has become a large area of employment within many African countries due to its rich abundance of precious commodities such as diamonds and gold. Corruption within these powerful companies has allowed for extensive habitat loss of some vital areas that support many endangered species.

If you would like to read more about Dublin Zoo's role in international conservation go to:

<https://www.dublinzoo.ie/40/International-Conservation.aspx>

How you can get involved

To help protect deforestation of rainforest, when possible, look for labels on products that highlight sustainability and Fairtrade. Look for such labels are the **Forest Stewardship Council (FSC)** which can be found on paper products, the **Round Table** on sustainable palm oil, **Rainforest Alliance** on fruit and the **Fairtrade symbol** on chocolate and coffee to ensure all goods are coming from sustainable sources and provide reasonable income for all workers involved in their production.



Learn something new!

Dublin Zoo is actively involved in the European Endangered Species Programme (EEP) with EAZA. By visiting Dublin Zoo, your entrance fee is contributing to our breeding programme along with our global conservation projects such as the Orangutan Foundation International in Borneo, Gorilla research projects in Mbeli Bai in African and the Golden Lion Tamarin Association in Brazil. Thank you for your continued support.

List of useful definitions for Teachers

Adaptation: When a physical characteristic, bodily function or behaviour changes to help an organism survive in its environment. E.g. Camouflage (protection), sharp teeth (for catching prey) or a long tail (defence and balance).

Biodiversity: The number of different species of plants and animals that exist in a particular area e.g. High biodiversity of rainforests or low biodiversity of a concrete path.

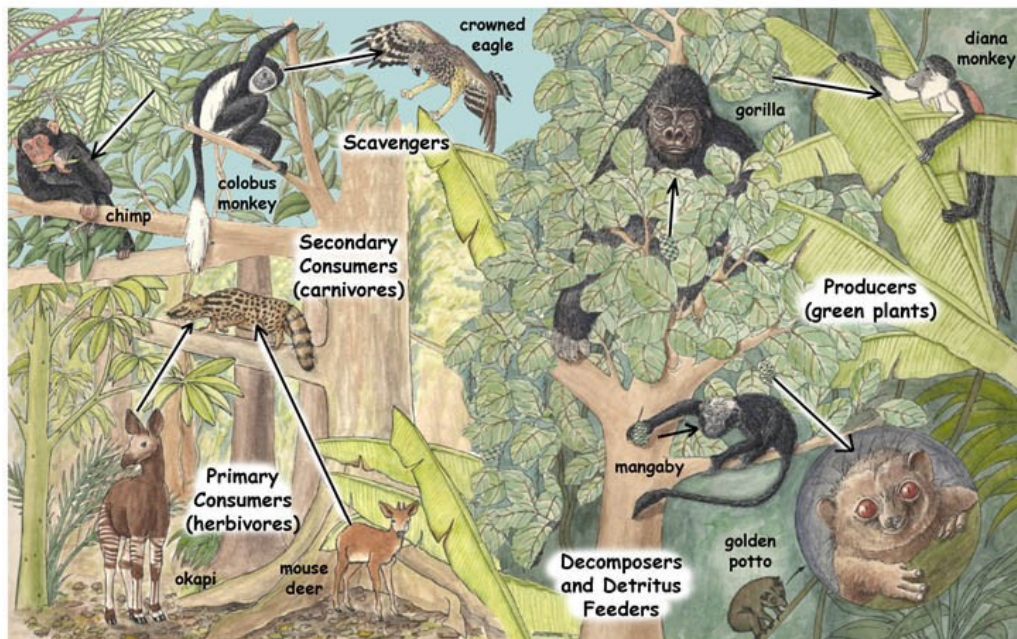
Deforestation: When trees are cleared leading to the destruction of a forest due to urban sprawl, infrastructure development and agriculture intensification (palm oil or food crops).

Food chains: Food chains show how food energy moves from one organism to another in a given environment. The first link in the chain is always the producer. The producer is the vegetation which gets its energy from the sun in order to produce its own food. All links following are consumers. Consumers can be herbivores, omnivores or carnivores.

Sustainability: Refers to the use of nature in a way that will not permanently destroy and prevent use for future generations. Sustainability allow for the resources to regenerate before being used again.

Species: A group of living organisms which are genetically similar and are capable of breeding successfully. **Subspecies:** A subdivision of species. This can happen when a species becomes isolated from one another. E.g. there is one species of Lion (*Panthera leo*) but two subspecies; African (*Panthera leo leo*) and Asian (*Panthera leo persica*).

Wildlife conservation: the protection of plants and animal and their natural habitats.



Sheri Amsel (2015) *African Rainforest Food Web*, Exploringnature.org.

