LEARNING with LONGLEAT

# Rainforest
## Resource Pack

# Contents

# How to use this pack

*This is designed to help you learn about rainforest animals and prepare for a visit to Longleat. The pack starts with suggested rainforest animals to find at Longleat including a map of where to see them.*

The next section contains fact sheets about these animals with general information about the type of animal (e.g. what layer of the rainforest they live in, what they eat, etc.) and specific information about the species. This information will help you plan your day, and your route around the park to see the most rainforest animals.

If you are coming as a group, it is useful for all adults on the visit to read this pack.

The rest of the pack is broken into before, during and after your visit. Each of these sections starts with ideas of ways to relate rainforest animals to other topics. Then there are a variety of suggested activities and worksheets.

Activities are typically hands on 'games' that introduce and reinforce concepts. Worksheets are typically paper hand-outs you can photocopy and have learners complete independently. You can pick and choose which you want to use since all the activities/worksheets can be used independently.

The activities and worksheets included in this pack are for a range of ages in KS1 and KS2, and a few suitable for early KS3 but can be used by learners of all ages.

We suggest using the activities/worksheets prior to your visit to familiarise your learners with vocabulary, context, and the animals they will see during your visit. During your visit activities/worksheets typically require information your learners can gather while they are at Longleat and are designed for completion during your visit. One worksheet also contains spotter guides where your learners can check off which rainforest animals they spot.

This pack also includes activities/ worksheets that are designed to be used after your visit to help consolidate learning and build on information gathered during your time on the park. If you would like any more guidance or have any questions about any of the information contained within this pack, please contact our education department at ***education@longleat.co.uk***.

# Main park map


- Guest Services
- 1 Linne's two-toed sloth
- 2 Binturong
- 3 Giant anteater
- 4 Red panda
- 5 Western lowland gorilla
- 6 Eastern black and white colobus monkey
- 7 Cotton-top tamarin
- 8 Rainbow lorikeet
- 9 Giant otter
- 10 Prehensile-tailed porcupine
- 11 Burmese python
- 12 Parrots
- 13 Kinkajou

# Safari map


1 Capybara

2 South American tapir

3 Ring-tailed lemurs

# Rainforest animals to see

## Linne's two-toed sloth

*Choloepus didactylus*

**Amazing Adaptation:** Living upside-down

**Habitat:** Tropical rainforests

**Rainforest Layer:** Canopy and understory

**Distribution:** Northern South America

**Diet:** Leaves, fruits, and occasional insects

**Longevity:** Over 30 years in captivity

**Status:** Varies by species

There are six different species of sloth. Some of them are widespread and others are critically endangered with very few left. Habitat loss is the biggest threat for all species of sloth. Some are also captured for the pet trade.

A sloth spends most of its solitary life hanging upside down in the forest canopy. It carries out the majority of its activities in this position such as eating, sleeping and even giving birth!

They have many adaptations the help them live upside down, including upside-down organs, long gripping claws, and backwards fur (that grows from their belly towards their back).

Sloths are also remarkably good swimmers, this is an adaption to deal with the annual flooding of the rainforest.

Sloths are one of the slowest animals in the world, moving at an average speed of 0.5km per hour, but they are capable of moving at about 1.6km per hour.

**Our sloths live in the Bat Cave**

Their fur has special grooves in it that algae grows in. This helps camouflage the sloth by making them green in colour, and also provides a handy snack if they get hungry.

# Rainforest animals to see

## Tamarins

**Habitat:** Rainforests and deciduous forests

**Rainforest Layer:** Emergent, canopy and understory

**Distribution:** South and Central America

**Diet:** Mainly fruit, flowers, tree sap, leaves and insects

**Longevity:** About 10 years in the wild, up to 18 in captivity

**Status:** Some are common, others are critically endangered

Tamarins are some are the smallest monkeys and live in South and Central America, they belong to the group of monkeys called 'New World monkeys'.

### Red-handed tamarin

*Saguinus midas*

**These tamarin live in Animal Adventure**

They have gripping claws to help them climb They also have long tails. They can't grab with these tails but instead use them for balance (like a squirrel).

These tiny monkeys are very active, jumping around in the canopy layer of forests in search of food. Callitrichids typically live in small, territorial groups. In these groups they work together to raise their young.

Tamarins have very large front teeth, which help them gouge holes in trees to get out insects.

**These tamarin live in Monkey Temple**

### Cotton-top tamarin

*Saguinus oedipus*

# Rainforest animals to see

## Burmese Python

*Python bivittatus*

**Habitat:** Rainforests and wetlands

**Rainforest Layer:** Understory and forest floor

**Distribution:** Southern Asia

**Diet:** Small mammals, deer, pigs and monkeys

**Longevity:** 20–30 years in wild, over 40 years in the care of zoos

**Status:** Near threatened (IUCN Red List)

**Our Burmese python lives in Animal Adventure**

Burmese pythons are up to 7.6m long, but comparatively lightweight.

An amazing adaptation that pythons have is they are able to swallow their prey whole because of their hinged jaws.

You can tell a python from its appearance – they have dark brown patches and two lines that run horizontally across the head.

A large number of Burmese pythons can be found in the Florida everglades. It's thought they found their way there after the devastation of hurricane Andrew in 1992.

Our Burmese python is an albino the means their body doesn't make enough melanin, the substance that gives colour to skin and eyes. Because melanin also helps with vision, animals with albinism may have poor eyesight. If a wild animal has this it makes them more noticeable to predators.

They will actively seek a home near a permanent source of water and as such are considered semi-aquatic.

# Rainforest animals to see

## Binturong

*Arctictis binturong*

**Habitat:** Dense rainforests

**Rainforest Layer:** Canopy

**Distribution:** Southern Asia

**Diet:** Fruits mainly, but also vegetables, birds, small mammals, carrion, small invertebrates, eggs, leaves, and plant shoots.

**Longevity:** Females 15 years males 18 years in the wild, up to 25 years in the care of zoos.

**Status:** Vulnerable (IUCN Red List)

Binturongs are also called bearcats, but that name is rather misleading since they are not related to bears or cats. They are related to civets and fossa but look more like gigantic dust mops and smell like a freshly made batch of popcorn!

A binturong has a face like a cat and a body like a bear, long, shaggy black hair, stiff white whiskers, and a prehensile tail that's as long as its body.

Binturongs are classed as carnivores but eat mostly fruit.

Binturongs usually give birth to two babies, called binlets, at a time. They are born with their eyes closed, and they cling to their mother's fur for the first few days of their lives.

A binturong's tail is very thick and muscular at the base, with the last third of it prehensile to be used like an extra hand when climbing around in the treetops. A leathery patch at the tip helps the tail grip the branches a binturong climbs through.

**Our binturongs live in the Jungle Kingdom**

# Rainforest animals to see

## Western lowland gorilla

*Gorilla gorilla gorilla*

**Habitat:** Dense rainforests

**Rainforest Layer:** Forest floor

**Distribution:** Central Africa

**Diet:** Leaves and stems of herbs, shrubs and vines. Also the fruits of close to a hundred seasonally fruiting tree species

**Longevity:** In the wild, 30 or 40 years. In human care, gorillas may live into their 50s.

**Status:** Critically endangered (IUCN Red List)

Gorillas' arms are longer than their legs; when they move on all fours, they knuckle-walk, supporting their weight on their curled hands.

**Our gorilla colony can be seen from the Jungle Cruise**

Adult male gorillas' heads look almost cone like due to the large bony crests on the top and back of the skull. These crests anchor the massive muscles used to support and operate their large jaws and teeth.

Gorillas communicate using sound signals, visual signals and smells. They are generally quiet animals but they may also scream, bark and roar. Scientists have heard up to 22 different gorilla vocalizations, each seeming to have its own meaning.

Like other primates, each individual has distinctive fingerprints. Gorillas also have unique nose prints.

Gorillas are most active in the morning and late afternoon. By midday, adults usually nap in a day nest while the young wrestle and play games.

# Rainforest animals to see

## Green-winged macaw

*Ara chloroptera*

**Habitat:** Rainforests

**Rainforest Layer:** Canopy and above

**Distribution:** South America

**Diet:** Seeds, fruits, nuts, berries, leaves, salts, and minerals of riverbanks

**Longevity:** Up to 50 years, 80 years possible in human care

**Status:** Least concern (IUCN Red List)

They are large, loud, and destructive birds with the second largest beak of any parrot.

They have one of the largest, broadest ranges of any macaw species.

Green-winged macaws are considered one of the longest-lived parrots.

Macaws are normally monogamous, having only one mate for life.

They are highly intelligent, gentle, and affectionate.

Macaws are able to reach speeds of up to 56 kph (35 mph).

**Bertie, our green-winged macaw lives in Animal Adventure**

In the wild, macaws often flock to mountains of clay known as "macaw licks." Such licks contain minerals and salts essential to the bird's diet.

# Rainforest animals to see

## Kinkajou

*Potos flavus*

**Habitat:** Rainforests

**Rainforest Layer:** Canopy and above

**Distribution:** South America

**Diet:** Fruit and nectar. Rarely they eat eggs, hatchlings, insects, and small vertebrates.

**Longevity:** Approximately 20 years

**Status:** Least concern, population decreasing (IUCN Red List)

They are nocturnal; they spend the day sleeping in dens, often in the crotch or hole of a tree, usually with other kinkajous. At dusk, they groom each other and socialise before separating to forage alone in fruit trees.

Kinkajous are opportunistic frugivores, eating whatever fruit is available. Figs are a favourite. They may supplement their diet with insects, flowers and nectar depending on what is available.

Their long, prehensile tail and nimble, clawed fingers, are adaptations for life in the trees.

Kinkajous are in the same family as raccoons, coatis and ringtails.

**Our kinkajous live in Animal Adventure**

Kinkajous can hang upside down while feeding, using their prehensile tail and hind legs for support while holding small fruits in a one-handed grasp.

Rather than come down from the branches high in the rainforest canopy, they travel from tree to tree via overlapping branches.

# Rainforest animals to see

## Madagascan hissing cockroach

*Gromphadorhina portentosa*

**Habitat:** Rainforests

**Rainforest Layer:** Forest floor and below

**Distribution:** Madagascar

**Diet:** Decaying animal and plant matter

**Longevity:** Two or five years

**Status:** Least concern (IUCN Red List)

Madagascan hissing cockroaches stay hidden beneath leaf litter or in rotting logs during the day and emerge at night to scavenge for food.

These large bugs are detritivores, which means that they help break down decaying plant and animal matter – an essential role in any ecosystem. They feed mainly on fruit and other plant material.

They are one of the largest species of cockroach in the world, reaching two or four inches at maturity.

These cockroaches are known for — and named for – the hissing sounds that they make. They hiss by expelling air through their breathing holes (spiracles) that run down either side of their body.

They are shiny brown and oval-shaped. They have no wings and a single pair of antennae. Males have large horns protruding from their heads.

They make four separate “hiss” calls: a male combat hiss, two mating and courtship hisses, and an alarm hiss that sounds like that of a snake.

**Our cockroach colony lives in Animal Adventure**

# Rainforest animals to see

## South American tapir

*Tapirus terrestris*

**Habitat:** Rainforests

**Rainforest Layer:** Forest floor, waterways

**Distribution:** South America

**Diet:** Fruits, leaves, buds, and shoots.

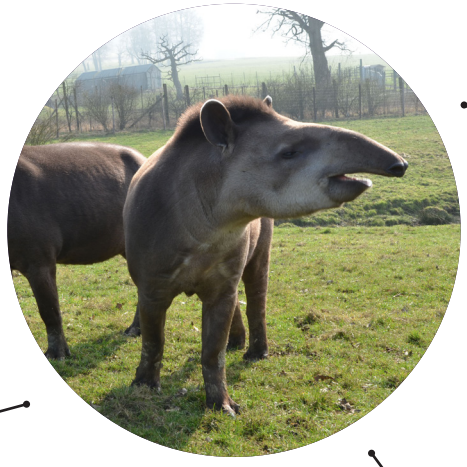
**Longevity:** 30–35 years

**Status:** Least concern (IUCN Red List)

**Our tapir lives in the Safari Park – close to the African Village car park**

Tapirs in general are called 'umbrella' animals in the sense that they usually live in large territories, unknowingly protecting many other animal species of the area.

Tapirs are related to horses and rhinoceroses, not pigs or anteaters, as people commonly think. They share the same type of feet – having hooves on the ends of their legs – and animals like these are known as ungulates.



They have a characteristic fleshy trunk, which is prehensile and able to grasp objects such as leaves. It is the largest surviving native terrestrial mammal in the Amazon.

This animal is an excellent diver and swimmer, remaining deep under the surface until a predator leaves.

These animals prefer to live in moist, lowland rainforests with a constant source of water. However, they have been seen in a wide variety of habitats including savannah, dry and moist shrublands, grasslands, and wetlands.

# Before your visit

- Pre-trip classroom ideas
- Vocabulary
- Rainforest layers
- Task ideas

# Pre-trip classroom ideas

**These are ideas to support your thinking about different activities, to teach learners about the rainforest and the park. Use these ideas as a starting point with or without the pre-made activities and worksheets on the next pages.**

### Vocabulary
Learn important words (*see next page for list*)

### What does 'endangered' mean?
Discuss the term 'endangered'. For older learners investigate different levels of conservation status: extinct, endangered, threatened, least concern, etc.

### Guessing game
Play a guessing game about the park animals. Count and graph how many clues it takes for each animal. Which animals are easiest to guess?

### Food chains
Have learners create food chains showing connections between rainforest animals, they will need to research animal diets.

### Rainforest explorer
Plan an imaginary trip to a rainforest (Amazon rainforest, Congo Basin, Pacific Islands rainforest, etc.). Have learners plan their travel routes and determine how long it will take to reach their destination. They could also research destination cities or national parks including information on populations, industries and animals species that live there.

### Compare and contrast
Use a Venn diagram to compare and contrast the UK and a tropical country filled with rainforests (e.g. Brazil, Indonesia). Draw two overlapping circles and fill them in. The areas where the circles overlap contain attributes that both share. The portions that don't overlap contain unique attributes. These Venn diagrams could focus on human populations, animals found there, ecosystems, habits and geography, etc.

### Class collage
Cut pictures from magazines or find pictures online and make a class collage of animals they want to see at the park. The collage could focus on animals with similar adaptations, animals that live in the same habitat etc.

### Habitats
Read about what animals need to survive in their habitat. Learners can design a living space for their favourite animal. Make sure all the animal's needs are met. Follow this up at the park by investigating the habitats at Longleat and seeing how they compare.

### Describing animals
Write descriptive words to describe animals, for example describe: binturong's fur, parrot feathers, python scales, etc.

# Vocabulary

**Adaptation:**
A body part or behaviour that helps an animals survive (teeth, trunk, etc.)

**Camouflage:**
Colours and patterns that help an animal blend into its surroundings

**Canopy:**
A layer of the rainforest; the second highest layer, the tops of most trees

**Carnivore:**
An animal that mainly eats meat

**Deforestation:**
Removal of the forest to use the land for something else (e.g. farms)

**Emergent:**
A layer of the rainforest; the very top layer with a few trees higher than everything else around them

**Endangered:**
Very few left, it faces major threats, and it might go extinct

**Extinct:**
All of that species is now dead; it is no longer found anywhere

**Forest floor:**
A layer of the rainforest; the bottom layer, lots of thick roots, mud and plants

**Habitat:**
The type of place an animal lives (e.g. savannah, rainforest, etc.)

**Herbivore:**
An animal that mainly eats plants

**Omnivore:**
An animal that eats plants and meat

**Predator:**
An animal that hunts and eats other animals

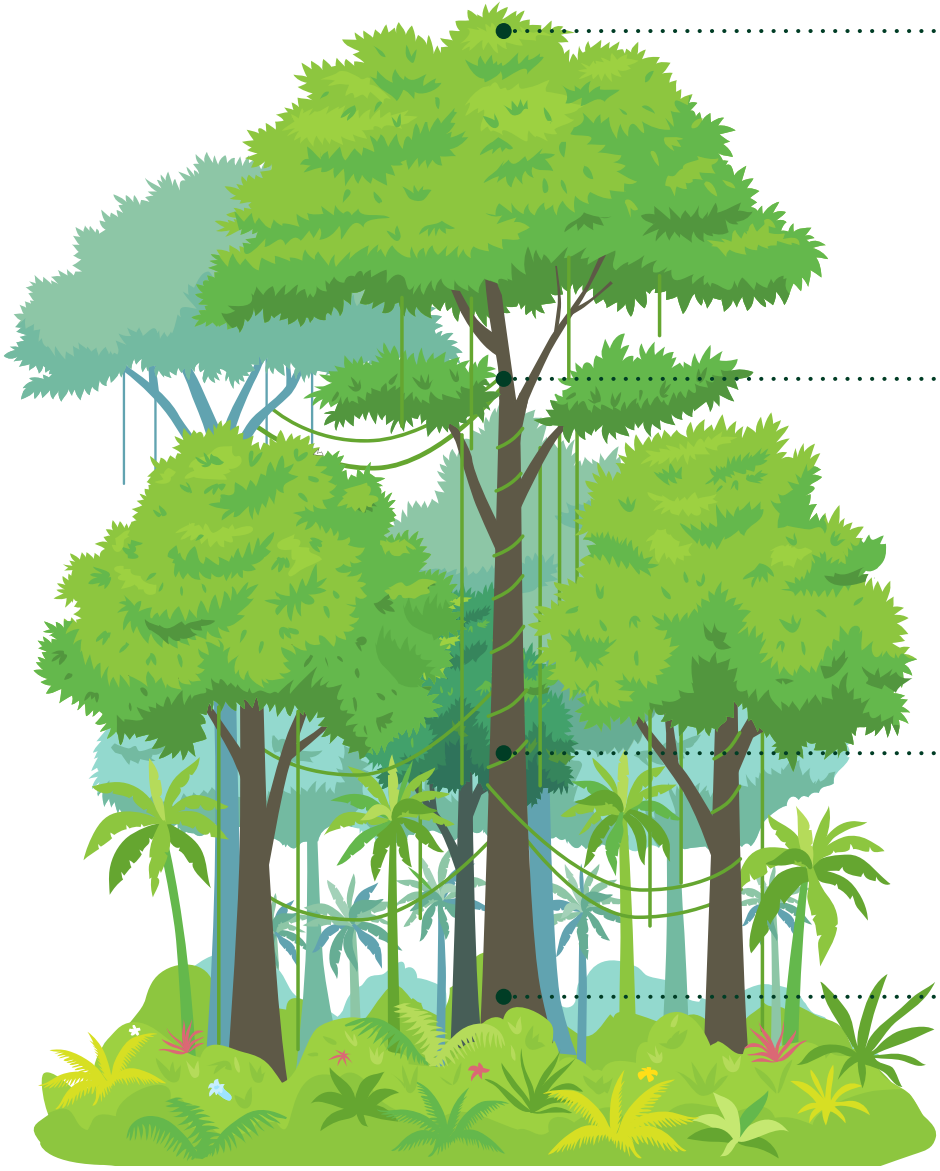
**Prey:**
An animal that is eaten by other animals

**Rainforest:**
A forest habitat with lots of plants, lots of animals and lots of rain (also called a jungle)

**Scavenger:**
An animal that feeds on dead animals

**Understory:**
A layer of the rainforest; underneath the canopy, lots of vines and very dark, not all the way to the ground

# Rainforest layers



**Emergent layer | 40 metres +**
This is the top layer of the rainforest. The trees here receive the most sunlight and can grow to 60 metres tall! Animals include: parrots, hornbills, butterflies.

**Canopy layer | 30–40 metres**
Estimates suggest 50% of ALL plant species are found in this layer of the rainforest. Animals include: orangutans, monkeys, frogs.

**Understory layer | 5–30 metres**
Very little sunlight reaches this area. The trees here only grow up to around 6 metres tall. Animals include: chimpanzees, Burmese pythons.

**Forest floor layer | 0–5 metres**
This is the darkest area of the rainforest; it is covered by a layer of leaf litter and fruit dropped from the trees. Animals include: pygmy hippos, ants, anacondas.

# Animal mixer

**Time:** 15 minutes
**Subjects:** Drama, Physical Education, Science Materials
**Required:** Animal pictures, one per learner

**How do animals communicate with each other?**

**What makes animals unique and different from other animals?**

**Learners will think about this when they work to communicate without speaking**

Start with a discussion of how animals communicate and how they would communicate if they were animals. For younger ones it's a good idea to give examples (e.g. chimp howl, snake hiss etc.). Then discuss how animals that don't make noise communicate. Do they twitch their whiskers or stand in funny positions or swish their tail?

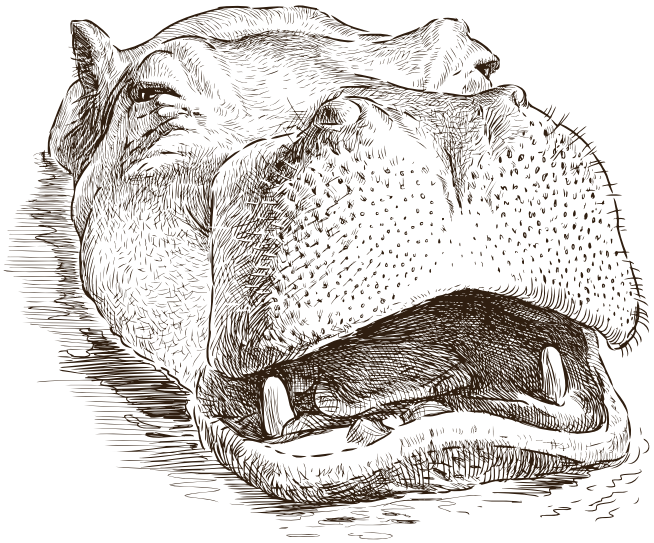
Once the learners have all thought about how animals communicate, explain that they are going to become animals. Many animals live in groups (can tie this into a discussion of monkeys living in troops, etc.). Once they have all assumed their animal identities, they need to find the rest of their animal group. However, they can't speak, so to find their group they must communicate like animals!

Explain that they will be given a picture of an animal they need to act like. When the pictures are handed out they should look at it, but they need to keep it secret and not tell anyone what it is. After everyone has a picture, have them get started and try to find the others in their group by making the appropriate animal action/sound.

Once they find someone in their group, stay with them and try and find more. Continue until all the animals are in their group.

As a conclusion go through the groups and have each demonstrate how they managed to find each other.

* To make it easier, hand out the same number of pictures of each animal, e.g. in a class of 30 hand out six pictures of five different types of animals (six chimpanzees, six pythons, etc.). To make it harder, have uneven groups of animals, e.g. three chimpanzees, nine squirrel monkeys, etc. Ensure you tell them if the groups are uneven as they may be confused.



# Monkey ears

**Time:** 15 minutes or more
**Subjects:** Physical Education, Science
**Required:** Blindfold, something that makes noise (bells, set of keys, etc.)

**Monkeys have eyesight similar to ours, but instead of just relying on sight, they stay alert for predators using hearing. What would it be like to be a monkey? Can they hear the predator coming?**

First discuss how animals rely on their sense of hearing to stay alive. Hearing allows many animals to avoid being eaten by predators and allows other animals to find their prey. Monkeys have many predators. Discuss predators of monkeys such as: jaguars, leopards, other cats, snakes, eagles, larger monkeys, etc.

Monkeys often live in groups, with the older more experience individuals listening for predators and keeping watch over the young monkeys who haven't learned what predators smell/sound like. Get the learners to form a circle and put someone in the middle. The person in the middle is the mother monkey and the rest are predators. Place the noise maker (set of jingly keys, bells, etc.) at the monkey's feet and explain that the noise maker is the baby monkey. Blindfold the monkey and tell him/her to listen carefully for any approaching predators. The educator should choose one predator silently (walk around the circle and touch on shoulder, point at learners, etc.).

The predator's job is to sneak very slowly and carefully and try and grab the baby monkey and make it back to the outside of the circle. It is sometime useful (especially with younger groups) to have everyone practice sneaking quietly like predators before the game begins. The monkey must listen for the approach of the predators. When the monkey hears a predator they point at them. If the predator has been pointed at, they have lost the element of surprise and go back to the outside of the circle. Select a new predator to sneak forward. All the others in the circle must be quiet so they don't interfere with the predator who is sneaking up. If a predator successfully grabs the baby monkey and makes it to the outside of the circle, they can become the new monkeys.

Keep playing, giving multiple learners a turn to be the predators and the monkey. For older groups consider having multiple monkeys at one time working together and tying it into a discussion of how monkeys live in groups for added protection from predators.

# Rainforests of the World

**Time:** 10-20 minutes
**Subjects:** Science, Geography
**Required:** Rainforests of the World map

**Pupils learn about where rainforests are located around the world.**

Hand out copies of the map to each pupil and make sure they each have crayons for colouring. The pupil's job is to label the three lines on their map and colour where they think the rainforests are. Pupils make educated guesses about where the rainforests are based on information points. Hand out the list of point or write on the board and leave up for the activity. After all pupils finish colouring, compare their guesses of where rainforests are to the actual map of rainforest habitats.

- The equator crosses the middle of the world.
- The tropic of Cancer is in the north and the tropic of Capricorn is in the south.
- Rainforests are located close to the equator, in-between the tropics of Cancer and Capricorn. Except in the very north, Central America is all rainforest.
- Northern South America is covered in rainforest.
- Below the equator, South America has rainforests across the centre, and on the east coast. These do not reach all the way to the tropic of Capricorn.
- In Africa, the Congo Basin rainforest is located just around the equator on the west coast. It reaches approximately halfway from the equators to the tropics and half-way across the continent.
- The east coast of Madagascar is rainforest.
- The far south of India is rainforest.
- The south tip of Asia that sticks into the ocean is rainforest, from the ocean until halfway to the tropic of Cancer. All the little islands of Asia have rainforest.
- The north east coast of Australia has a very little bit of rainforest.

# Rainforests of the World map

Label the three lines on the map – the Equator, the Tropic of Cancer and Tropic of Capricorn.
Colour where you think the rainforests are using the rainforest information.

# During your visit

- Task ideas

# During your visit

**These are ideas to help your learners focus during their visit to the park. Use these ideas as a starting point with or without the pre-made activities and worksheets on the next pages.**

### Worksheets
Use the worksheets in this pack to help focus your learners.

### Animal observation
Encourage them to spend time observing the animals. Some unique animal behaviours can only be seen if we watch very carefully

### Drawing
Have learners make a detailed sketch of an animal, sketching encourages careful observation

### Photography
Take photos of the animals and around the park. When you get back make a photo scrapbook of your visit.

### Speak to keepers
If you get the chance to speak to a keeper, take some notes. They will be able to tell you about the animals and the threats to them and their habitats.

### Animal enrichment
Observe the habitats around the park to determine what makes a good home for an animal. Pay attention for anything that looks like it's to entertain the animals, zookeepers call these things enrichment. Enrichment for animals includes: wrapped boxes, toys, interesting smells, strange things (e.g. wellington boots, old brooms, etc.).

### Habitats
Learners can examine the animals habitat and determine, if they were an animal at the park, which habitat would they want to live in? Why?

# Camera

**Time:** 15 minutes or more
**Subjects:** Art, ICT, observational Science skills
**Materials:** Cameras (optional), small bits of card (optional), pencils (optional)

**This activity gets learners focusing quietly and independently and works well when they are taking real photos to encourage them to decide which photos to take.**

Before starting, take time to talk to consider what make interesting subjects for good photos. Should they take close up images? Are walls interesting? Is it easier to take photos of an animal that moves a lot or an animal that's resting? Find an animal that they can stay focused on rather than get over excited when they see the animal.

Divide into pairs if possible. Within each pair one takes the role of photographer and one takes the role of camera. The learner pretending to be the camera keeps their eyes closed while the photographer leads them to an interesting viewpoint. The photographer chooses when the camera opens their eyes and takes a picture. A good way to do this is to have the photographer gently tap the camera on their shoulder to have them open their eyes.

When the camera opens their eyes, their job is to try to remember and visualise everything they see in front of them: Do they see an animal? How many animals? What is the enclosure like? What textures do they see?

When taking photos, it's best if the camera only has their eyes open for five to ten seconds, then closes them again. Have the photographer move the camera to a few different locations. Do they see different animals? Is there a slightly different viewpoint? After they've taken a few 'photos' have them switch roles.

*Optional:* If the group has actual cameras, have them all select their favourite photo from their activity and see if they can capture it using their real camera/s.

For an extended activity, hand out small bits of card to each pupil. Explain that they are going to process the photos they took with their eyes. Have them select their favourite image they photographed (real or with just their eyes) and have them draw the picture on the card, just like a photo.

# Senses Scavenger Hunt

## Draw pictures of the animals or things when you find them

Something...

smelly hard wet spikey soft looking warm

**Smelly**

**Hard**

**Wet**

**Spikey**

**Soft looking**

**Warm**

# Patterns Scavenger Hunt

## Draw pictures of the animals or things when you find them

Something...

spotty stripy bright wrinkly pretty

**Spotty**

**Stripy**

**Bright**

**Wrinkly**

**Pretty**

# Rainforest Quiz

Name:

1. Rainforests are found in (circle all that apply):

   South America  Africa  Asia  Europe

2. Animals have adaptations to life in the rainforest, name two of these that you see at the park.

3. Identify three animals that live in the rainforest:

4. Name one endangered rainforest animal:

5. List two reasons animals are endangered:

6. What can you do to help these endangered animals?

7. The smallest rainforest animal I saw is

Draw a picture of it on the back of the sheet.

8. The rainforest animal I like best is

Because

# Rainforest Quiz

## Draw a picture of the smallest rainforest animal you saw

# Animal Description

**My favourite animal is...**

**It's covered in...**

**What colour is it?**

**It looks a bit like...**

**It eats...**

**It lives in the...**

**It is the size of a...**
*(make a comparison)*

**A cool adaptation it has is...**

**Something very special about it is...**

# Rainforest Animal Research

**Name of animal**
Draw a picture of the animal on the back of this sheet

**Type of animal**
(Mammal, bird, etc.)

**Size**
(record weight and height, can be an estimate)

**Type of body covering**
(fur, feathers, scales, etc.)

**Mark on the map where it lives in the wild** (on the back of this sheet)

**How does your animal get its food?**
(grazer, chases prey, browser, etc.)

**What rainforest layer does it live in?**

**How is it adapted to that habitat?**

**What is the future of your animal in the wild? Why?**

# Rainforest Animal Research

## Draw a picture of the animal you've researched

## Mark on the map where it lives in the wild

# Observing Animal Behaviour

**Name of animal**

**How can you identify your animal from others in their group?**

**Observe your animal for 10 minutes.**
Make a mark each time it does one of the following:

| | |
|---|---|
| **Walks/runs** | |
| **Eats/drinks** | |
| **Lies down** | |
| **Sleeps** | |
| **Yawns** | |
| **Looks at people** | |
| **Plays** | |

**Which animal in the group is the leader? How can you tell?**

**What do you think the animal is thinking/feeling?** (is it hungry? bored? sleepy? etc.)
**Why do you think that?**

**Many animals have things to do to keep them active. Can you see anything like that in your animals' enclosure? Did your animal interact with it?**

**What would you give the animal to do and why?**

# Animal Spotter's Guide

**Be on the lookout for animals from the rainforest.**
**Keep track of the ones you find by ticking them off.**

# Maths

## See how many of these adaptations you can discover.

Burmese python jaws separate into four parts, so they can open their mouth extra wide.

Burmese pythons are one of the biggest snakes in the world with a maximum size of at least four metres!

**How many Burmese pythons did you see?**

**How many jaw parts are there?**

Sloths are either two-toed, or three toed.

They move an average speed of 0.5m per hour.

**How many sloths did you see today?**

**How many toes did they have?**

**What is the total number of sloth toes?**

Remember sloths have four legs

**Estimate the width of the bat cave. How wide is it?** **m**

**How long would it take a sloth to climb from one side all the way to the other side (assuming it's moving at average speed)?**

# After your visit

- Task ideas

# After your visit

**These are ideas to support educators thinking about how to relate a visit to Longleat with learning activities . Use these ideas as a starting point with or without the pre-made activities and worksheets on the next pages.**

### Animal research
Have learners choose a specific rainforest animal they saw and conduct in-depth research based on what they observed.

### Rainforest fruits
Put rainforest fruits (banana, papaya, mango) and non-rainforest fruits (apple, peach, grapes) each in separate glasses of water. How long does it take for them to decompose? Which ones decompose faster? Why? Since it rains a lot in the rainforest, what qualities help a fruit survive in all that water and humidity?

### Terrariums
Make a rainforest terrarium out of two litre soda bottles or a fish tank. Explain how transpiration works using the terrariums as an example.

### Culture
Research human cultures in the places these animals live. Learn about food and customs. Learn the names of animals you saw in other languages.

### Diorama
Construct a diorama of a rainforest habitat. Encourage learners to include the natural features they would find in the habitat as well as three or four animals from the rainforest.

### Guidebook
Create a 'guidebook' of your school trip to Longleat. Have learners write article about the animals they saw and include pictures/sketches they made during their visit.

### Comic strips
Draw and design a comic strip about two animals at the park. Include what they are doing and what they would say to each other.

### Maps
Using their memory, learners can create a map of the park. Include animals that they saw and areas they remember (including food, toilets, play areas, etc.). After drawing from memory compare their maps to an actual map of the park. What's different?

### Posters
Design posters to help endangered species you saw at the park. Remind learners to include lots of facts they learned as well as make it eye-catching and decorative.

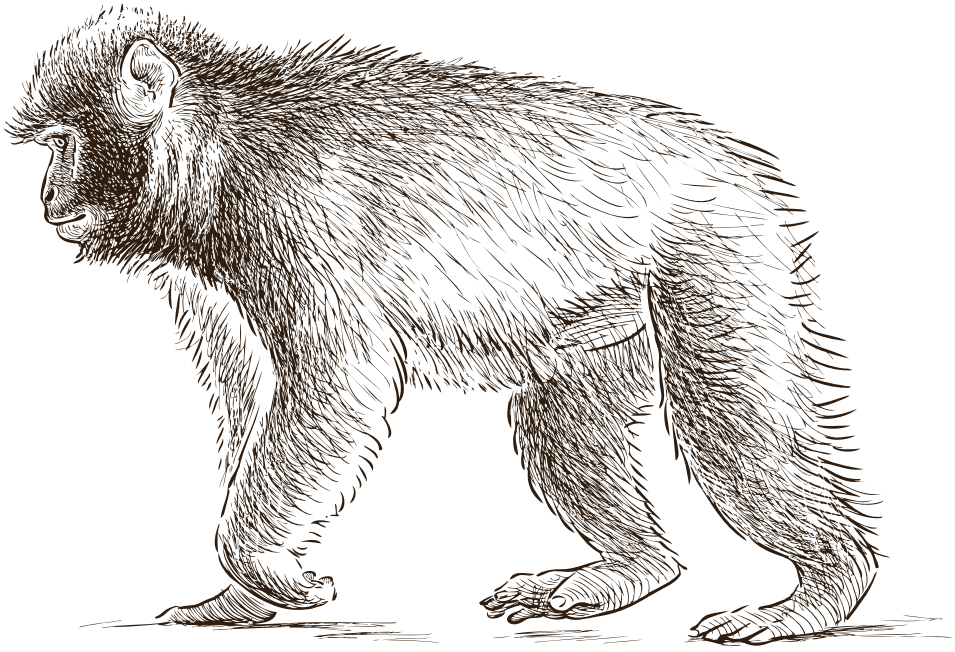
# Where in the World

**Time:** 20-30 minutes
**Subjects:** Science, Geography Materials
**Materials:** Animals of the rainforest map

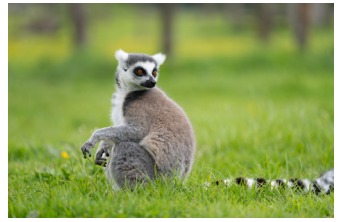
**Pupils learn which rainforests different animals live in.**

Before this activity, learn about different rainforest animals and the different rainforests around the world. Learners should also be familiar with the names of the continents. Hand out copies of the map to each person. Their job is to draw a line connecting the animals to the rainforest they live in. If they have already learned about all the animals, they can label the animals as well (see earlier in the pack for more detailed information about the animals and where they live).

For older learners, have them research the animals more specifically and find out exactly which area they live in (research the country they live in). To make it more of an art activity, print two copies of the map for each person. Have them cut out the animals shapes and glue them onto the rainforests where they live.



# Animals of the rainforest map

# Rainforest impact quiz

**Time:** 20-30 minutes
**Subjects:** Science
**Materials:** Rainforest impact quiz

**Test knowledge of the rainforest while learning about the impacts of deforestation.**

Hand out the Rainforest impact quiz to each person. Have them write true or false next to each statement.

After completing the quiz, they can switch quizzes with a partner to mark it. As you go over the answers, make sure to explain the ones that are false/true. This activity makes a nice introduction to talking about endangered rainforests and what we can do to help the rainforests.

**Answers:**

1. TRUE
2. TRUE
3. TRUE
4. FALSE
5. FALSE – Across the world an area the size of 90 football pitches is cut down in the rainforest every minute.
6. FALSE – It is estimated that the rainforests could be gone by 2030!
7. FALSE – There are no rainforests in Antarctica.
8. FALSE – Rainforests cover less than 2% of the earth's surface (most of the surface is covered by the oceans).
9. TRUE – Remember that the ocean's aren't fresh water; most of the rest is in the ice caps and glaciers with a little in large lakes.
10. TRUE
11. FALSE – There are only six million km2 of rainforest around the world over half the world's rainforest have been cut down.

# Rainforest impact quiz

## True or False?

1. Cutting down the rainforest changes wind patterns around the world.

2. Cutting down the rainforest changes rainfall patterns around the world.

3. The rainforests are the lungs of the planet, they recycle carbon dioxide into oxygen.

4. If the rainforests are completely gone, it won't affect us here in the UK.

5. Across the world, 20 football pitches of rainforest are cut down every minute.

6. At current rates of deforestation the world's rainforests will be gone in 40 years.

7. Rainforests are found on every continent.

8. Rainforests cover over 50% of the earth's surface.

9. The Amazon rainforests contains one fifth of the world's freshwater in its rivers.

10. There used to be 15 million km2 of rainforest around the world.

11. Now there is just 10 million km2 of rainforest around the world.

# Create a creature

**Time:** 30+ minutes
**Subjects:** Science, Art
**Materials:** Potato for each person, toothpicks, craft supplies, glue, coloured paper, etc.

**Learners will use their knowledge about animal adaptations to create a creature.**

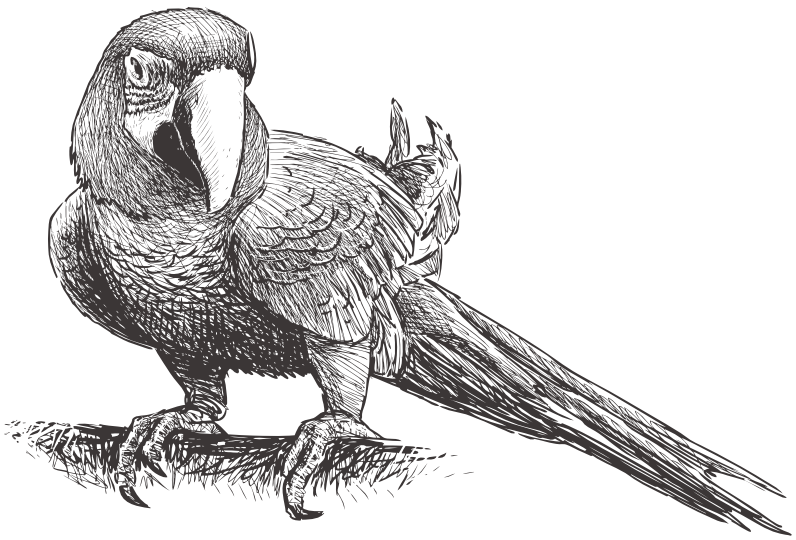
Explain that they will be building an imaginary animal that is adapted to the rainforest. They will use the potato as the body for the animal and can stick in toothpicks/pipe-cleaners/paperclips for legs (if it has legs!). Encourage them to be creative and add anything else they can think of from other materials.

Remind them to think about:

- What does their animal eat? What food is available in the rainforest?
- What layer of the rainforest does it live in (does it climb, crawl, swim)?
- How does it camouflage itself?
- How does it avoid predators/hunt for prey?

After they have finished construction, have each learner name and describe their animal. For a longer activity, after they are finished have learners compare their creations to real animals that they saw at the park.

For example, they could answer questions like: What real animal does their animal's ears look like? What real animal does their animal's pattern look like?



# Who am I?

**Time:** 10–20 minutes
**Subjects:** Science
**Materials:** Pictures of different rainforest animals, clothespins/pegs

**This works as either an introduction to rainforest animals, or a reminder at the conclusion of a unit about what has been learned.**

Have the learners stand in a line, with their backs to the educator. The educator clips an animal picture to their backs using the clothespins/pegs. The learners should not see and are not supposed to know what their animal is, everyone else can see their picture. Have them walk around the room and ask questions to each other to guess what animal is on their back. They are only allowed to ask yes or no questions (no asking what their animal is called!).

Encourage learners to ask questions based on information they have already learned. For example, if studying food chains have them ask: am I a predator? If studying colour and camouflage have them ask: do I have stripes? If studying classification, have them ask: am I a mammal? To encourage more interaction, and ask more varied questions, have a rule that they can only ask another person one question, then they need to find someone else to ask.

After they have guessed their animal, take the picture off their back and show it to them. If they have finished very fast, or you want the game to go on longer, give them another one to keep guessing. Depending on how hard the pictures are, some learners will correctly guess three or four while some are still guessing their first. If some are struggling, give them hints to make sure everyone guesses at least one correctly before ending the game.

To make this activity easier, review all the animal pictures to start. For older groups do not review the animals and consider using more obscure rainforest animals (e.g. archer fish, hornbill, etc.). If you are using harder animals, make sure they are ones the learners already know. For harder animals, consider having a label on the picture with the animal's name so that the others are giving correct information.

# Rainforest products

**Time:** 20-30 minutes
**Subjects:** Science, Literacy, Geography
**Materials:** Coupon leaflets from shop (grocery store) with pictures of products, maps/globes/etc.

**A more in-depth explanation of rainforest products, which can be tied into concepts of deforestation and the loss of the rainforest.**

Explain to the pupils that many of the things we use every day come from the rainforest. Have them try and guess what comes from the rainforest (some might guess fruits, bananas, etc.). Write the answers on the board as they make suggestions. At the end, explain that there are other things, besides food that we get from the rainforest.

Divide the class into small groups. Hand out the rainforest product sheets and coupon leaflets to each group. Explain that the rainforest product sheet lists some of the products that are often from places there used to be rainforest. Their job is to go through the leaflets and cut out every product they find which is on the rainforest product list. Remind them to think about derivate of products (e.g. something that is lime-flavoured probably uses some lime).

After they've cut the rainforest product pictures, explain that the other side of the sheet lists countries of export. Explain that an export is when a country makes something and sells it to another country. Have them sort their cut-out rainforest products, they should have four groups of products at the end: South American rainforest products, Africa rainforest products, Asian rainforest products, and products from multiple locations (e.g. Africa and South America).

For older pupils, or as an extension, have them find the specific countries these products come from.

Older groups could also do additional research to determine what parts exactly come from the rainforest. For example, most shampoos contain coconut derivatives which help them lather. As a group discuss how to solve the problem of cutting down the rainforest for these products. Should we stop using these products? Should we buy local products? Should we insist on rainforest friendly products (i.e. Rainforest Alliance, marked with a green frog logo)? What other ideas and options can the class develop.

# Rainforest products

| Product | Main location of export |
|---|---|
| **Shower gel / bath foam / shampoo (sodium laurel sulfate)** | Asia (Indonesia, Philippines, India) |
| **Liquid hand wash (sodium laurel sulphate)** | Asia (Indonesia, Philippines, India) |
| **Moisturiser and hand cream (nut oils; coconut oils)** | Asia (Indonesia); Africa (Namibia) |
| **Cosmetics: lipstick, foundation and mascara (cacao seed; palm oil)** | Africa (Côte d'Ivoire , Ghana); South America (Brazil, Ecuador); Asia (Indonesia, Malaysia) |
| **Vegetable oil** | Asia (Indonesia, Malaysia) |
| **Rubber: car tyres, toys, shower mats, electrical wires, balls, etc.** | Asia (Thailand, Indonesia, Malaysia) |
| **Banana** | India, Uganda, China, Philippines, Ecuador, Brazil, Indonesia |
| **Mango** | South America (Mexico, Brazil, Peru, Guatemala, Haiti) |
| **Pineapple** | Costa Rica, Philippines |
| **Limes and lemons** | India, Mexico, Argentina, Brazil |
| **Chewing gum (chicle tree sap/gum base)** | South America (Guatemala, Mexico) |
| **Rice** | Asia (Thailand, Vietnam, Cambodia) |
| **Wooden furniture (teak, bamboo)** | Asia (Indonesia and Myanmar) |
| **Paper (made from rainforest wood)** | Asia (Indonesia and Myanmar) |
| **Coffee** | South America (Brazil, Colombia); Africa (Ethiopia, Côte d'Ivoire) |
| **Tea** | Asia (Sri Lanka, China, India) |
| **Sugar** | Brazil, India, China, Thailand |

# Animal poetry

**Time:** 15-30 minutes
**Subjects:** Literacy

**Learners use their knowledge of the rainforest to write poetry.**

Introduce the pupils to different forms of poetry, for example, haiku, cinquain, and acrostic. Show them the example poems, by writing them on the board. After the pupils are familiar with the concept, they should choose an rainforest animal that they saw at the park. Using their memory and imagination they can try and write poetry about the animals they saw.

## Cinquain

Cinquain poems have five lines and have a specific pattern. Word cinquains are based on the number of words in a line.

### Cinquain Example

| | |
|---|---|
| Orangutan | *(one word—an animal)* |
| Forest man | *(two words that describe it)* |
| Climbing tall trees | *(three words expressing action)* |
| Sad you are endangered | *(four words explain how you feel about it)* |
| Amazing | *(sum up with one word)* |

## Acrostic

These are poems where the first letter (or syllable or word, etc.) spell out a word or message. The easiest is spelling out the name of an animals (for older children try hiding messages).

### Acrostic Example

**H**iding deep in the rainforest
**I**n remote forests
**P**erfectly camouflaged and hard for
**P**eople to see, are the
**O**utrageously tiny, pygmy hippopotamuses

## Haiku

Originating in Japan, the haiku is three line of poetry, following the pattern of five syllables, seven syllables and ending with five syllables. The lines do not need to rhyme.

### Haiku Example

| | |
|---|---|
| Hanging upside down, | *(five syllables)* |
| moving incredibly slow, | *(seven syllables)* |
| you're invisible. | *(five syllables)* |

# Food webs

**Time:** 10 minutes
**Subjects:** Science
**Materials:** Yarn, pictures of different rainforest plants and animals (optional)

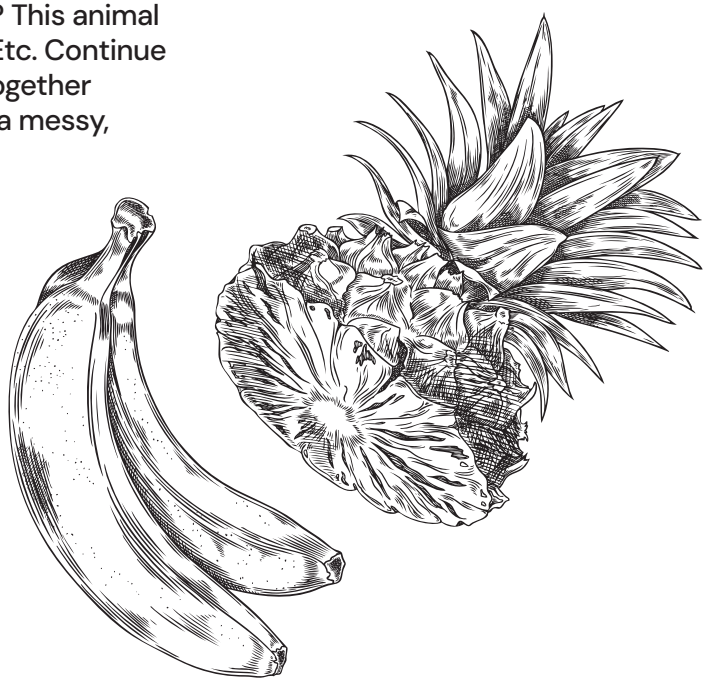
**This activity reinforces concepts about interdependency of animals in habitats.**

Have the learners form a circle. Get them all to name plants and animals that live in the rainforest. Hand out pictures of different plants and animals, or have them remember their answers. Give the ball of yarn to one of the plants e.g. a vine. Then ask if any of the animals would use a vine (climb on it, eat it, live in it, etc.).

Find an animal, e.g. a marmoset, and hand the ball of yarn to the marmoset (the vine should keep holding the end). Now ask what would connect to the marmoset, possibly a predator, e.g. an eagle. Hand the ball of yarn to an eagle. Continue connecting the learners with the yarn representing the relationship between the plants and animals.

Consider other connections as well, e.g. this bird lays eggs what would eat the eggs? This animal poops, what might use the poop? Etc. Continue until all the pupils are connected together by the yarn. It should now look like a messy, interconnected web. Investigate what happens to food webs if one element is removed. For example, ask what would happen if the rainforest is chopped down, the vines would all disappear (and most of the other plants as well). Have the learner who is the vine let go of the yarn.

Now, any other person who's yarn is loose (they were connected to the vine) should also let go. Use this to reinforce discussions of threats rainforest animals face and how important all the parts are for a healthy ecosystem.



# Home and away

**Time:** 10 minutes
**Subjects:** Geography, Science
**Materials:** Pictures of different habitats and animals

**This activity reinforces which animals live in the rainforest and which live in other locations.**

Introduce the learners to the idea that different animals live in different habitat. Would a rhino want to live in the rainforest? Would a chimpanzee want to live in the desert? Animals have specific adaptations that help them live in different places. Discuss different adaptations that let animals live in different places (e.g. warm fur for cold places, big ears for hot places, etc.)

Together, identify key habitat components of different habitats:

**Rainforest**
Lots of rain, very hot, lots of food, etc.

**Savannah**
Two seasons (wet and dry), a few trees, scrubby grass, etc.

**Desert**
Very little rain, very few plants, often very hot, cold at night, etc.

**Polar**
Very cold, 24 hour daylight/night at certain times of the year, ice, etc.

**Coral reef**
Underwater, lots of tiny fish and invertebrates, etc.

After identifying the key components of each habitat, place pictures of the different habitats around the room. Explain that you will be holding up pictures of different animals and the learner's job is to run to the habitat they think it would like to live in.

When holding up the pictures, give some facts about the animals to help guess where it lives. After the game go over the animals and discuss where they live and their adaptations in more details.

Some potential animals to use in the game include:

**Rainforest**
Sloth, kinkajou, binturong, cockroach, lemur, etc.

**Savannah**
Elephant, giraffe, cheetah, lion, rhino, zebra, etc.

**Desert**
Fennec fox, tortoise, scorpions, rattlesnakes, etc.

**Polar**
Polar bear, penguin, seal, sealion, etc.

**Coral reef**
Ocean turtle, shark, tropical fish, sea anemone, etc

# Ecosystem tag

**Time:** 20-30 minutes
**Subjects:** Physical education, Science
**Materials:** Arm bands (fabric strips to identify consumers and decomposers); energy chips (bits of card, pom-poms, etc.); pictures of different ecosystem levels

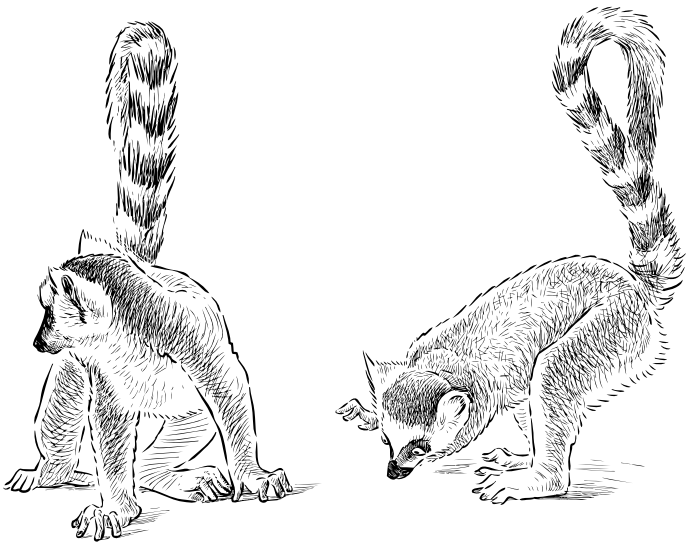
**This is a running game that reinforces concepts about predators/prey and different levels in ecosystems.**

Before beginning this activity, review what an ecosystem is. Remind learners of the different levels in food webs including producers (plants), consumers (most animals, e.g. sloths, parrots, monkeys etc.) and decomposers (insects, worms, bacteria, snails, etc.). Divide into three groups: decomposers, consumers (twice the number of decomposers), and producers (twice the number of consumers) (e.g. two decomposers, four consumers, eight producers).

Set a boundary for the playing area representing the size of the ecosystem. The energy chips represent energy from the sun, there should be more of these than producers. Place these objects in a box/bucket/etc. in the centre of the playing area. Each producer takes one energy chip from the box. They can only have one chip at a time, but if they lose it, they can get a new one from the box, because producers can make their own energy from the sun. Consumers get energy from eating producers. The consumers in this game tag the producers and are given their energy chip. Consumers can hold as many energy chips as they can get.

The decomposers pat to take the energy from the consumers and put it back into the ecosystem. Decomposers take the consumers and take away ALL their energy chips. When decomposers have the energy chips they put them back in the box/bucket for the producers (plants) to use again.

When the game has been played for a while, ask the learners how long the game could continue. The answer is forever! But what would happen if there weren't decomposers? Play again to find out what happens without one of the groups. At the end discuss how each group in the food web is important and has a specific role to play.



# Conservation debate

**Time:** 20-30 minutes
**Subjects:** Science, Drama, Citizenship
**Materials:** Copies of opinions and questions for each group (or write on board)

**Role play different opinions about conservation.**

Many rainforest animals are endangered and may go extinct. One of the main reasons they are endangered is deforestation (loss of habitat when the forest is cut down). Gorillas only live in the Congo rainforest. The rainforests here are being cut down. When the rainforest is all gone, the gorillas will be extinct in the wild. Divide your learners into groups and assign one opinion to each group. Have them pretend to have that opinion and answer the questions (with the opinion of that person, not their own opinion).

Next, mix the groups up, so one with each of the opinions is in all of the new groups (one farmer, one wildlife officer, one tourist). Have them debate their opinions in this new group and try and answer the questions again.
After the smaller groups have discussed their opinions, have each group share their answers with everyone. What was each groups opinion? Did any of the groups have the same solution for the problem? As an extension activity have learners try to determine other groups who might have different opinions about gorillas (other than farmers, wildlife officer, and tourists).

Repeat the activity with more opinions. Does that make it easier or harder to reach a solution?

### Questions to think about:

Do you think endangered species are more important than buying toys?

Who should get money spent by tourists?

How should the farmer make money?

How would you solve the problem of cutting down the rainforest?

Who would benefit from this proposal? Is it fair?

# Conservation debate

### Congolese Farmer:

"My family is poor. I barely have enough food for my family. Sometimes I can sell extra eggs from my chickens or get work in town. Even with that, I only earn 100-150 pounds a year. My farm is very tiny. If I cut down the nearby trees, I can make my farm a lot larger. If my farm is bigger, I can plant more crops and make more money. If my farm is bigger, I can maybe make 200 pounds a year farming and I can sell the wood for extra money as well! Just think of what I could buy, food, clothing, medicine, maybe even toys for the children!"

### Gorilla Wildlife Officer:

"We need to protect the rainforest. We are working hard to educate people about the importance of rainforest habitat. We patrol and prevent capture of gorillas for trade. We find and save injured and sick gorillas. Many volunteers are working to help protect this animal. However, every year more and more rainforest is cut down. Soon, there will not be a home for the gorilla in the wild. If they don't have a home, nothing we can do will protect them."

### UK Tourist:

"I've always dreamed of taking a trip to see gorillas in the wild. I'm going to volunteer at a gorilla reforestation project when I'm there and help the animals. I am saving up money for the trip because it is expensive to fly there, and I want money to donate to the animals when I'm there. But I need to go soon, before there aren't any gorillas left. If there were no more gorillas, I don't think I'd bother going."

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