



SWING, SLITHER, FLUTTER, HOP

**A Teacher Resource on
Movement in the Rainforest**

HOW TO USE THIS RESOURCE

This resource facilitates learning through play.

Contents:

-  Get to know tropical rainforests and their layers
-  Animals in the River
-  Animals on the Forest Floor
-  Animals in the Understorey
-  Animals in the Canopy
-  Animals in the Emergent Layer

Use the pictures in this resource to start a conversation or hone observational skills. Each set of images comes with teacher talking points and suggested activities to achieve learning outcomes.

You may like to print the images with the associated talking points on the back to help you facilitate your lesson.

NEL learning outcomes

- Discovery of the world
- Social and Emotional Learning
- Motor Skills Development
- Art and Aesthetics

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Promote parent-child learning activities including the **Forest Scavenger Hunt**

1. Share [Family Nature Time](#) resource with your students' parents.
2. Encourage at least 20 parents (per centre) to complete the **Forest Scavenger Hunt** activity and upload their scavenger hunt photos through [Ranger Buddies \(My Animal Buddy\) Parent's Dashboard](#) by 30 November 2021 .

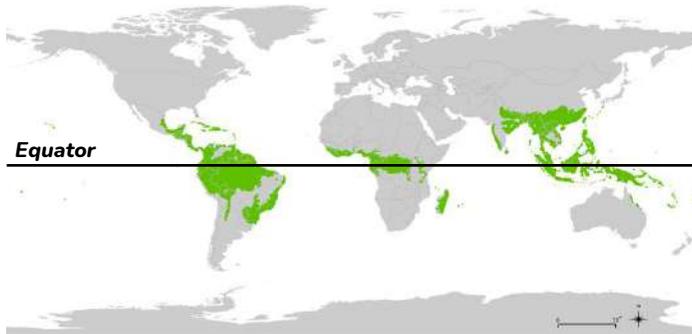
More details can be found at the [Ranger Buddies' Educator Page](#).

You may wish to use your students' activity photos, uploaded to [Ranger Buddies gallery](#), as prompts for class discussions.



GET TO KNOW TROPICAL RAINFORESTS

Tropical rainforests are found near the equator.



They are warm and get lots of rain. Many different types of plants grow in rainforests.



Photo credit: MWG/ David Tan

Rainforests are home to many different kinds of animals.



GET TO KNOW TROPICAL RAINFORESTS

Talking points:

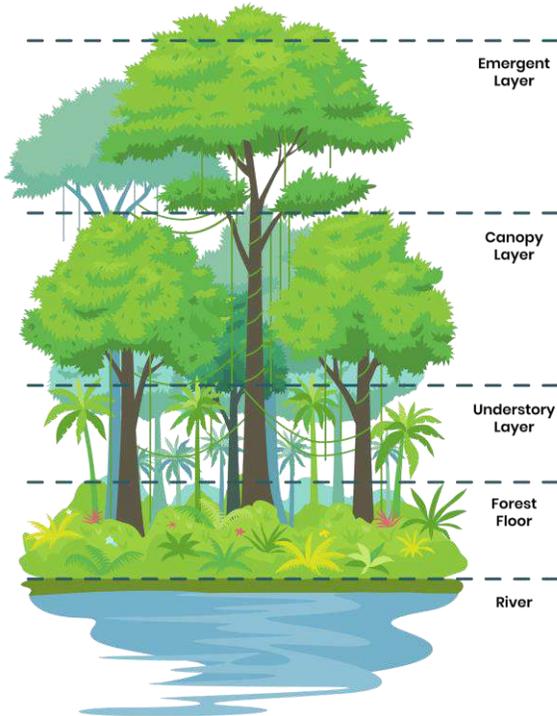
- The equator is an imaginary line around the middle of the planet. Places along the equator are warmer and get more rain.
- The plants in rainforests provide shelter and food for many animals.
- Some animals hunt other animals to survive.



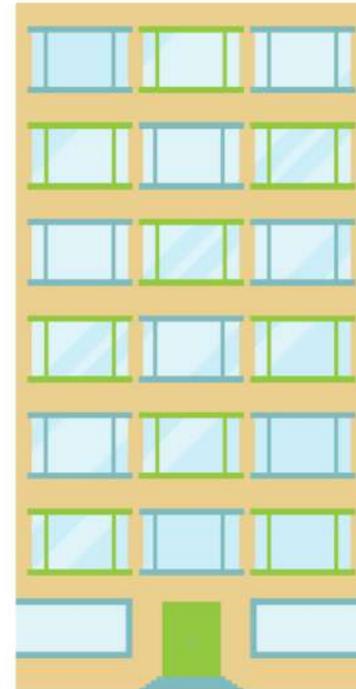
Fragile Forest is a rainforest-themed exhibit in Singapore Zoo.
As a class, explore this [360° photo of Fragile Forest](#).
What animals do you spot?

GET TO KNOW THE RAINFOREST LAYERS

A rainforest has different layers.
Different animals live in each layer.



A rainforest is like a block of flats
with many floors.
Different neighbours live on different
floors.





GET TO KNOW THE RAINFOREST LAYERS

Talking points:

- A rainforest has different parts or layers, from top to bottom.
- A rainforest is like a block of flats. Different plants and animals live on each “floor” or layer most of the time.
- Animals may move up and down from one layer to another.



Why do you think animals might move from one layer to another? What are some reasons you might leave your home for a while?

**Let's move like animals and
explore the rainforest layers!**



RIVER

GET TO KNOW THE RIVER

Talking points:

- The lowest layer in the rainforest is the RIVER.
- Rivers and streams are often found in rainforests.
- Animals drink from these streams.
- The animals that live here
 - Need or like to live in water
 - Eat food found in the river



Can you think of animals that might live in the river?

GET TO KNOW THE RAINFOREST FRIENDS IN THE RIVER



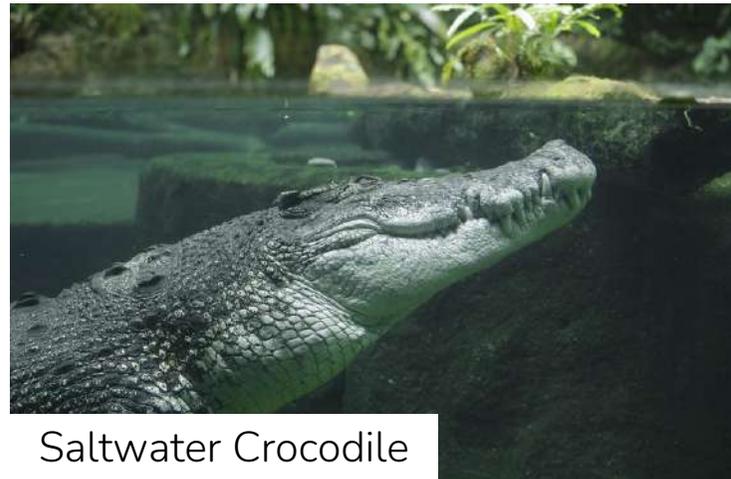
Roti Island Snake-necked Turtle



Singapore Freshwater Crab



Licorice Gourami



Saltwater Crocodile

A decorative border of green leaves and branches frames the top and bottom of the page. The top border features a large tree trunk on the left and various leafy branches. The bottom border shows a dense cluster of different types of green leaves.

GET TO KNOW THE RAINFOREST FRIENDS IN THE RIVER

Fun Facts:

- [Roti Island snake-necked turtle](#)
 - Darts its long, snake-like neck out to grab fish to eat.
- Singapore freshwater crab
 - Found only in Singapore's forest streams!
- Licorice gourami
 - Only lives in forest streams that flow slowly.
- [Saltwater crocodile](#)
 - Spends time both in rivers and in the sea.



**SINGAPORE
FRESHWATER
CRAB**



MOVE LIKE A CRAB!

Talking points:

Imagine you are a tiny crab!

- Singapore freshwater crabs find food on the riverbed. They eat worms that live in the river.
 - *Pinch* using your fingers and thumb like crab claws. Pick up a worm and stuff it in your mouth!
 - Singapore freshwater crabs spend time in water and on land.
 - *Squat* and *scuttle* sideways like a crab climbing out of the river to the next layer of the rainforest...
- 

FOREST FLOOR

GET TO KNOW THE FOREST FLOOR

Talking points:

- The next layer in the rainforest is the FOREST FLOOR.
- The forest floor is the ground in the rainforest. Dead leaves, branches and fruits cover the ground.
- The forest floor feels soft, damp and spongy.
- The animals that live here
 - Prefer to stay on the ground
 - Dig underground to make homes or find food



Chat!

Can you think of animals that might live on the forest floor?

GET TO KNOW THE RAINFOREST FRIENDS ON THE FOREST FLOOR



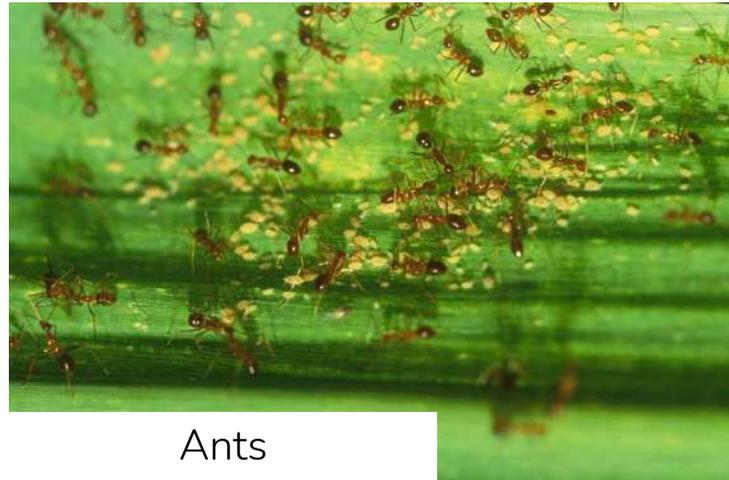
Lesser Mousedeer



Forest Cockroach



Horned Frog



Ants



GET TO KNOW THE RAINFOREST FRIENDS ON THE FOREST FLOOR

Fun Facts:

- [Lesser mousedeer](#)
 - Stomps its hooves on the ground when danger comes.
 - Forest cockroach
 - Eats dead matter and stops diseases from spreading.
 - Malayan horned frog
 - Looks like a dried leaf to hide on the forest floor.
 - Ants
 - Produce chemicals to tell other ants where to find food or when danger is around.
- 



ANTS



MOVE LIKE AN ANT!

Talking points:

Imagine you are a tiny ant!

- Ants “talk” to each other by touching each other with their antennae.
 - *Wiggle* your index fingers like ant antennae and “talk” to a friend by touching antennae.
 - Ants hunt for food on the forest floor and up in trees.
 - *March* in a line like ants climbing up a tree trunk to the next layer of the...
- 

UNDERSTOREY



GET TO KNOW THE UNDERSTOREY

Talking points:

- The next layer in the rainforest is the UNDERSTOREY.
- The understorey is made up of tree trunks, shrubs and vines.
- It is shaded by the canopy and is dark and quiet.
- The animals that live here
 - Like to hide
 - Can climb well
 - Live in tree trunks



Chat!

Can you think of animals that might live in the understorey?

GET TO KNOW THE RAINFOREST FRIENDS IN THE UNDERSTOREY



Malayan Sunbear



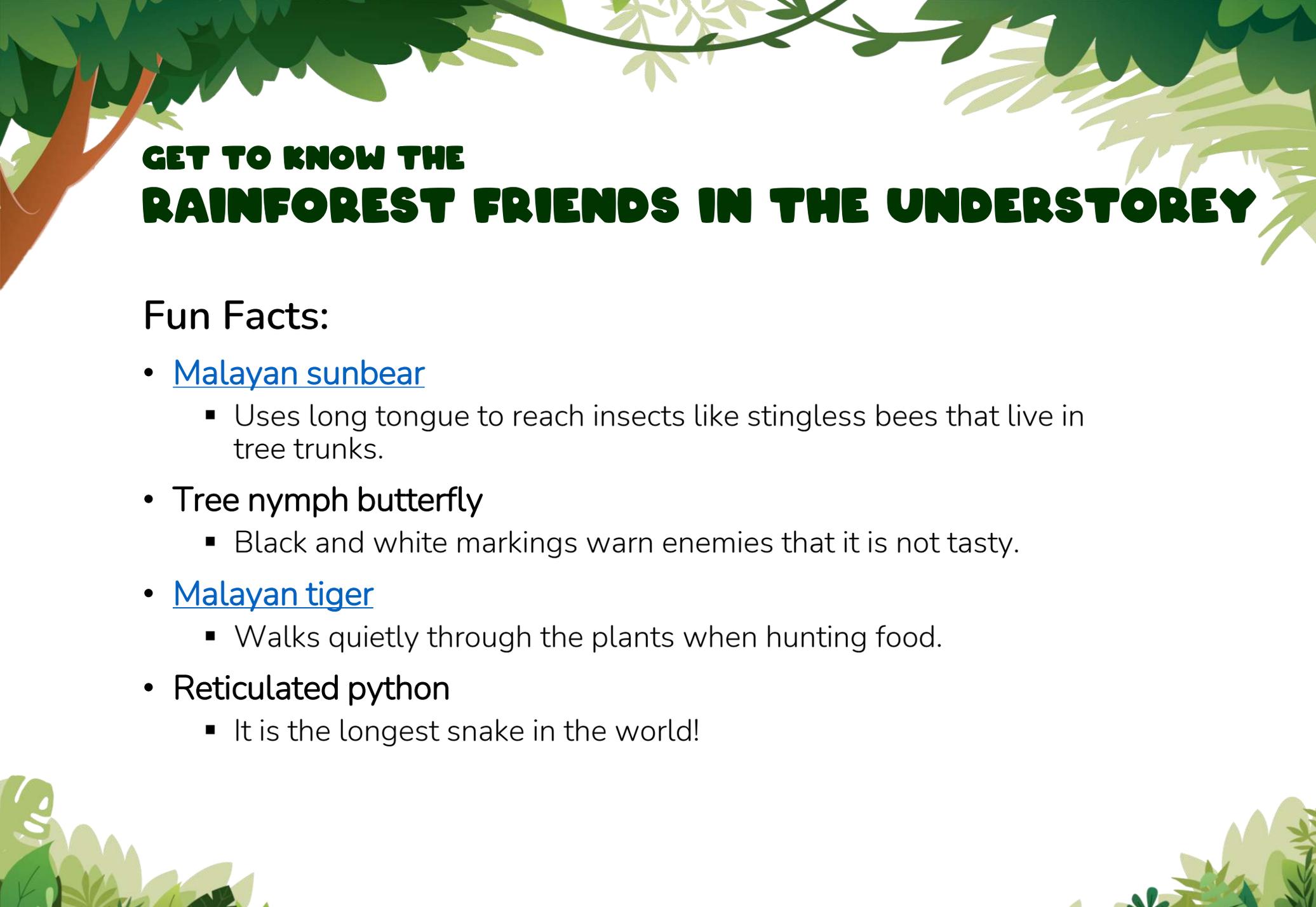
Tree Nymph Butterfly



Malayan Tiger



Reticulated Python

A decorative border of various green leaves and branches frames the top and bottom of the page. The top border features a large tree trunk on the left and various leafy branches. The bottom border shows a dense cluster of different types of green leaves.

GET TO KNOW THE RAINFOREST FRIENDS IN THE UNDERSTOREY

Fun Facts:

- [Malayan sunbear](#)
 - Uses long tongue to reach insects like stingless bees that live in tree trunks.
- Tree nymph butterfly
 - Black and white markings warn enemies that it is not tasty.
- [Malayan tiger](#)
 - Walks quietly through the plants when hunting food.
- Reticulated python
 - It is the longest snake in the world!

**TREE
NYMPH
BUTTERFLY**

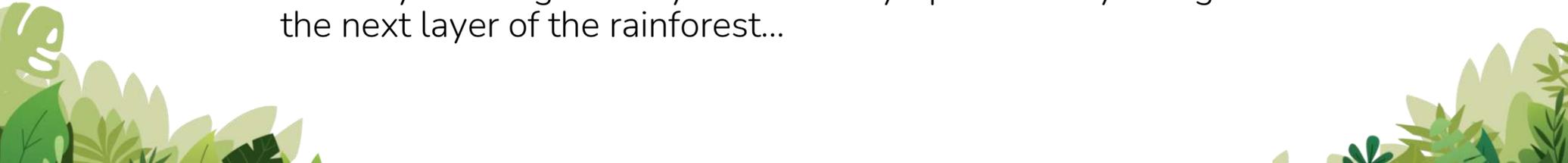




MOVE LIKE A TREE NYMPH BUTTERFLY!

Talking points:

Imagine you are a big butterfly!

- Tree nymph butterflies drink nectar from flowers in the understorey and treetops. They have straw-like mouthparts which curl up when they are not drinking.
 - *Stretch* your arm like a butterfly's mouthparts and take a drink of nectar.
 - Tree nymph butterflies fly slowly through the forest. Birds avoid them since they do not taste good!
 - *Flutter* your wings slowly like a tree nymph butterfly and glide to the next layer of the rainforest...
- 

CANOPY

A wide-angle, high-angle photograph of a lush, dense forest. The trees are packed closely together, creating a thick canopy of various shades of green. The upper portion of the image is shrouded in a light mist or fog, which softens the background and adds a sense of depth and atmosphere. The overall scene is vibrant and natural.

GET TO KNOW THE CANOPY

Talking points:

- The next layer in the rainforest is the CANOPY.
- The canopy is made of a thick layer of leaves and branches from many trees close together.
- Most rainforest animals live in the canopy.
- The animals that live here
 - Like to hide in leaves and on branches
 - Can fly or climb well
 - May use sounds to communicate through the leaves



Chat!

Can you think of animals that might live in the canopy?

GET TO KNOW THE RAINFOREST FRIENDS IN THE CANOPY



Bornean Orangutan



Paradise Tree Snake



Oriental Pied Hornbill



Gray's Twig Insect

GET TO KNOW THE RAINFOREST FRIENDS IN THE CANOPY

Fun Facts:

- [Bornean orangutan](#)
 - Has long arms and strong fingers and toes to swing through the trees easily.
- Paradise tree snake
 - Can flatten its body and glide from tree to tree!
- [Oriental pied hornbill](#)
 - Parents make their nests in tree holes.
- Gray's twig insect
 - Sways along with the twigs it hides in when the wind blows.



Meet Khansa!

The orangutan in this photograph is Khansa. Her birthday is 24 April 2017 and she was born in Singapore Zoo. She is one of the Zoo's youngest orangutans.

Let's watch this [video](#) to find out what Khansa likes. Do you like the same things?



**ORIENTAL
PIED
HORNBILL**



MOVE LIKE A HORNBILL!

Talking points:

Imagine you are a big bird!

- Oriental pied hornbills use their long beaks to reach for fruit on the ends of branches.
 - Shape your fingers like a hornbill's beak and *pick* small fruits off a tree.
 - Oriental pied hornbills have strong wings to fly from tree to tree looking for food.
 - *Stretch* out your arms, *fly* around the room and up into the next layer of the rainforest...
- 

EMERGENT LAYER

GET TO KNOW THE EMERGENT LAYER

Talking points:

- The highest layer in the rainforest is the EMERGENT LAYER.
- It is made of the tops of the tallest trees. It is bright, hot and windy here.
- Very few animals live here but some animals visit.
- You will find animals that
 - Want to be seen or heard
 - Can fly or climb well
 - Need to see food from far away



Chat!

Can you think of animals that might live in the emergent layer?

GET TO KNOW THE RAINFOREST FRIENDS IN THE EMERGENT LAYER



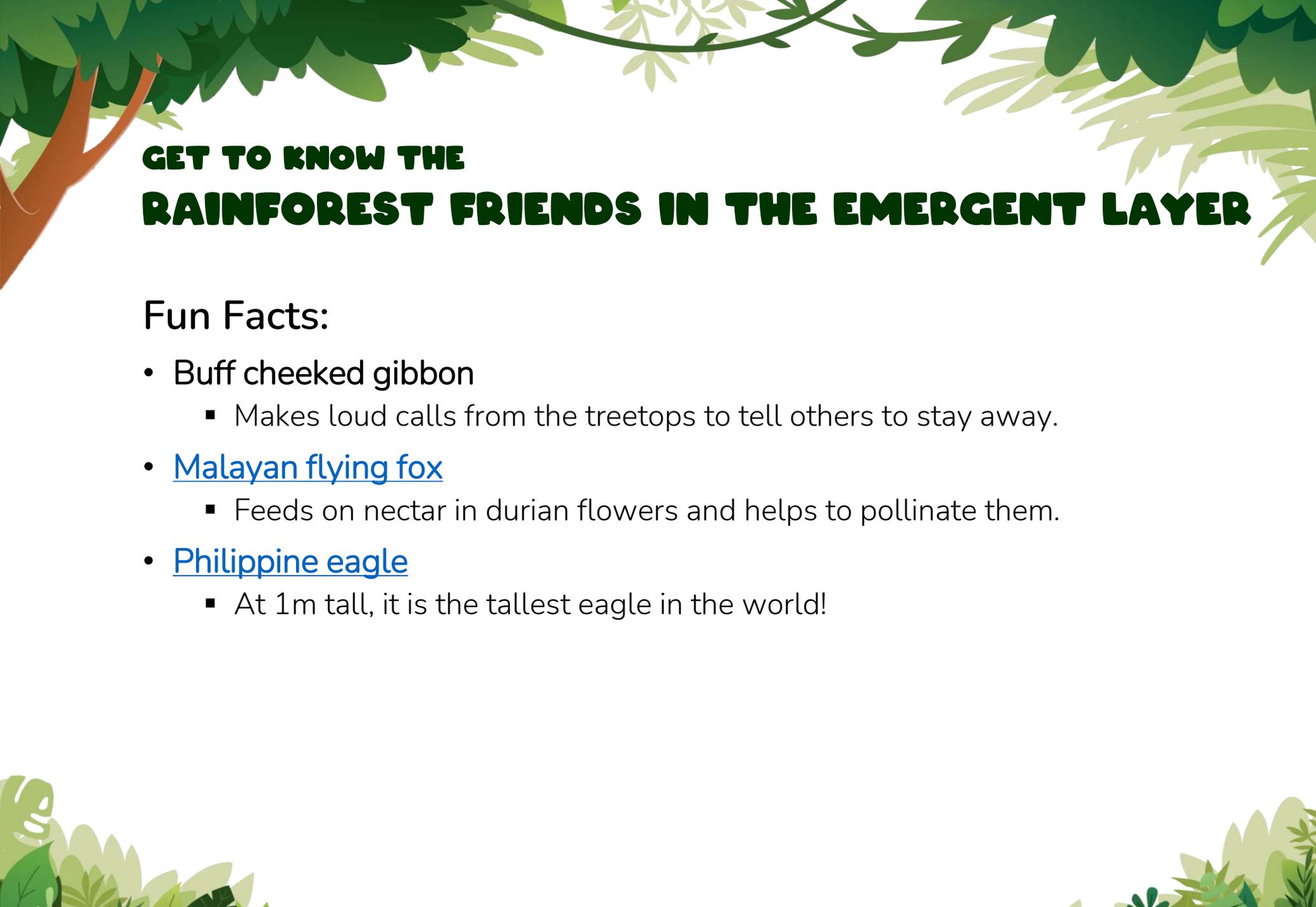
Buff Cheeked Gibbon



Philippine Eagle



Malayan Flying Fox

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GET TO KNOW THE RAINFOREST FRIENDS IN THE EMERGENT LAYER

Fun Facts:

- Buff cheeked gibbon
 - Makes loud calls from the treetops to tell others to stay away.
- [Malayan flying fox](#)
 - Feeds on nectar in durian flowers and helps to pollinate them.
- [Philippine eagle](#)
 - At 1m tall, it is the tallest eagle in the world!

**PHILIPPINE
EAGLE**





MOVE LIKE AN EAGLE!

Talking points:

Imagine you are a strong eagle!

- Philippine eagles can see food that is far away. They leap off high branches to dive quickly to catch their food.
 - *Hop* off your branch and *stretch* your arms behind you like an eagle as it dives to catch food.
 - Philippine eagles have sharp talons on their toes to grab food. They can catch large animals like monkeys.
 - *Squeeze* your toes like talons and pretend to grab your food. *Flap* your arms like wings to carry it back to your nest.
 - Enjoy your meal with a view of the beautiful rainforest!
- 

YOU CAN PROTECT THE RAINFOREST



Photo credit: MWG/ David Tan

Rainforests are being cut down for paper and other reasons.

Many rainforest animals are losing their homes.

You can protect the rainforest by **reusing** and **recycling paper** and choosing paper items that have the FSC logo.



EXTEND LEARNING IN YOUR CLASSROOM

Learning Centre Activities

Dramatic centre:

- Set up a rainforest with/for your students for dramatization. Provide props and costumes for children to role play different animals.

Math learning centre:

- Set up a sensory bin of the different layers of the forest. Explore numeracy skills of counting, sorting, matching and patterning.
- Where do the animals belong? Play a game to match the animals to the layers of the forest.



Craft Activity

Make a diorama of the rainforest. Involve parents and families to make their own shoebox diorama.

Raise Funds for Wildlife

Raise funds as a class and adopt a rainforest animal in Singapore Zoo.

Adoptions help us protect rainforest wildlife and provide the best care for our living collection.

Read more on our [Adopt An Animal School Edition](#) page. Email angeline.ho@mandai.com for enquiries and bookings.



Adopt Ah Meng the Sumatran orangutan...



... or Bunny the two-toed sloth, among others!

RAINFOREST LAYERS

