

ADELAIDE  
ZOO



# South East Asian Rainforest



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# For the Teacher

## General Information

Welcome to Adelaide Zoo!

The Zoo is a great place for learning. Adelaide Zoo Education aims to support student learning by providing resources to assist classes to have educational and enjoyable experiences at the Zoo.

This booklet will provide a range of activities which may be undertaken by your students during their visit to the Zoo. A map and suggested order of activities is provided to give a logical circuit to travel during the visit.

Animal species change from time to time, and sometimes animals are “off limits” or out of sight during visits, so a flexible approach to completion of activities is recommended.

In planning, please consider whether

- ◆ you would like your class to regroup for lunch, animal feeds, the Discovery Zone or at the Entrance at the end of the visit. If so, relay the times and meeting places to students or supervisors (in writing if possible.)
- ◆ you would like to see the Pandas or use the Nocturnal House: if so, book a time when making the Zoo booking so your students are not disturbed by other school groups.
- ◆ you would like a session with a Zoo Education Officer to support your study theme. Lesson requests are met wherever possible, though at busy times of the year you may need to have a few options with dates to enable a time to be negotiated. Again, this time is arranged at the time of booking your class visit.

If your class is not booked in to a program involving an Education Officer, we will attempt to meet your class at the Entrance on arrival at the Zoo. At this meeting the group will be welcomed and given some information about the Zoo to assist their visit. General behaviour expectations will also be outlined.

Specific information relating to this Zoo Trail will follow for the teachers and for adult supervisors. Please ensure that supervisors have a copy of the relevant pages **before they come to the Zoo** so they can also be mentally prepared to maximise the learning for the students in their care.

# South East Asian Rainforest – Primary

## TEACHER INFORMATION

### Pre-visit ideas

It would be helpful for students to have done some learning about the physical characteristics (climate, soils etc) of South East Asia. The relationships between the rainforest habitat and the plants, animals and people that live there will be explored in this trail .

The following terms could be introduced and discussed with the students, at a level depending on their age and knowledge.

- rainforest
- South East Asia
- camouflage
- predator/prey
- adaptation
- habitat

### Post-visit ideas

- Create a Food Web using the students as the ‘features’ of the web (plants & animals) and create links according to what eats or depends on what. Then see the effect as you gradually remove the parts of the web.
- Discuss the relationships between all living things in an ecosystem, and also, between the living things and the non-living environment they inhabit.
- Students could select a habitat, other than a South East Asian Rainforest, and construct (draw) a Food Web to suit it. Look at the effects of the habitat loss.
- Find out what Biological “HOT SPOTS” are? Locate them on a world map.
- Describe Australia’s biological hot spots.
- Choose 10 food products such as bread, a steak or wine and find the original source of the main raw material. For example, bread - main raw material, wheat, original source wild wheat plants from .....?
- How is rainforest clearance in Australia threatening our wildlife?
- Does conservation of threatened wildlife only involve breeding them or are there other issues relating to people which must be considered?
- Choose one Threatened rainforest animal and report about the reasons it is threatened, and any programs or conservation actions which are helping its survival.

Suggested animals:

- Golden-lion Tamarin
- Orang-utan
- Sumatran rhinoceros
- Sumatran Tiger
- Southern Cassowary

## **Links to SACSA framework**

### **Science- living systems**

- 2.5 Explores relationships between living things by posing investigable questions about features and functions.
- 3.5 Explores the interrelationships between systems within living things, and between living things in ecological systems. They relate these ideas to the health of individuals and to threats to sustainability of ecological systems.

### **Society and Environment- Place, space and environment**

- 2.4 Shows and reports on understanding of the interrelationships between natural and built environments, resources and systems.





## Background notes for teachers and supervisors on the day.

For this trail, students enter and move through the South East Asian Rainforest (SEAR) (Stage 1).

Students are encouraged to use their observation skills, to read signs and to talk to keepers to help them to answer questions and/or make suggestions. Throughout this booklet students will not only focus on the animals within the rainforest but also their habitats, the relationships between the two and features of a Tropical Rainforest.

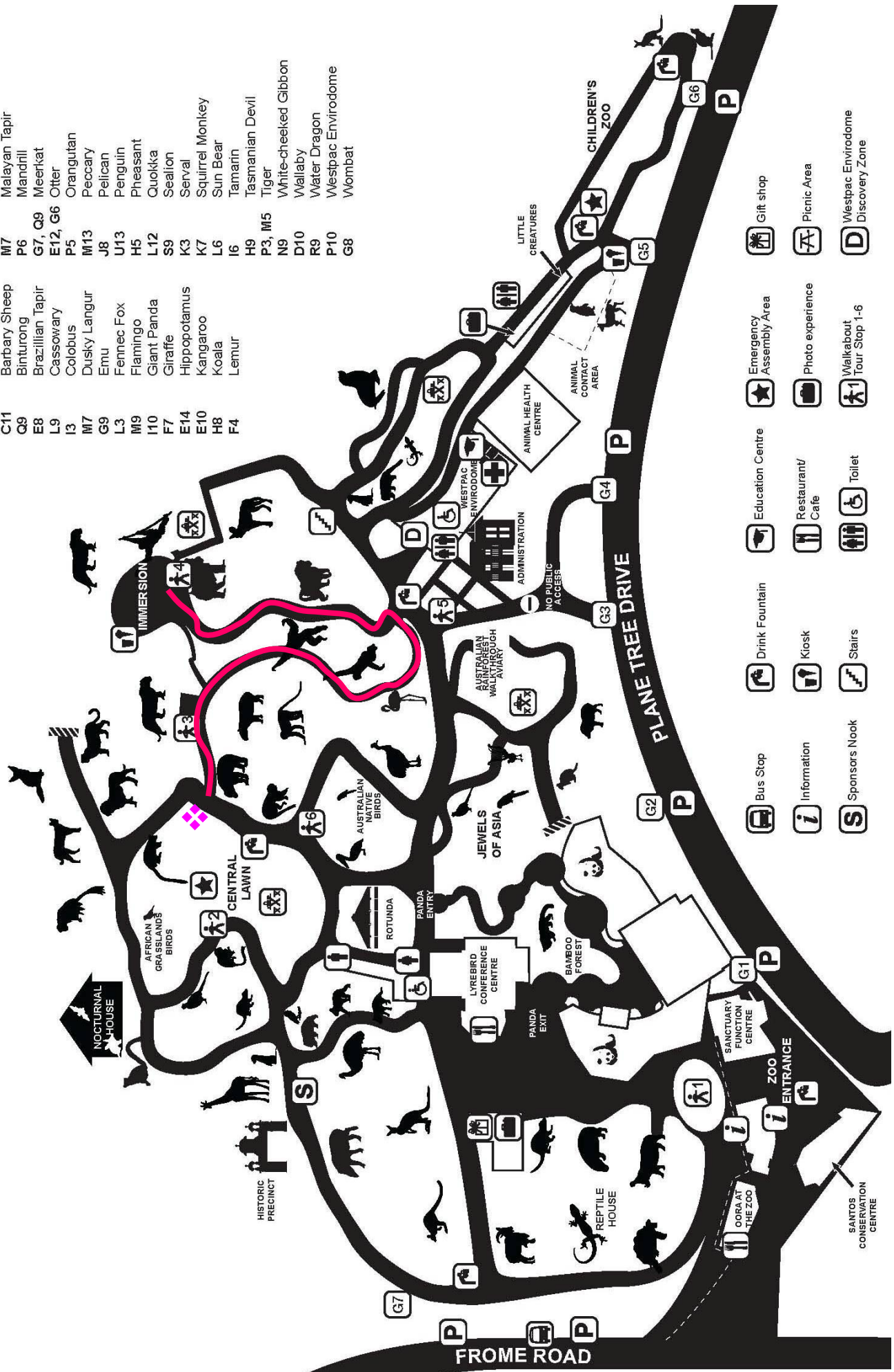
Students will be required to draw, write, discuss, observe, and question as they work through this booklet and move through the SEAR.

Teachers, group leaders and supervisors may also assist students by further discussing and guiding.

- Key
-  Observe carefully
  -  Discuss and share ideas with your group
  -  Write down your thoughts or draw your ideas
  -  Did you know?

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

- Q7 African Wild Dog
- C14 Aldabra Tortoise
- P8 Baboon
- C11 Barbary Sheep
- Q9 Binturong
- E8 Brazilian Tapir
- L9 Cassowary
- I3 Colobus
- M7 Dusky Langur
- G9 Emu
- L3 Fennec Fox
- M9 Flamingo
- I10 Giant Panda
- F7 Graffe
- E14 Hippopotamus
- E10 Kangaroo
- H8 Koala
- F4 Lemur
- M3 Leopard
- K4 Lion
- L11 Lyrebird
- M7 Malaysian Tapir
- P6 Mandrill
- G7, Q9 Meerkat
- E12, G6 Otter
- P5 Orangutan
- M13 Peccary
- J8 Pelican
- U13 Penguin
- H5 Pheasant
- L12 Quokka
- S9 Sealion
- K3 Serval
- K7 Squirrel Monkey
- L6 Sun Bear
- I6 Tamarin
- H9 Tasmanian Devil
- P3, M5 Tiger
- N9 White-cheeked Gibbon
- D10 Wallaby
- R9 Water Dragon
- P10 Westpac Envirodome
- G8 Wombat




1 2 3 4 5 6 8 9 10 11 12 13 14 15 16 17 18

# SOUTH EAST ASIAN RAINFOREST TRAIL - Primary

This trail begins at the Malayan sun bear entrance (  ) of the South East Rainforest exhibit. (Students may start at any point of the trail).

## At the Rotating Cylinders

-  Use the 'rotating cylinder' signs to help describe the climate of the Sun bear's natural habitat.

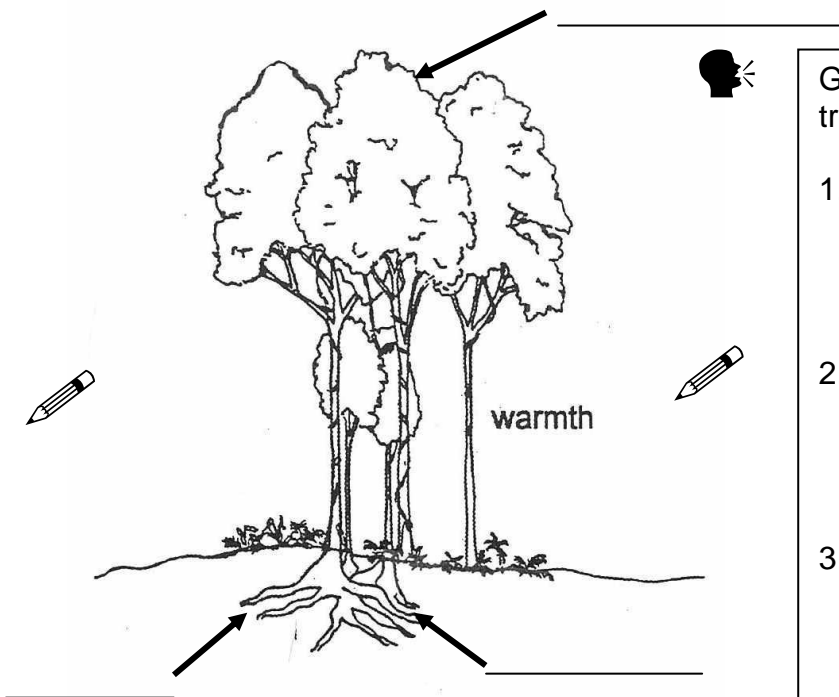
RAINFALL: \_\_\_\_\_



TEMPERATURE: \_\_\_\_\_

HUMIDITY: \_\_\_\_\_

- What do **plants** need from the Environment to live? **Label the diagram below**



Give 3 reasons why trees grow well in the tropical South East Asian area.

1.

2.

3.



- How are trees important to some of the animals of the rainforest such as:

Sunbears? \_\_\_\_\_



Bees? \_\_\_\_\_

Monkeys? \_\_\_\_\_

Tigers? \_\_\_\_\_

- Sketch a Sun bear and label the features (adaptations) it has that help it to survive in its habitat. It might help if you think of things that enable it to get food, protect itself, seek shelter and to move.



- Imagine that you are a Sun bear gifted with the ability to write your story about why your species is threatened. Write that story here.  
(You can do this later at home or at School!)



## In the Aviary

? This aviary is called a “**mixed exhibit**” because it has several different species (types) of birds living in here. Some mixed exhibits can also have a mixture of birds, reptiles and mammals, etc. It is important that animals that may eat each other or fight are not placed in the same enclosure. You will see other mixed exhibits around the Zoo.

- 👁
- Pick out 2 birds and find out what they eat by reading the signs. Make up a food chain which includes them.

An example of a food chain : grass (seed) → budgerigar → hawk

📏

\_\_\_\_\_ → \_\_\_\_\_ → \_\_\_\_\_  
\_\_\_\_\_ → \_\_\_\_\_ → \_\_\_\_\_

- 👁
- At the glass window use the sign to complete the following information:  
“Rainforests are very species-rich habitats. For example, the South East Asian Rainforest has over:

📏

\_\_\_\_\_ species of mammals  
\_\_\_\_\_ species of birds  
\_\_\_\_\_ species of flowering plants”

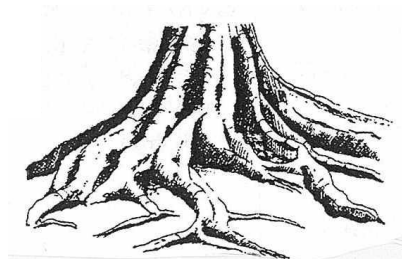
These figures are many times the number of species for a grassland, desert or polar area of the same size. Tropical rainforests are **HOT SPOTS** of species diversity.



## The Moreton Bay Fig tree


- Complete the sketch of the tree and label as many parts of the tree as you can.

👁 Many parts of the tree will be relied upon and used by animals for food, shelter, etc.





## Dusky Leaf Monkey and Siamang Gibbon


 Use good observation skills to find the Dusky Leaf Monkeys in the Moreton Bay Fig tree. Hint: Look for their tails hanging straight down.

The Siamangs are located on the other side of the walkway on the island.

- What parts of the Dusky Leaf Monkey help it move about the tree?





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 • Compare and describe how the Dusky Leaf Monkey and the Siamang Gibbon (a small ape), on the island, moves along a branch.

**monkey**

**gibbon**

 • Apes and monkeys are grouped together as primates because they are similar in some ways. Primates are relatively intelligent and use mainly their sight to investigate their environment. Can you find other similarities between a monkey and an ape?



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- Colour and size are not useful features to distinguish between apes and monkeys because there are monkeys that are bigger than some apes!



What can you find to tell them apart? (Clue: If the monkeys were lambs, they'd be wagging these behind them!)



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- Describe the Siamang's diet

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- Now, can you suggest how rainforest trees have their seeds spread away from their bases, where the seedlings would find it hard to grow due to a lack of light?



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- Have a good look at the Siamang's arms. Now look at your arms. How are the Siamang's arms different from yours? Why?

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## At ground level under the Moreton Bay Fig tree

### Malayan Tapir



- What is this animal's diet?

\_\_\_\_\_



- How might removing the monkeys, apes, tapirs and other fruit eating animals from the rainforest affect:

seed dispersal? \_\_\_\_\_



the number of new seedling trees? \_\_\_\_\_

the overall appearance of the rainforest? \_\_\_\_\_

\_\_\_\_\_

- The Dusky Leaf Monkey, Siamang Gibbon, Malayan Tapir and Green Peafowl are all Threatened Species. Draw the Zoo's symbol for this and explain the term.



\_\_\_\_\_


\_\_\_\_\_

### At the lower, glass-fronted viewing area- looking down on the two islands

Conserving water is important for some animals such as those living in a desert.

Without water they will quickly die. Conserving water in the Zoo is important too - it can save money, and is good for the environment.

## Sumatran Tiger

 Gather information for this section from both tiger enclosures,

- The Adelaide Zoo has one of the 5 remaining types (sub-species) of tiger – the Sumatran Tiger.

On the map below, and using the tiger sign, show where this sub-species is found.



Approximately how many Sumatran Tigers are there remaining? \_\_\_\_\_

?

***In fact, Sumatran Tigers are Critically Endangered; that's getting very close to Extinction! Do you know what extinction means? If not, ask your teacher.***

The following may also give you some clues!

- Describe its habitat: \_\_\_\_\_



\_\_\_\_\_

- Can you suggest 3 reasons for the decline in numbers of this tiger sub-species?

1. \_\_\_\_\_



2. \_\_\_\_\_

3. \_\_\_\_\_

**Cultural Fact**

Look at the tiger's forehead. Can you see markings that look like this:



?

This is the Chinese mark of wang or King, and one reason that it is respected (honoured) and seen as something of great strength and power!

- Look at the tiger – what is it doing?



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For most parts of the day this big cat, like most cats, will be sleeping or resting.

Write the word that describes animals that behave like this.



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Can you name two other animals in the Zoo that sleep during the day?

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- What are some of the things that Zoo Education programs aim to achieve?

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## Orang-utan



Orang-utans have some amazing adaptations to help them live in the trees of the rainforests. Watch the orang-utans and fill in the rest of the table.

Feature	Use	Picture
Eyes	See food and judge distances between trees and branches when moving.	
Teeth		
Hands		
Feet		
Ears		
Nose		



Read the signs to find out what you and your family can do in your everyday life that would be positive things for orang-utans in the wild!



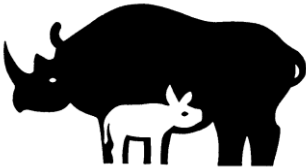
Name 2 things 1) \_\_\_\_\_

2) \_\_\_\_\_

Orang-utans are a Threatened Species, as too are lots of other animals in the Zoo. Find some of the other Threatened Species from the SEA Rainforest and fill out the table below. The first one is done for you.



*Clue: Look for this symbol. This will be at the enclosure of all animals that are Threatened Species.*



<b>Animal</b>	<b>A reason why they are Threatened</b>
<i>Orang-utan</i>	<i>The cute babies are stolen from their mothers and sold as pets.</i>



What does the term "Behavioural Enrichment" mean? Discuss with your group!



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Why is it so important in Zoos?



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What behavioural enrichment items can you see in the orang-utan exhibit?



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Can you design and draw an orang-utan behavioural enrichment item that the Zoo could give to the Orang-utans?



Take note of any other behavioural enrichment devices you see throughout the Zoo.



- What is meant by the following statement?



**"Without the animals, especially the fruit-eaters, there would be no rainforest"**

Think about this, discuss it and complete at home or back at School.



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