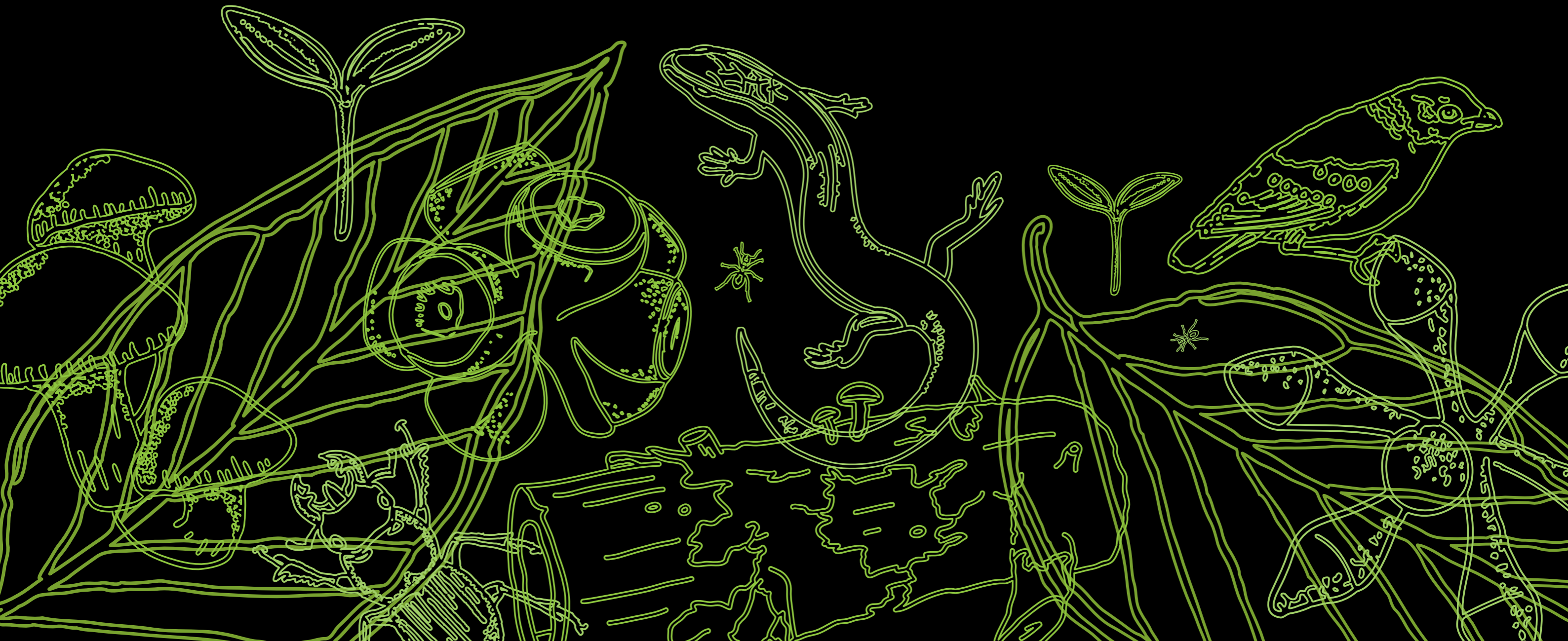


Theme 1

What is a forest?

The concepts within this theme provide students with the fundamental knowledge of Tasmania's forests as ecosystems. Comprehending these concepts will lead to an understanding of the relationship between forests and humans.



Forest Definition

Identifying what constitutes a forest provides students with the basis for examining forests in a broader context.

A forest is a complex ecosystem characterised by a dominance of tree cover – a living web of many species of plants and animals.

From the forest canopy to deep in the soil, forests provide shelter, food and habitat for thousands of species of animals – birds and mammals, reptiles and amphibians, insects and other invertebrates.

Forest Structure

Most forests have several layers of plants:

- At the top is the canopy of mature trees
- Below are the understorey trees, then a layer of shrubs
- Close to the ground level are herbs and grasses
- Lying on the forest floor is a layer of litter – fallen leaves, branches and rotting logs
- In the soil below, probing roots seek water and nutrients

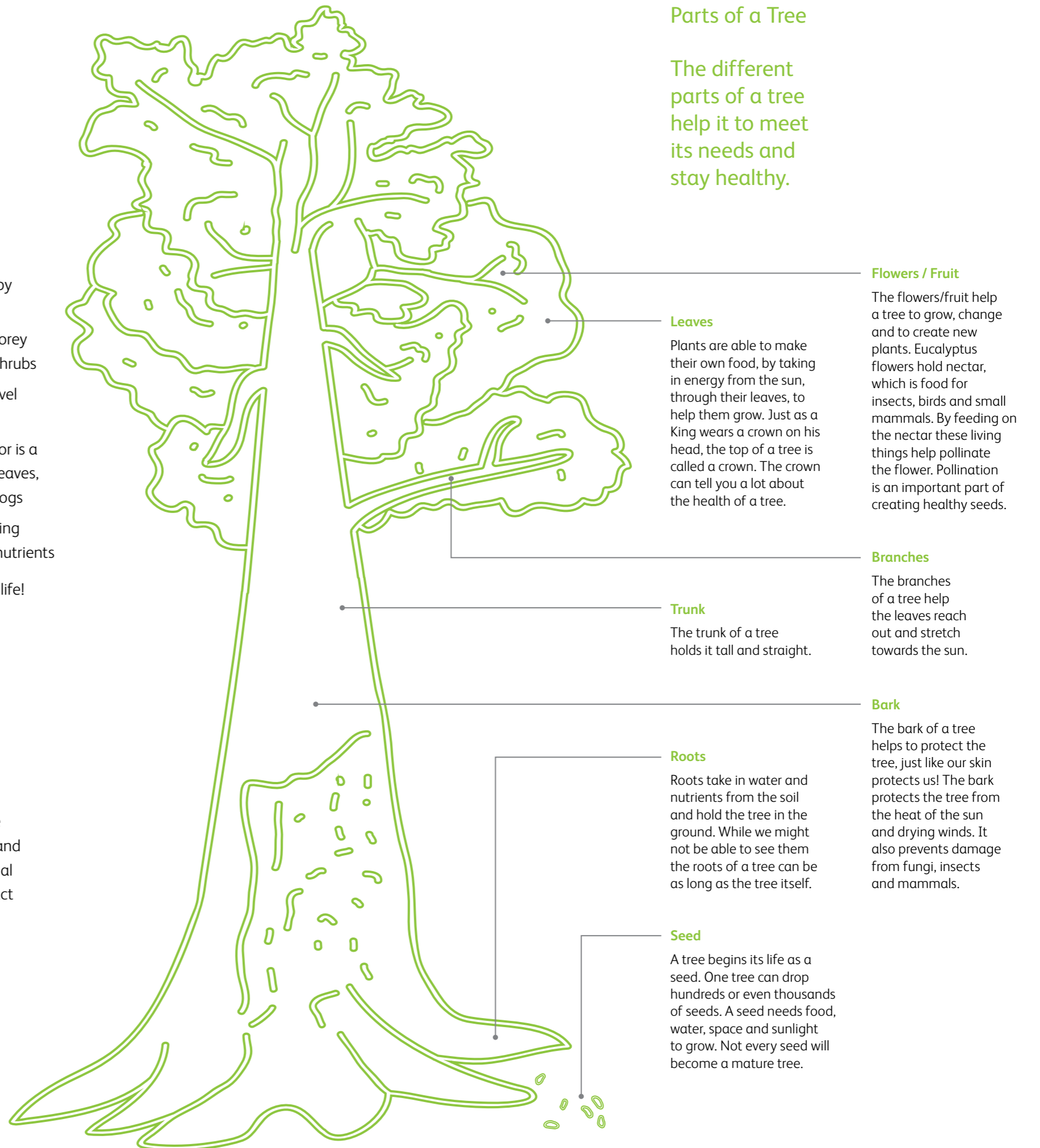
And that's just the plant life!

Trees as Part of the Forest

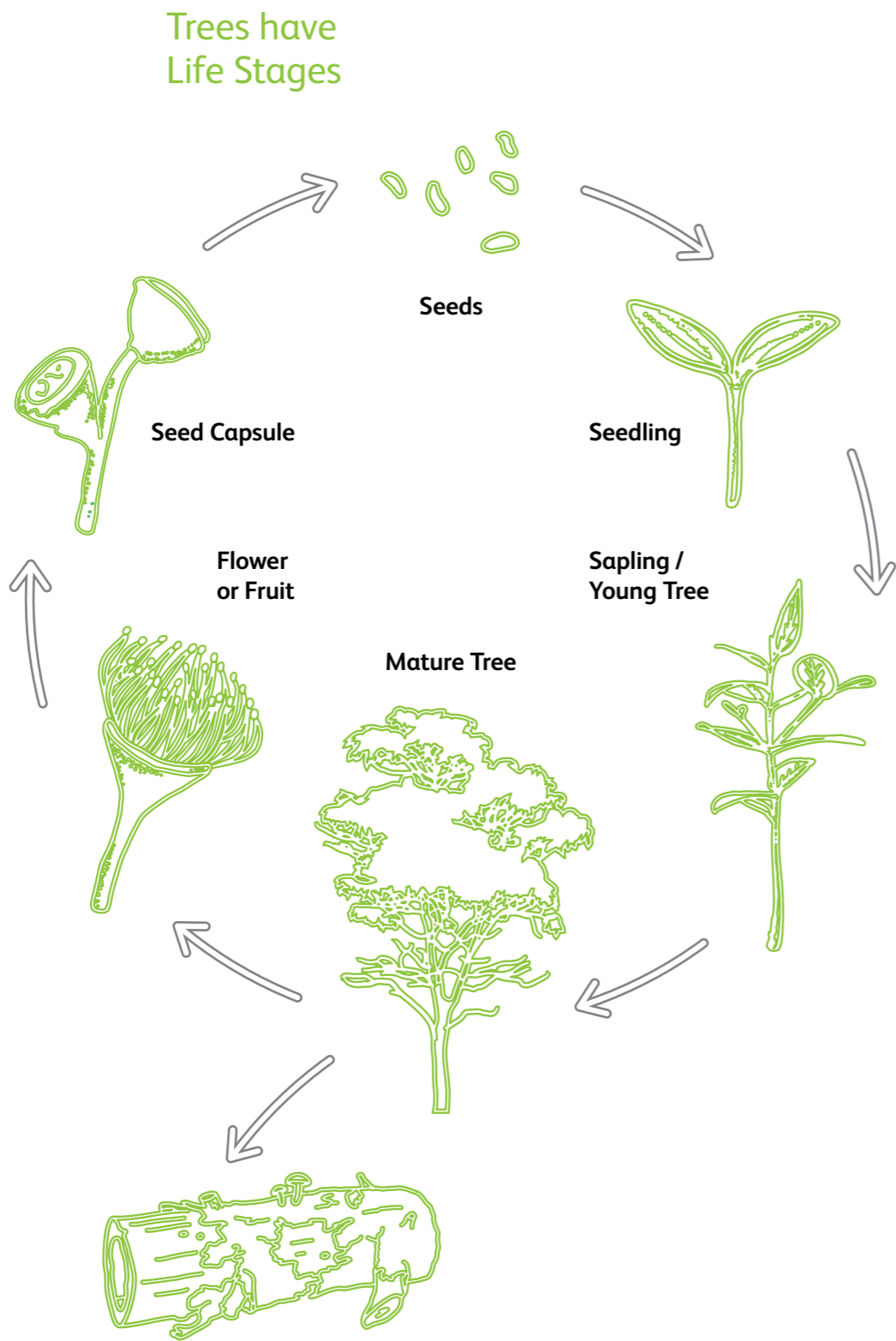
One of the defining characteristics of forests is the trees within them. The following concepts help students appreciate the uniqueness of trees and understand how individual trees function and interact in a forest ecosystem.

Parts of a Tree

The different parts of a tree help it to meet its needs and stay healthy.



Theme 1 What is a forest?

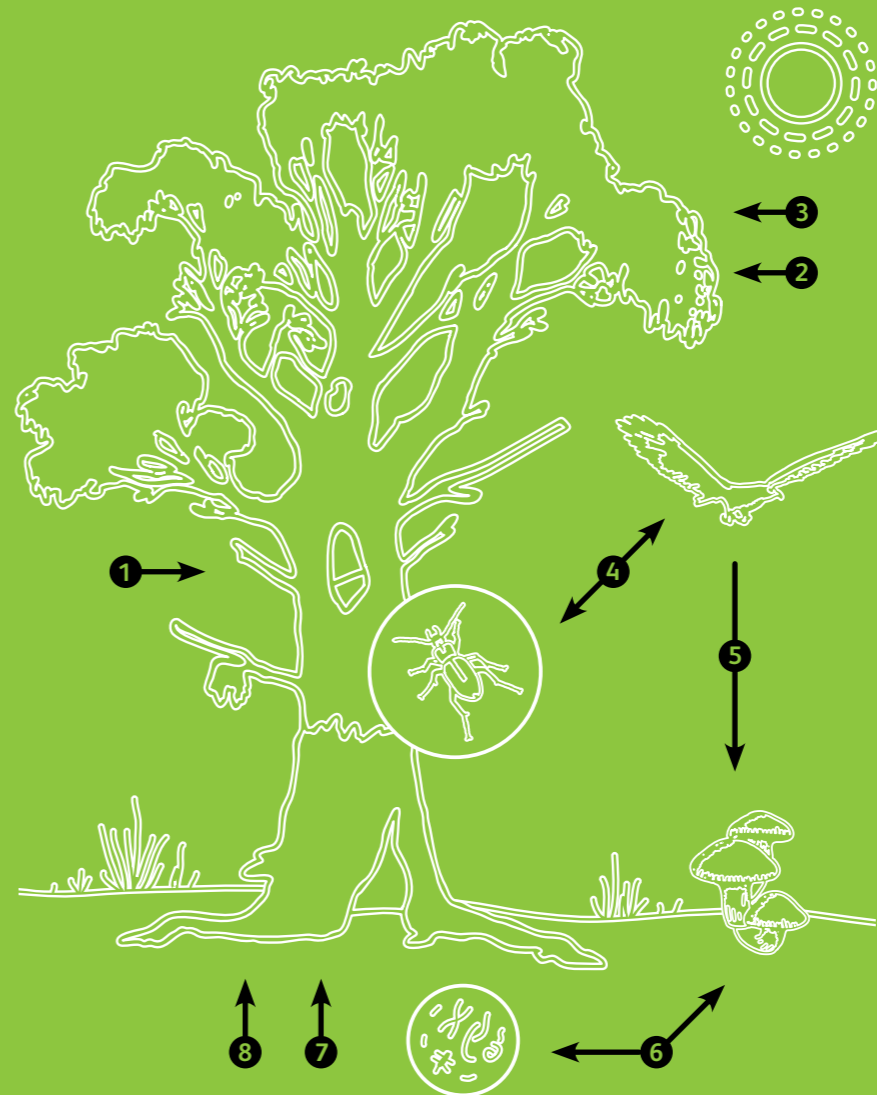


Rotting Log

When a tree dies its role in the forest is not over. Rotting logs provide shelter and food for different living things in a forest and as they decompose, they supply nutrients to the soil.

As part of the forest ecosystem, trees have various roles (e.g. supplying oxygen, providing habitat, holding soil, moderating temperature, capturing and storing carbon, and cycling water and nutrients).

Forests as Ecosystems



- 1 Producer
- 2 Carbon dioxide used by growing plants
- 3 Light Energy
- 4 Consumers
- 5 Body wastes and dead remains of producers and consumers
- 6 Decomposers
- 7 Water
- 8 Nutrients

A forest is a complex web of life, a solar-powered community of plants and animals that depend on each other for their growth and survival.

Biodiversity, a wide variety of plant and animal species, is a key element of a healthy ecosystem.

In a forest ecosystem, life starts with the sun. Its ultra-violet light enables green plants to create their own nutrients through photosynthesis, using simple chemicals present in soil, water and air.

Trees and forests influence and are influenced by their surrounding environment. Understanding basic ecological principles and how they apply to forests helps students appreciate the characteristics of forest ecosystems.

These plants are the producers, as they grow, they provide food for some of the forest's consumers, plant-eating animals and insects, which browse on leaves and seeds. Other animals in the forest prey on the consumers themselves – birds eat insects, carnivorous mammals scavenge for carrion.

But all the producers and consumers put together are greatly outnumbered by the most numerous, but least obvious, creatures in the forest, the decomposers. These are the fungi, invertebrates and soil bacteria. The decomposers break down the plant and animal material that falls on the forest floor, recycling its nutrients to nourish new growth and to ensure the cycle of life in the forest ecosystem continues.

An ecosystem can be as big as an entire cool temperate rainforest or as small as a pool of water in alpine heathland. Both may support a community of interdependent plants and animals.

Theme 1 What is a forest?

Forest Classification

Classifying and differentiating forests into biomes and types helps students make connections among the forests in their community, the forests in Tasmania and other forests in the world.

Trees can be classified into family, genus and species groups based on their seeds, leaves, flowers and other tree parts.

Different forests grow in different places – Tasmania's forests vary according to changes in soil type, geology, rainfall, climate, topography and fire history and behaviour.

Many different forest types exist in Tasmania, often named by their dominant tree species. Common forest types include Dry Eucalypt Forest, Wet Eucalypt Forest, Mixed Forest and Cool Temperate Rainforest.

