



For Arthur, who knows a silver
birch when he sees one.
E.Y.

To my little garden: my daughter
Chloe, whose name means *green
shoot*, my mother, the splendid
Rose and my husband, Ray of light.
M.A.

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Introduction

Did you know that trees have been around for longer than people? They have existed on Earth for about 370 million years, arriving even earlier than the dinosaurs!

Trees grow in lots of different places and some of them can live for thousands of years. They are very friendly to our planet, cleaning the air we breathe and keeping the atmosphere cool.

They provide homes, food and shelter for our wildlife – from tiny ants to squirrels, and the birds who nest in their branches.

Trees also provide us with wood and paper (like the paper this book is written on!), delicious fruit like apples and pears, and beautiful flowers. Being around trees is very relaxing, which is why a walk in the woods can often feel wonderfully calming.

The first section of this book will tell you a bit more about trees, and then the 'field guide' section shows you 60 different trees which you can go out and spot for yourself – in your garden, on your street, local park and of course – in the woods! Once you've become a tree expert you can have a go at the quiz and activity at the end of the book. Tree-mendous!



What is a tree . . .

and how is it different to other forest plants?

A tree measures at least five metres in height when fully grown – as tall as a giraffe. Some trees grow much bigger than this. If it is less than five metres tall, it's usually called a 'shrub'.

A tree has **roots**, which usually spread out underground until they are as wide as the tree itself – and sometimes even wider! Roots can appear above the ground too.

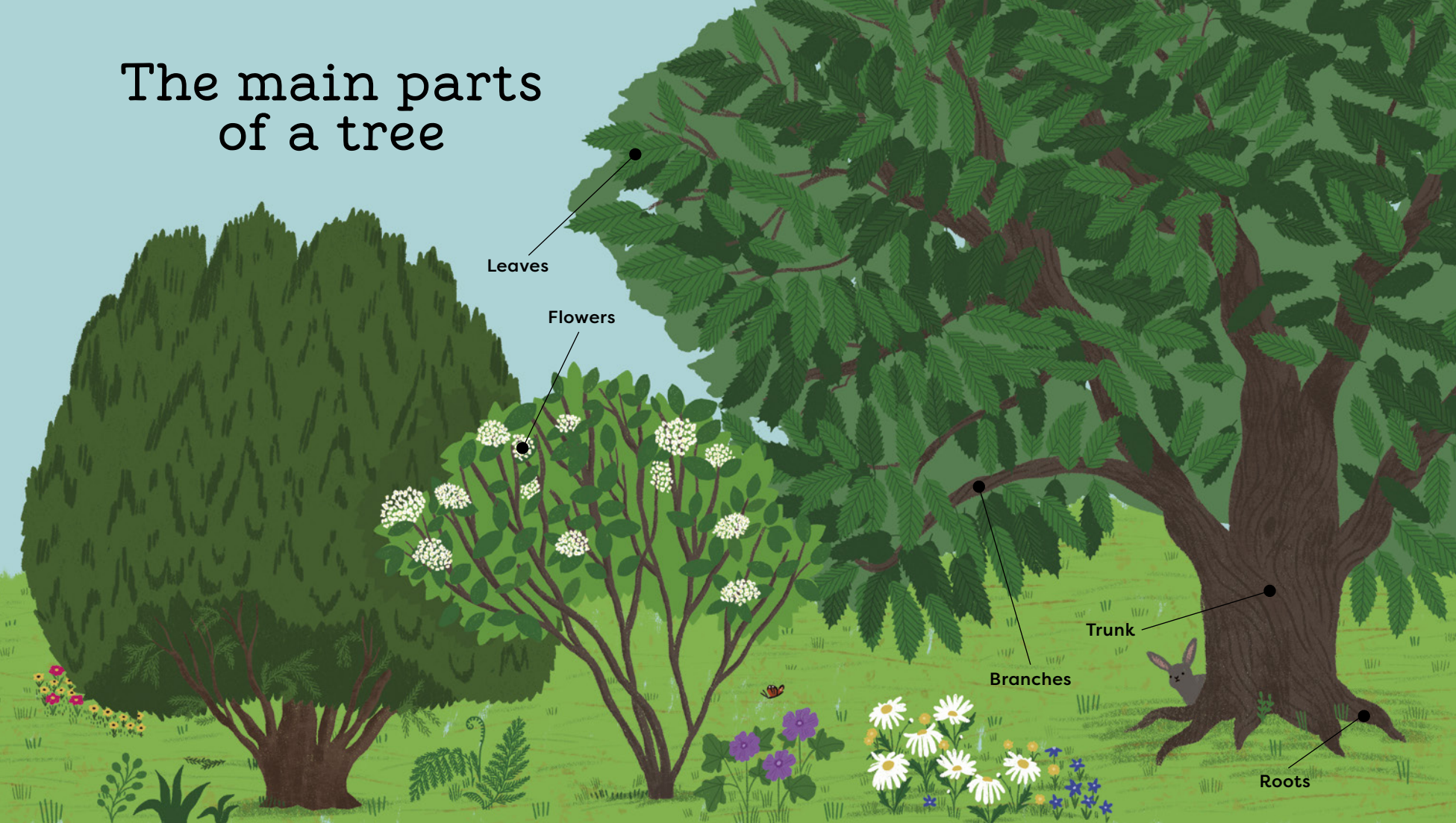
It also has a '**crown**' – which means all the leaves and branches on the tree, and a **woody trunk** covered with bark.

At certain times of the year, some trees might have **flowers** or **fruits**. These fruits carry seeds made by the trees. Some fruits might look like the apples and berries you see in shops, but some might look very different to this!

The biggest tree in the world, known as 'General Sherman', is 83 metres tall – that's a tower of 16 giraffes!



The main parts of a tree



Roots anchor the tree to the ground, suck up water and minerals from the soil and store food for the tree.

Leaves turn sunlight into food for the tree, keep the tree cool by releasing water – a bit like sweating! – and trap dust particles which clean the air.

Branches support the leaves of the plant so they can reach the light and store food materials for the tree.

The **trunk** holds up the tree. It is covered in protective bark and carries water, minerals and food to all parts of the tree.

Flowers produce seeds which can become new trees.

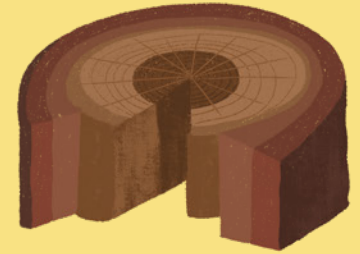
Inside the trunk

The trunk can give us a lot of fascinating information about the tree. So next time you're in the woods and you spot a tree stump, why not take a closer look and see what you can discover.

If you count up all the rings on the trunk it will tell you how many years old the tree was when it was cut down. The ring in the middle of the trunk shows its very first birthday!

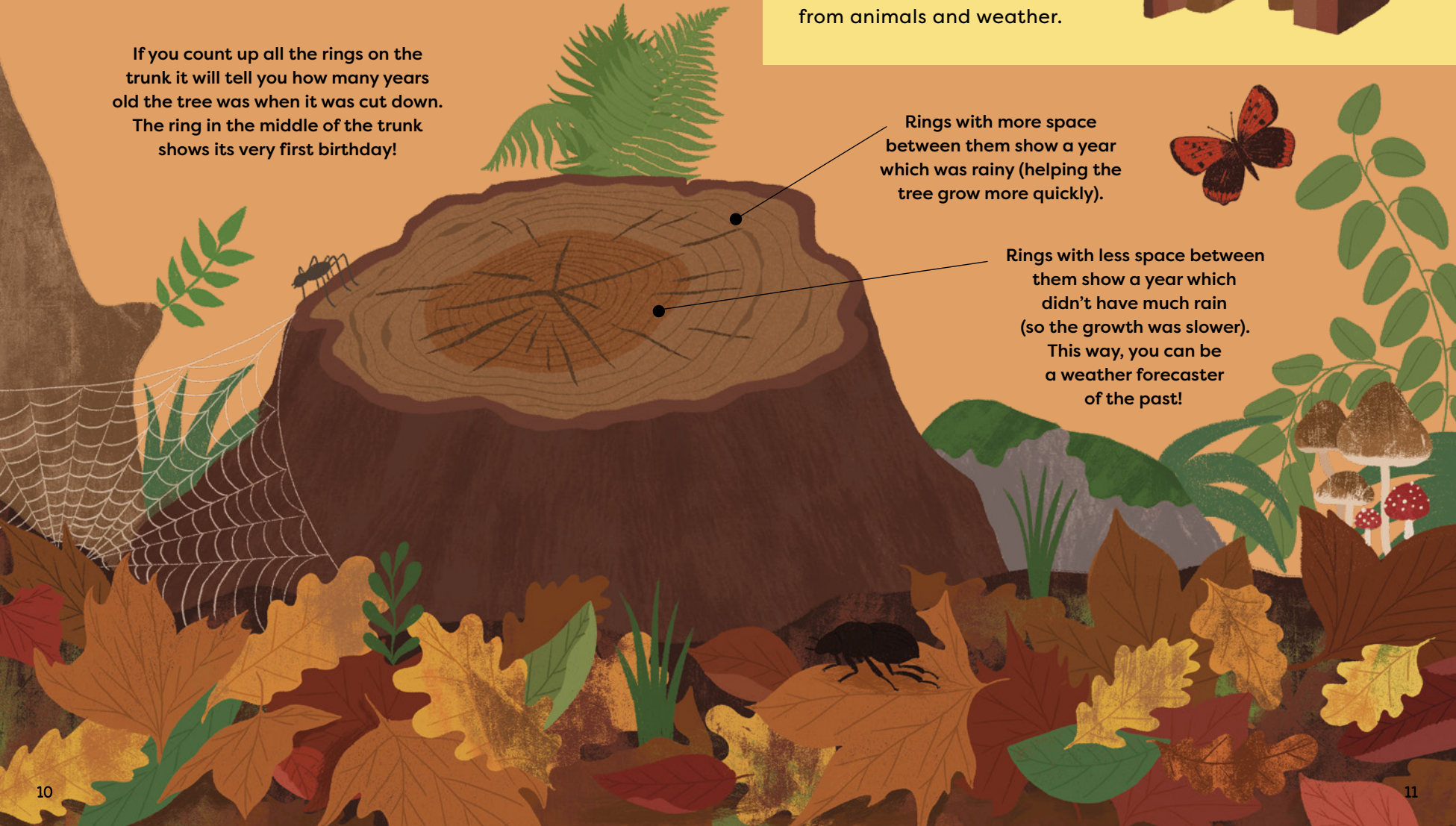
And don't forget to check out the layers of bark . . .

The inner layer of bark is alive and contains a tissue called **phloem**. Phloem carries the food made by the leaves to the other parts of the tree. The outer layer of bark is dead and protects the tree from animals and weather.



Rings with more space between them show a year which was rainy (helping the tree grow more quickly).

Rings with less space between them show a year which didn't have much rain (so the growth was slower). This way, you can be a weather forecaster of the past!



Apple

(*Malus domestica*)

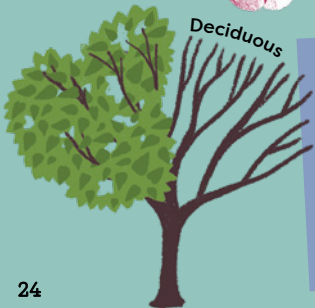
There are thousands of varieties of this tree available for planting, producing apples which can be red, green, yellow or orange. Some are for eating, others are better for cooking (hello, apple crumble . . .).

Pretty pink and white flowers in spring; colourful, edible apples in autumn

Bumpy grey bark

Dark green, oval leaves with serrated edges and a slight furriness underneath the leaves

Apple



HEIGHT up to 9 metres
SHAPE low, broadly spreading, dome-shaped crown
HABITAT prefers temperate climates but can be grown in colder climates too
WHERE cultivated worldwide

Crab apple



Crab apple

(*Malus sylvestris*)

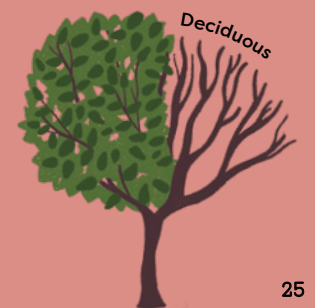
The size of the apples is the best way to tell the difference between an apple and a crab apple tree – crab apples are smaller, measuring about 2-3 cm across. If they are not picked, crab apples stay on the tree throughout winter.



Glossy, oval leaves

White, pink or red blossom in the springtime. Small green, yellow or red apples in autumn. They are usually hard and too sour to eat, but birds and mammals love them

Gnarly, twisted bark



HEIGHT up to 8 metres
SHAPE rounded, uneven crown with wide-spreading canopy
HABITAT scrub or woodland edge
WHERE found naturally across Europe

Blackthorn

(Prunus spinosa)

Blackthorn flowers early, with the blossom emerging before the leaves. It is one of the first trees to provide nectar for insects in the spring.

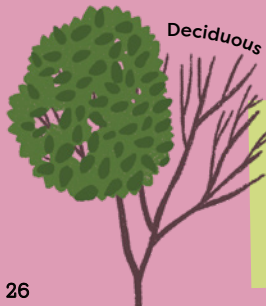
Small, oval leaves with serrated edges and pointed tips

Black, spiny twigs

Lots of white, star-shaped flowers with five petals.
Sour, dark purple fruit called sloes

Sloe

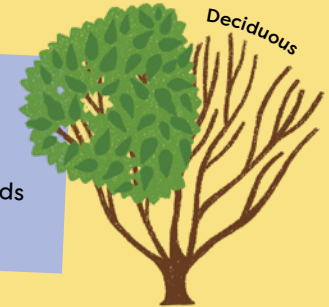
HEIGHT up to 7 metres
SHAPE thorny bush-like tree
HABITAT in hedges, on rocks and in woodland
WHERE native to Europe and elsewhere



Alder buckthorn

(Frangula alnus)

HEIGHT up to 6 metres
SHAPE bushy shrub
HABITAT wet woodlands and riverbanks
WHERE native to most of Europe and spreads to western China



Green, glossy and slightly hairy leaves with rounded tips

Brimstone butterfly

Smooth dark grey-brown bark which is yellow inside

Pale green flowers in spring; red berries that turn purple-black in autumn

Alder buckthorn berries



Alder buckthorn is delicious food for the brimstone butterfly which will travel for miles to lay its eggs on a buckthorn tree! Birds love the shrub's glossy berries. The berries and bark are poisonous to humans though, so keep away!