



Magnifying Glass

Naturalist's Guide

Activity Cards





Activity Kit For Young Naturalist's

IN NATURE



Writing

Rubbing

Exploring

Drawing

Comparing

Touching

Smelling

Matching

Playing

Listening

Recording



Activity Kit For Young Naturalist's

IN CLASSROOM



Writing

Rubbing

Exploring

Drawing

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HOW BIG IS A TREE?

Trees come in many shapes and sizes, and grow bigger as they get older, like you and me.

HOW TALL?

HOW BIG AROUND?

HOW WIDE?

5 FEET

CAN YOU MEASURE A TREE?

ABOUT TREES

HOW BIG IS A TREE?

"Many people think trees grow so big from soil and water, but this is not true. Trees get their mass from the air. They gobble up airborne carbon dioxide and perform an act of chemical fission by using the energy from sunshine... Essentially, trees are made of air and sunshine."

- Ned Hayes, *The Eagle Tree*

THE MAKING OF TREES

Did you know there are two types of trees? A woody plant without a flower and a flowering tree.

Some sprout from an existing tree.

Most trees reproduce from seeds.

LIFE CYCLE OF TREES

THE MAKING OF TREES

"I'm planting a tree to teach me to gather strength from my deepest roots."

- Andrea Koehle Jones, *The Wish Trees*

DOES A TREE WORK FOR ME?

OXYGEN PROVIDER

AIR QUALITY

ENERGY CONSERVATION

WILDLIFE FOOD + HABITAT

CARBON SEQUESTRATION

EROSION CONTROL

WATER QUALITY

STORM WATER RUN-OFF REDUCTION

USE OF TREES

DOES A TREE WORK FOR ME?

"Have you considered that a glass of clean water you drink, the fresh air you breath, or the oak logs to heat your house on a cold winter night, are part of an ecosystem that perform fundamental life-support services upon which human civilization depends? "

- From *Ecosystem Services Fact Sheet*

HOW OLD IS A TREE?

Start by counting from the center of the tree

How many rings are in a tree?

The roots grow deeper as the tree gets bigger.

ABOUT TREES

HOW OLD IS A TREE?

"Trees, for example, carry the memory of rainfall. In their rings we read ancient weather—storms, sunlight, and temperatures, the growing seasons of centuries. A forest shares a history, which each tree remembers even after it has been felled."

- Anne Michaels, *Fugitive Pieces*

A LIVING, BREATHING TREE

SUN LIGHT

CO<sup>2</sup>

OXYGEN

PHOTOSYNTHESIS

Photosynthesis converts light energy into chemical energy to fuel the tree.

Did you thank a tree for giving you the the oxygen you need to breath?

EARTH

WATER

NUTRIENTS

LIFE CYCLE OF TREES

A LIVING, BREATHING TREE

"The more often we see the things around us - even the beautiful and wonderful things - the more they become invisible to us. That is why we often take for granted the beauty of this world: the flowers, the trees, the birds, the clouds - even those we love. Because we see things so often, we see them less and less. "

-Joseph B. Wirthlin

FORESTS | ESSENTIAL COMMUNITIES

Layers of trees are like communities. Where living creatures share different Spaces and different places. On the ground or high above.

Canopy

Understorey

Forest floor

Root zone

USE OF TREES

FORESTS ESSENTIAL COMMUNITIES

Rilke wrote: "These trees are magnificent, but even more magnificent is the sublime and moving space between them, as though with their growth it too increased."

- Gaston Bachelard, *The Poetics of Space*

WHAT IS A TREE?

Made up of many parts, a tree stands tall and is alive like you and me.

LEAVES

BRANCHES

SEEDS

LIMBS

TRUNK

ROOTS

ABOUT TREES

WHAT IS A TREE?

"Listen to the trees as they sway in the wind. Their leaves are telling secrets. Their bark sings songs of olden days as it grows around the trunks. And their roots give names to all things. Their language has been lost. But not the gestures."

- Vera Nazarian, *The Perpetual Calendar of Inspiration*

LIFE AFTER DEATH

With disease or accident please don't cry! There are many uses for trees after they die on the ground and in the sky.

Do you know what a snag is?

DEAD TREES SUPPORT:

Habitat for Wildlife

Fungi

Insects

Humus For Rich Soil

Decomposition

LIFE CYCLE OF TREES

LIFE AFTER DEATH

"If a tree falls in the forest and nobody is there to hear it, doesn't it just lie there and rot?"

- Chuck Palahniuk, *Survivor*

WHAT COMES FROM A TREE?

FOOD

PRODUCTS

SHELTER

FUEL

USE OF TREES

WHAT COMES FROM A TREE?

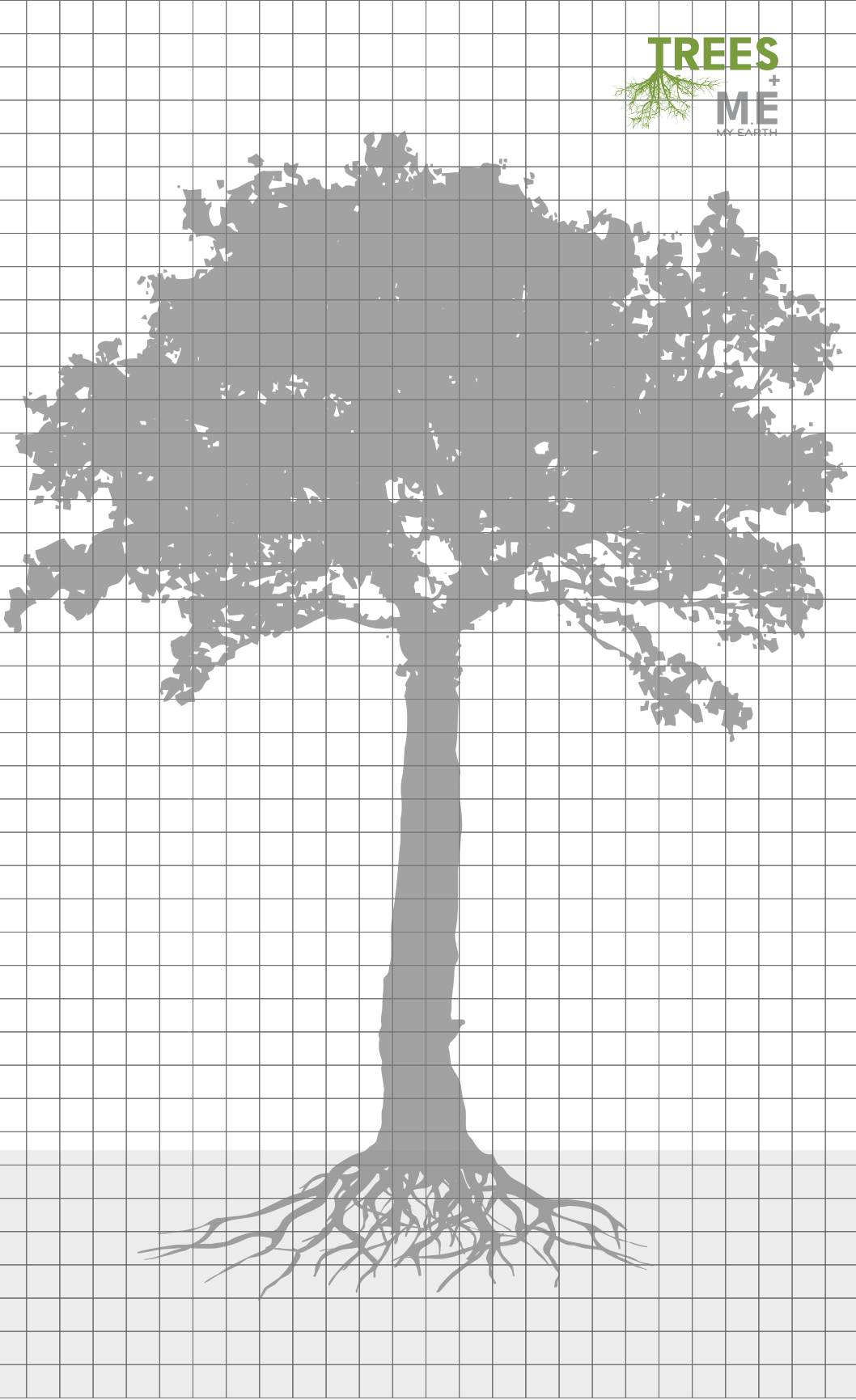
"If you really want to eat, keep climbing. The fruits are on the top of the tree. Stretch your hands and keep stretching them. Success is on the top, keep going."

- Israelmore Ayivor

WHAT IS A TREE?

HOW OLD IS A TREE?

HOW BIG IS A TREE?



LIFE AFTER DEATH

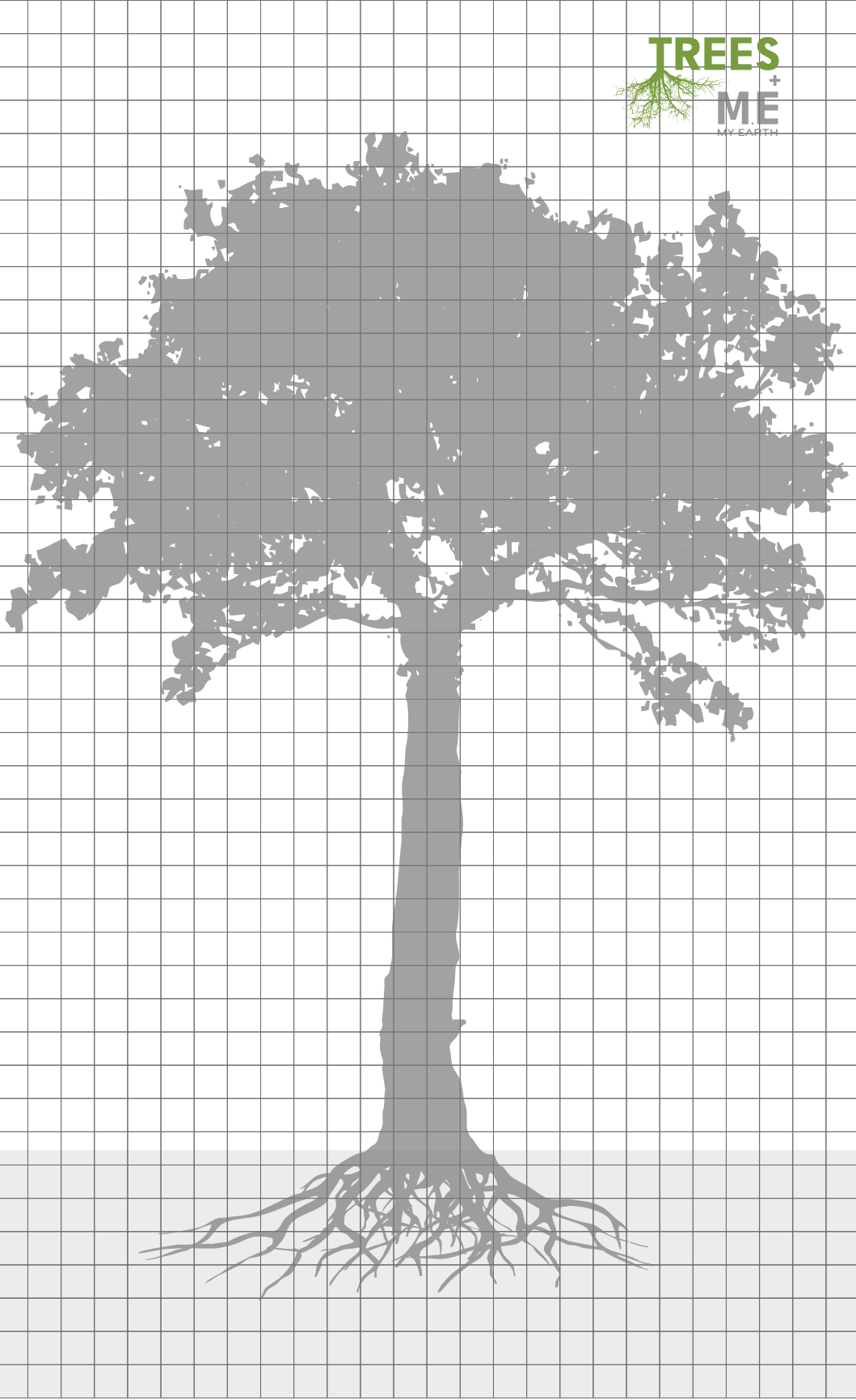
A LIVING, BREATHING TREE

THE MAKING OF TREES

WHAT COMES FROM A TREE?

FORESTS | ESSENTIAL COMMUNITIES

WHAT DOES A TREE GIVE ME?



A YEAR IN THE LIFE OF TREES

LIVING ON & UNDER A TREE

HOW DO WE I.D. A TREE?

HOW DO WE I.D. A TREE?

Just like you and me there are many different kinds of trees.



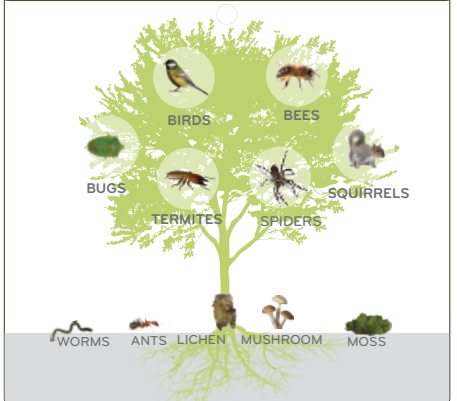
A LIVING TREE

HOW DO WE I.D. A TREE?

"To dwellers in a wood,  
almost every species of tree has its voice  
as well as its feature."

- Thomas Hardy,  
*Under the Greenwood Tree*

LIVING ON & UNDER A TREE



LIVING TREES

LIVING ON & UNDER A TREE

"To the great tree-loving fraternity we belong.  
We love trees with universal and unfeigned love,  
and all things that do grow under them  
or around them - the whole leaf and root tribe."

- Henry Ward Beecher

A YEAR IN THE LIFE OF TREES



A LIVING TREE

A YEAR IN THE LIFE OF TREES

"A wind has blown the rain away and blown the sky  
away and all the leaves away, and the trees stand.  
I think, I too, have known autumn too long."

- e. e. Cummings