
CONDENSATION OF Women in Botany

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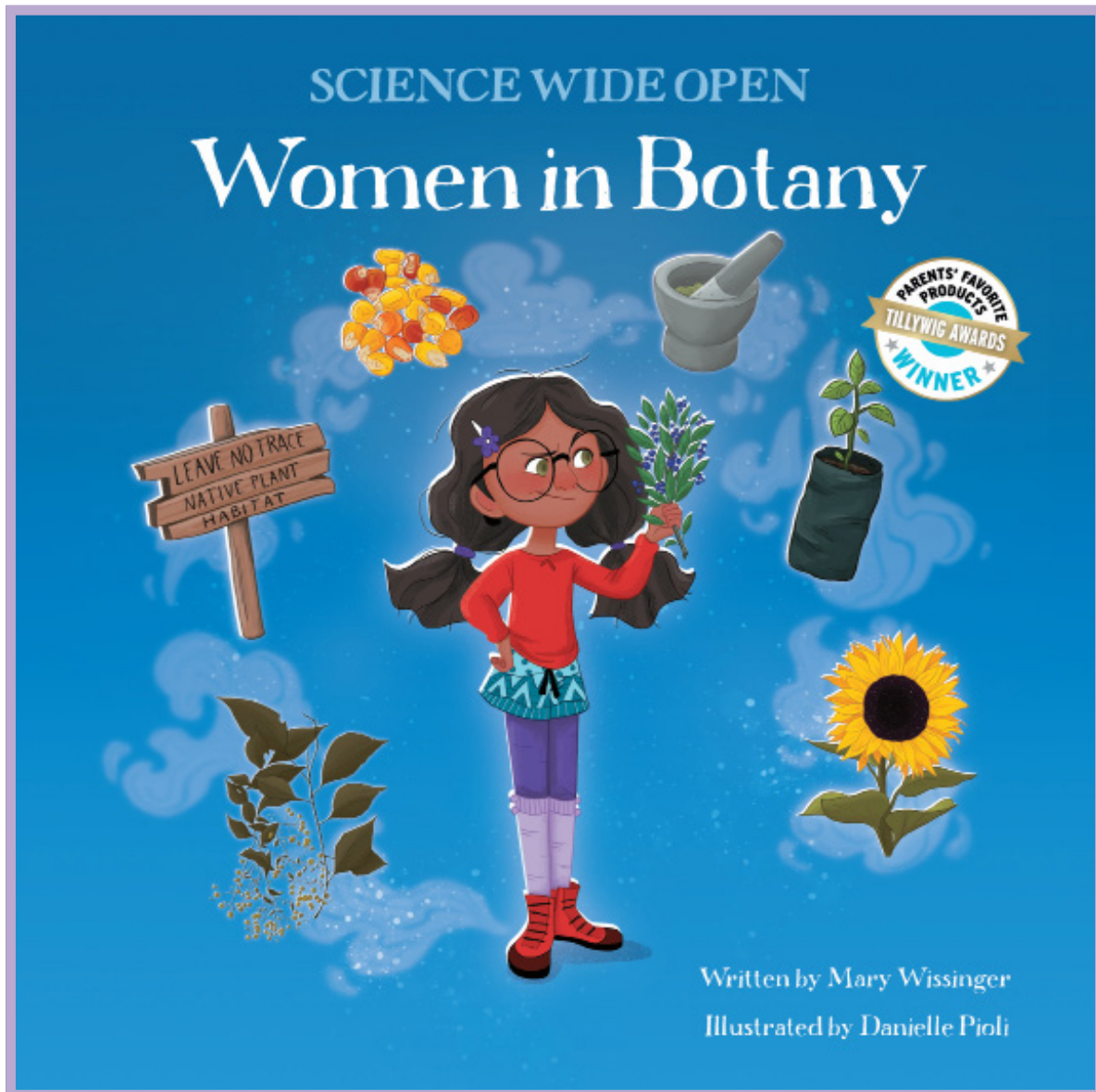
Includes pages 6, 7, 10, 11, 20, 21, 24, 25, 30, 31, 34, 35, 38, 39

Hardcover (\$14.99) ISBN 13: 978-1-938492-58-7

Paperback (\$12.95) ISBN 13: 978-1-938492-59-4

Ebook (\$11.99) ISBN 13: 978-1-938492-60-0

September 2022 • 40 Pages



Science, Naturally!

This title is also available in Spanish (March 2023).
Contact Info@ScienceNaturally.com for more information.

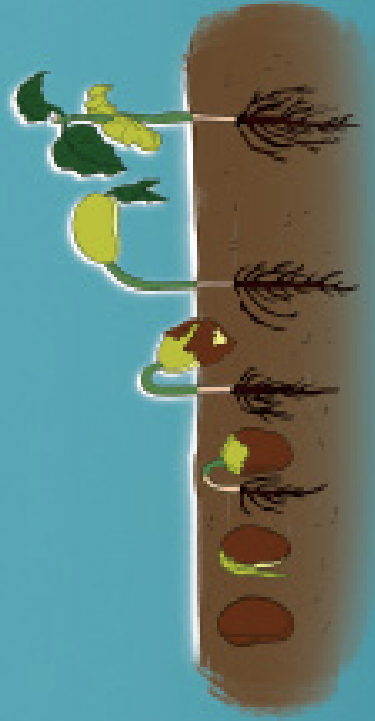


Waheenee / Buffalo Bird Woman
(ca. 1848-1908)
Mandan, Hidatsa, & Arikara Nations ca. 1839-1932



Waheenee paid attention to seeds. She had the important job of growing all the food for her family and helping to feed her community.

She knew exactly when to plant sunflower seeds in the spring. She sprouted squash seeds in a mixture of grass and leaves before sowing them in the field. In the autumn, she saved enough corn seeds for two seasons of planting, just in case a harvest was bad.

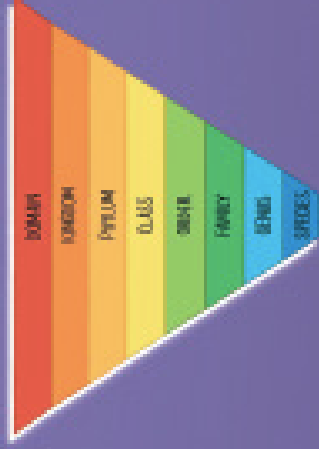


Every seed needs a few things to become a plant: water, light, the right temperature, and space to grow. When the seed is ready, it sends roots down into the soil. Then a stem grows up toward the light. You can see the plant when the stem pops through the soil.



There are some plants that have always grown well in gardens and on farms. But others grow best in the wild. When Elizabeth Coleman White was a girl, blueberries only grew wild in the forest. They were often hard to find.

Elizabeth dreamt of a whole field of blueberries that she could easily pick. It seemed impossible. Many people had already tried and failed to grow blueberries on farms.



Just like a library organizes books, the Linnaean System organizes all life forms on Earth. It gives a scientific name to every plant that has been discovered. It also acts like a family tree, showing us how plants are related to one another.

Almost 400,000 different species of plants have been found on Earth so far, and they can be full of surprises.

Elgrass and other marine plants live in saltwater. Tiny wildflowers dot the icy tundra. Mosses are found in almost every ecosystem on Earth and can even grow in sidewalk cracks. Giant sequoia trees live thousands of years and grow as tall as 31-story buildings. No matter where or how plants grow, the Linnaean System keeps track of them all. As we organize and study the plants that support life on Earth, we learn more ways they help us.





In Loredani's time, herbal medicines were some of the only medicines available. Sometimes plants were boiled in water for a sick person to drink. Plants could also be dried and crushed, then mixed with fats to make ointments. Some traditional remedies are still used today, such as ginger for an upset stomach, or aloe vera for a sunburn.



Loredana Marcello
FLOR-oh-DAHN-yah-ah-CHAYL-oh
Venice, Italy, ca. 1553-1572



Later, Dr. Janaki led the Botanical Survey of India. The project worked to document and study every type of plant in the country. It was a big job: India is over a million square miles (that's almost three million square kilometers). She scoured the country for plants. She also fought to protect plants and preserve natural areas from development.

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Why is it important to protect plants?

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Not everyone wanted Dr. Wangari to speak out for the environment or fight for human rights. She was even arrested, but she kept planting trees. Dr. Wangari's world-changing work earned her a special award called a Nobel Peace Prize. Today, the Green Belt Movement she began has planted over 50 million trees and improved the lives of many people.

Dr. Wangari Maathai
Wangari-GAII-ree maath-THAIYI
Kenya, 1940-2011



Glossary

BOTANY: The scientific study of plants, including where they are found and how they interact with their environment, as well as their growth, structure, function, and use.

CARBON DIOXIDE: A gas produced by humans and other living things when we breathe out. It is used by plants during photosynthesis to create food.

CHLOROPHYLL: The pigment that makes plants' leaves green. It absorbs light energy from the sun.

COTYLEDON: A part of a seed that stores nutrients for the embryo and becomes the first leaves for the plant. Cotyledons are sometimes called "seed leaves."

CUTTINGS: Part of a section of a plant from which a new plant can grow.

DICOT: A type of seed, like a bean, that has two cotyledons.

ECOSYSTEM: The community of living organisms in a habitat that all interact with and depend on each other.

EMBRYO: The part of a seed that develops into a plant.

ENDOSPERM: A part of a seed that stores nutrients for the embryo. In a dicot, the endosperm is absorbed by the cotyledons. In a monocot, it is separate.

HARVEST: To gather fruit or vegetables when they are ready to be used or eaten.

HYBRID PLANT: A combination of two or more varieties, species, or genera of plants.

LINNAEAN SYSTEM: A way to organize all living things into groups based on traits that they have in common.

MONOCOT: A type of seed, like a corn kernel, that has one cotyledon.

NUTRIENTS: What all living things need to survive in order to grow and survive.

OXYGEN: A gas that humans and other living things need to survive. It is released into the air by plants during photosynthesis.

PANDEMIC: The rapid spread of a disease that infects a wide range of a large group of people.

PHOTOSYNTHESIS: The process by which plants make their own food from carbon dioxide, water, and sunlight.

PIGMENT: A natural material that creates color.

PISTIL: The part of a flower that forms seeds. It also catches pollen to use in the process of making seeds.

POLLEN: A powder created by flowering plants that is used to make new seeds.

RAINFOREST: A dense, tropical ecosystem with tall trees and a lot of rainfall. Home to some of the rarest plants and animals in the world.

ROOTS: The part of the plant that reaches underground to collect water and nutrients.

SEED COAT: The outer covering of a seed that protects the plant embryo.

SOW: To plant or scatter for growing.

SPROUT: To begin to grow by producing buds or shoots.

STAMEN: The part of a flower that produces pollen.

The sixth book in the award-winning Science Wide Open series!



Can one seed make a difference?



Trek into the colorful field of botany to see how innovative women across the globe have used tiny seeds to do huge things. Along the way, learn all about plants and the vital ways they help our communities. Young readers will be inspired to think about how their own big ideas can blossom.

Children are natural scientists, always asking great questions. This gorgeous book encourages their curiosity and tells some of the forgotten stories of respected women leaders in botany.

—Devin Beach, B.Sc./Biogeography, M.Sc./Botany, D.Phil./Ecology,
Professor, York University, Toronto/Ontario

'This book brings curiosity to life, not only helping to answer questions, but also inspiring kids to ask more! Just as the women of this book encouraged plants to grow, their stories will encourage young readers to grow their knowledge.'

—Emily Caldwell, B.A.Sc., Production Horticulture,
Olds College, Olds, Alberta

Ages 7-10

Teacher's Guide available



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