



# Ecosystem of an Oak Tree

## Oak Tree Habitats

List three organisms that live above ground and depend on oak trees to meet their needs:

Organism	How do oak trees help meet their needs?	Does this organism help the oak tree meet its needs?

List 3 organisms that live on or in the soil and depend on oak trees to meet their needs:

Organism	How do oak trees help meet their needs?	Does this organism help the oak tree meet its needs?



# Environmental Benefits of Oak Trees

List 5 ways oak trees positively contribute to the environment they live in:

#1

#2

#3

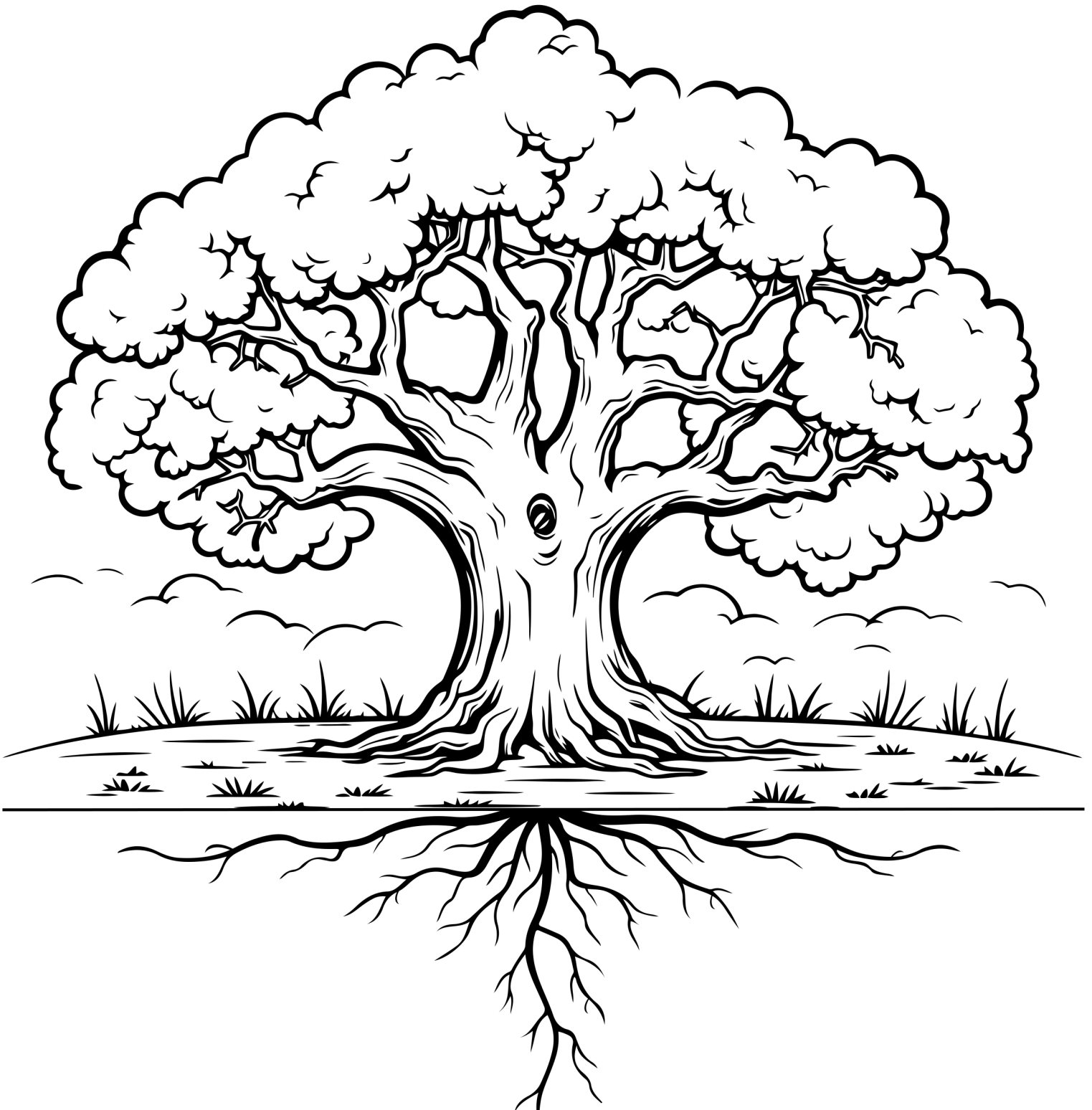
#4

#5



# Ecosystem of an Oak Tree

Use your answers on page 1 and 2 of this worksheet to create an illustration of the habitats that depend on oak trees and the environmental benefits they provide.





# Answer Key

Possible answers for this worksheet include (but are not limited to):

## Organisms Above Ground:

- **Birds/blue jays** - Birds eat acorns and build nests in oaks; Blue jays, in particular, help oaks by unintentionally distributing and planting acorns; Birds eat insects that may be pests for oaks.
- **Squirrels** - Oaks provide squirrels with a food source (acorns) and a nesting site; Squirrels help oaks by unintentionally planting acorns.
- **Deer** - Oaks provide deer with acorns and leaves as a food source.
- **Caterpillars** - Oaks are host plants for certain species of caterpillars who feed on their leaves. By hosting them, oaks also provide a food source for many kinds of birds.
- **Spiders** - Oaks provide habitat for spiders and many of their food sources.
- **Humans** - Acorns are a food source, and wood is used for a diversity of supplies
- **Lichens** - A wide variety of lichens grow on oak trunks and branches
- **Bryophytes** - A variety of mosses and liverworts grow on oak trunks and branches

## Organism On or Below Ground:

- **Arthropods:** Oak understory provides food and shelter for Millipedes, Springtails, etc., which in turn help with the decomposition process returning nutrients to soil.
- **Isopods:** Oak understory provides food and shelter for Sow bugs, Pill bugs, etc., which in turn help with the decomposition process returning nutrients to soil.
- **Insects:** Oak understory provides food and shelter for Ants, Weevils, etc., a food source for many other organisms.
- **Fungi:** Oak understory and roots provide food for various fungi that improve soil health and help trees absorb water and nutrients.
- **Bacteria:** Oak understory and roots provide food for bacteria essential to soil health and decomposition.

## Examples of Environmental Benefits:

- Oak root systems prevent soil erosion
- Oak canopies cool the environment
- Oak leaves release oxygen into the air
- Oak trees sequester carbon from the atmosphere
- Fallen oak leaves cover and protect soil providing habitat and slowing evaporation
- Decomposing oak leaves add nutrients to the soil
- Oak trees are drought tolerant and can withstand rising temperatures



# Ecosystem of an Oak Tree (Example)

Use your answers on page 1 and 2 of this worksheet to create an illustration of the habitats that depend on oak trees and the environmental benefits they provide.

