

Learning Guide



Fungus Among Us

We hope you enjoyed learning all about the amazing world of fungi. Extend your learning with this print-ready Learning Guide!



What's in this Learning Guide?

Get Set to Listen:

Check your knowledge before and after listening to the episode by determining if statements are TRUE or FALSE.

Vocabulary

Discussion Questions

CCSS.ELA-Literacy.SL.3-8.1; CCSS.ELA-Literacy.SL.3-8.3

Writing Prompts and Extension Projects

CCSS.ELA-Literacy.W.3-8.1; CCSS.ELA-Literacy.W.3-8.2; CCSS.ELA-Literacy.W.3-8.3; CCSS.ELA-Literacy.W.3-8.4; CCSS.ELA-Literacy.W.3-8.7; CCSS.ELA-Literacy.W.3-8.8

Fungi Jokes

Fungi vs. Plants - Venn diagram and project ideas

CCSS.ELA-Literacy.RI.5.5; CCSS.ELA-Literacy.W.3-8.1; NGSS: 3-LS4-3 / 3-LS4-4

Fungi to the Rescue – Mycoremediation

NGSS: 5-LS2-1; MS-LS2-3; MS-ESS3-3; CCSS.ELA-LITERACY.W.5-8.2

Fungi Facts Sheet

CCSS.ELA-LITERACY.W.5-8.7

Fungi Heroes Design Challenge

CCSS.ELA-LITERACY.SL.4.5 / SL.5.5; NGSS: 3-LS4-3 / 3-LS4-4

Additional Resources and Book List



The Children's Hour
kids public radio



Get Set to Listen

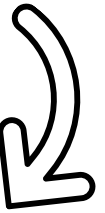
1. Before listening!

Read each statement and write TRUE or FALSE based on what you already know.



2. After listening!

Based on what the experts said in the episode, write TRUE or FALSE.



Before Listening	TRUE or FALSE?	After Listening
	1. Fungi were the second form of life on Earth, after bacteria.	
	2. It's estimated that there are about 2.3 million different species of fungi .	
	3. Mushrooms are the fruiting bodies that all fungi produce.	
	4. The biggest part of a fungus is the mushroom .	
	5. Mold grows on the outside of foods like oranges and bread.	
	6. Mushrooms can grow anywhere!	
	7. Scientists think that the entire ocean floor might be made up of fungal mycelium.	

What did you learn?



Get Set to Listen

Answer key

1. TRUE
2. TRUE
3. FALSE. **Mushrooms** are the fruiting body of the type of **fungi** that produce **mushrooms**. However, only a small percentage of **fungi** produce **mushrooms**. These types of **fungi** are more complex than other forms of **fungi**. The majority of **fungi** are **molds**.
4. FALSE. **Mushrooms** are just a small portion of the **fungi**. The rest of the **fungus** is the **mycelium**.
5. FALSE. The green we see growing on our moldy oranges is actually the **mold spores**. The rest of the **fungus** is the **mycelium** and is underneath the surface of the orange, and we can't really see it without a microscope.
6. FALSE. **Fungi** can grow anywhere, but the specific type of fungi that produces **mushrooms** only grows in specific places.
7. TRUE. Similar to the forest floor, fungi decompose dead plant and animal matter, and there's evidence that the entire ocean floor is made up of a mycelium network. They also float throughout the ocean waters. They're found in the Sahara Desert, on the peaks of mountains, and pretty much everywhere!



Vocabulary

mycology	The scientific study of fungi, including mushrooms, molds, and yeasts.
mycelium	The network of tiny, thread-like fibers (called hyphae) that make up the main body of a fungus and help it absorb nutrients from its environment.
fungi (plural) fungus (singular)	Living organisms—including mushrooms, molds, and yeasts—that absorb nutrients from their surroundings and play important roles in decomposition, nutrient cycling, and many ecosystems.
mushroom	The spore-producing fruiting body of certain fungi, usually appearing above ground and shaped like a stem with a cap.
mold	A type of fungus made up of tiny, thread-like structures that grow in fuzzy patches and reproduce through lightweight spores that spread easily through the air.
yeast	A single-celled fungus that grows and reproduces quickly, often used in baking and brewing because it helps dough rise and produces bubbles in drinks.
lichen	A partnership between a fungus and algae or cyanobacteria, where the fungus gives structure and the partner makes food, often found on rocks, trees, or soil.



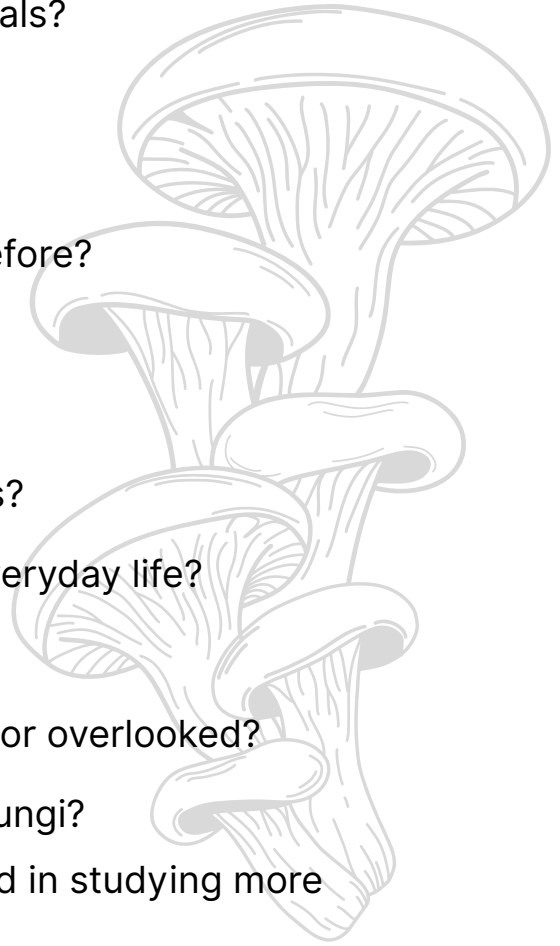
Vocabulary

eukaryotic	Having cells with a nucleus and other membrane-bound organelles, which is a feature of animals, plants, fungi, and protists.
symbiotic	A close, long-term relationship between two different organisms in which at least one benefits.
spores	Tiny reproductive cells that fungi (and some plants and bacteria) release to grow into new organisms, often able to survive harsh conditions.
mycoremediation	The process of using fungi—especially their mycelium—to break down or absorb toxins in the environment, helping clean polluted soil, water, and air.



Discussion Questions

1. What makes fungi different from plants and animals?
2. How do fungi get their food?
3. Where have you seen fungi before?
4. What are some examples of fungi you've seen before?
5. What role do fungi play in the ecosystem?
6. How do fungi reproduce and spread?
7. How do mushrooms relate to the rest of a fungus?
8. How do people use fungi in food, medicine, or everyday life?
9. What would happen if fungi didn't exist?
10. Why do you think fungi are often misunderstood or overlooked?
11. What's something surprising you learned about fungi?
12. Which type of fungi would you be most interested in studying more (mushrooms, molds, yeasts, or lichens)?



Group Discussion Strategies

Think Pair Share:

1. Individually, student writes down their answer to a question.
2. Students pair up and tell each other their answers.
3. Teacher calls for volunteers to share with the whole class their answer (and/or their partner's answer). Teacher notes key words/phrases on board.

Round Robin:

1. Teacher poses one question (written on top of a large page) to students, who are assembled into small groups of 3 or 4.
2. Students take turns brainstorming the answers. The recorder of the group writes down all answers.
3. The leader reads the group's ideas to the entire class. Teacher moderates.



Writing Prompts

Narrative Prompts

1. Imagine you shrink small enough to explore a mushroom forest. What do you see, hear, and discover?
2. You are a tiny spore trying to find a good place to grow. Tell the story of your adventure from spore to mushroom.

Extensions:

- Illustrate your adventure or create a short comic of your journey.
- Write a diary from the perspective of your spore over several “days” of growth.

Informative/Explanatory Prompts

1. Explain how fungi help our environment.
2. Describe the similarities and differences between fungi and plants. Use the “Fungi vs. Plants” Venn diagram to help organize your research.
3. Write about the many ways people use fungi in everyday life (food, medicine, etc.).
4. Research edible mushrooms that grow in your area. Write a field guide for how to identify them, being careful to point out any poisonous look-alikes.
5. Research a fungus-based food (like bread, cheese, or kombucha) and describe the role fungi play in making that food.

Extensions:

- Create a labeled diagram showing the life cycle of a mushroom or how fungi decompose organic matter.
- Participate in a mushroom hunt with a mushroom expert.
- Write a fungus-based food recipe book.

Opinion/Persuasive Prompts

1. Do you think mushrooms should be considered one of the most important organisms on Earth? Defend your answer.
2. Some people think fungi are gross or scary. Write to convince them that fungi are fascinating and helpful.
3. Write a persuasive paragraph about **mycoremediation** titled “Why Fungi Might Save the Planet.”

Extensions:

- Record a short speech or podcast sharing your argument with supporting facts.
- Create a “Fungi Fun Facts” brochure to share what makes them amazing.



Fungi Jokes

These are the jokes, folks!

What happened when Alice Algae and Freddy Fungi went out on a date?
They took a lichen to each other.

In nature, a lichen is a complex life form made up of one or more fungi and an alga living together in partnership. [Video: What's in a Lichen?](#)

A mushroom walked into a bar, and the bartender said, "Sorry we don't serve food here."

What room can you never enter?
A mushroom.

How much room do fungi need to grow?
As mushroom as possible.

Momma always told me, "You are what you eat." So I started eating mushrooms every day. I wanted to become a fun guy.

Why was the mushroom invited to the party?
Because he was a fungi.
But if he was such a fun guy, why wasn't the party at his house?
Because there wasn't mushroom.

What kind of vehicle does a mushroom drive?
A spores car.

What are the easiest mushrooms to carry?
Portobello mushrooms.

My uncle always hated eating mushrooms. But now that he's dead, they're beginning to grow on him.

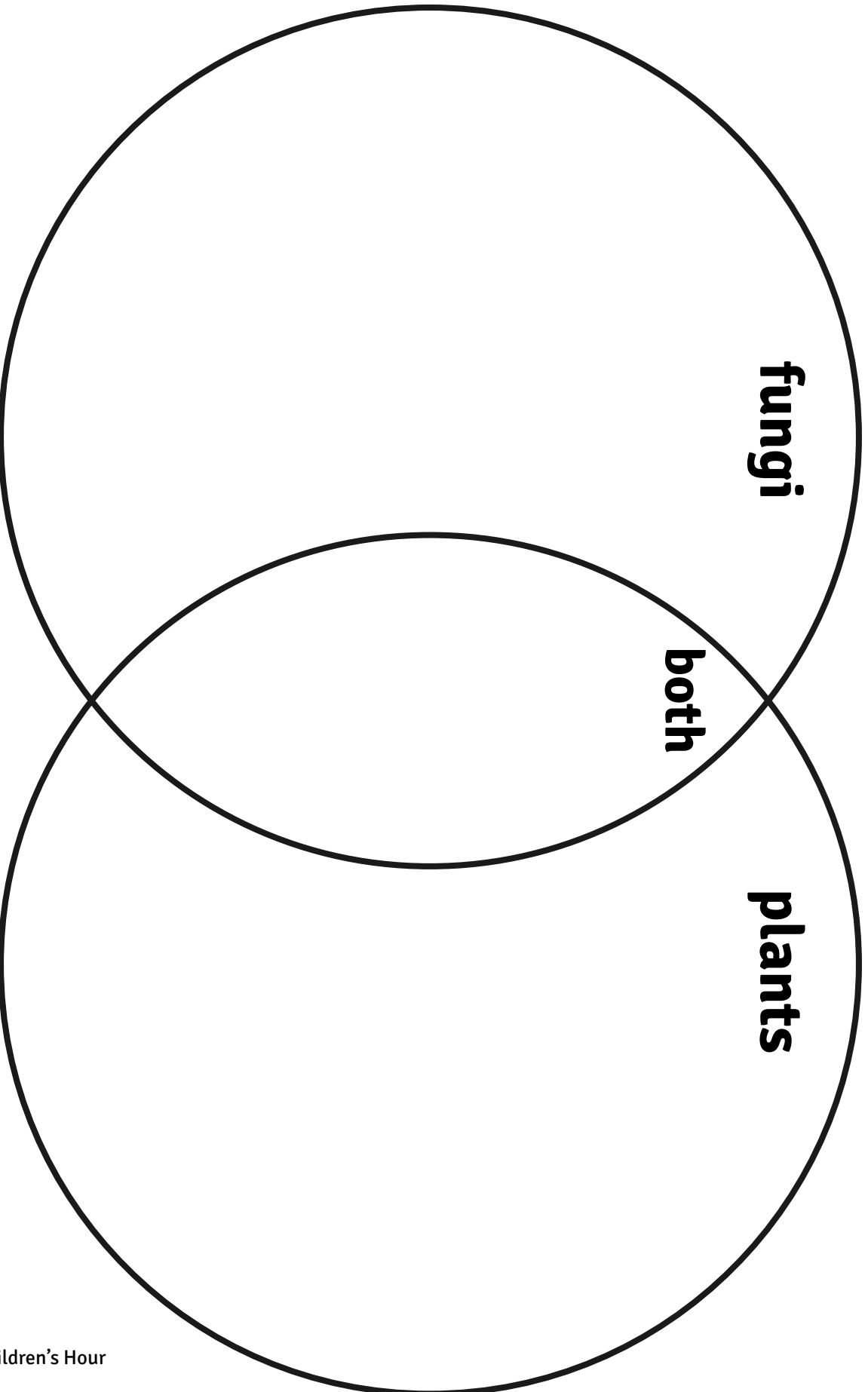
A mushroom walks into a bar. The bartender says, "We don't serve mushrooms here. You're always ruining jokes." The mushroom says, "Come on. I'm a fun person."



Fungi vs. Plants

Name _____

Fungi and plants were in the same classification until the late 1950s, but there are several important differences. Use the Venn diagram to help you organize the differences.



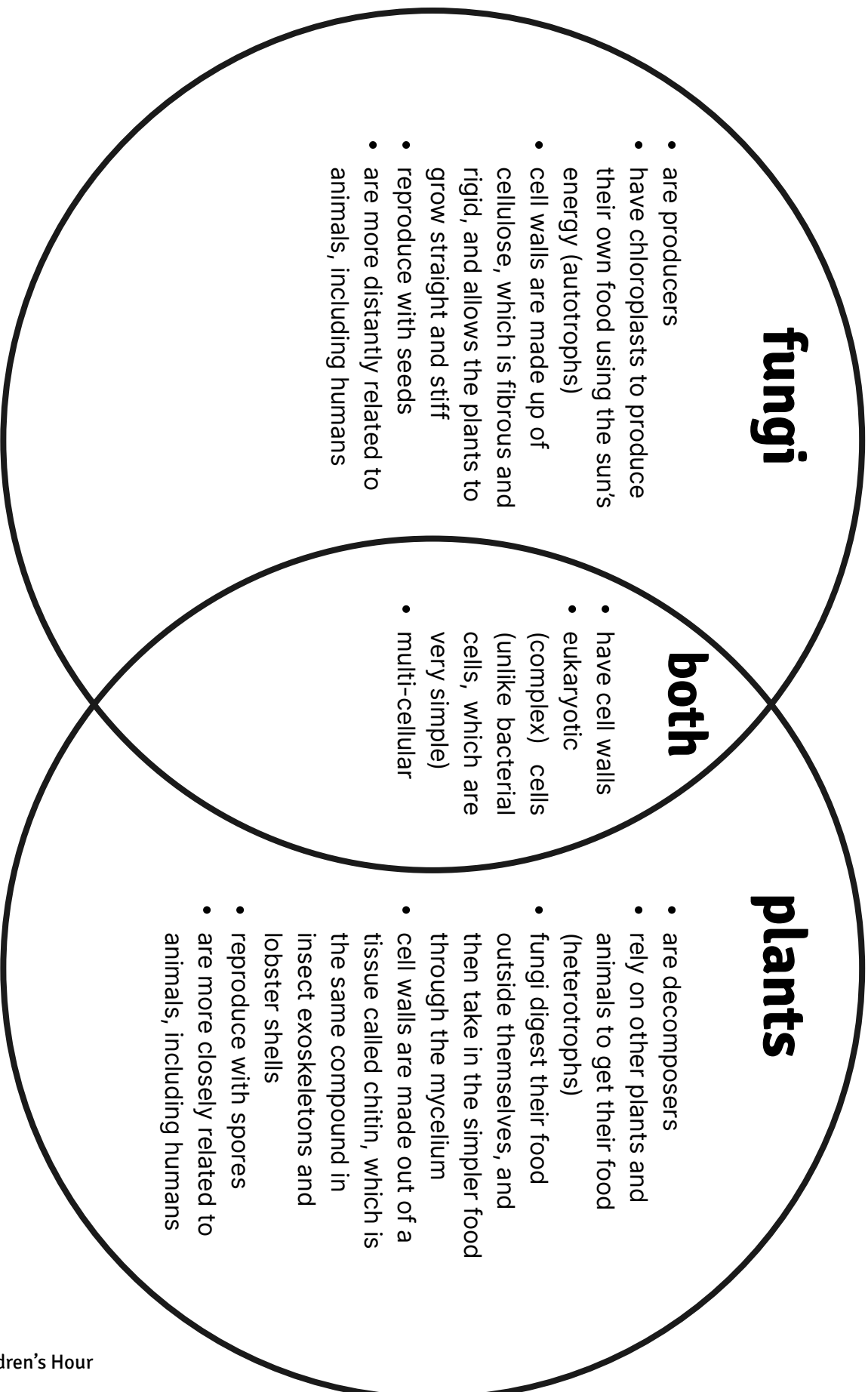
Use the following to help you fill in the Venn diagram:

- [Part 1: What is a fungus?](#)
- [Are Fungi Plants?](#) video from Britannica



Fungi vs. Plants - Teacher's Guide

Fungi and plants were in the same classification until the late 1950s, but there are several important differences. Use the Venn diagram to help you organize the differences.



Extensions

- Make a diagram poster comparing fungi and plants.
- Write a report describing the similarities and differences between fungi and plants.



Fungi to the Rescue: Mycoremediation

Materials

- “Fungi Facts Sheet”
- “How Do Fungi Help the Earth?” passage and diagram template
- “Fungi Heroes!” template
- Recycled containers, sponges, or soil samples for model-making activity
- *Optional: Mushrooms for observation, magnifying glasses*

Listen/Watch

- [Part 2: Cleaning Pollution with Mycoremediation](#)
- [Can Fungi Solve California’s Toxic Soil Problem?](#) from PBS’s Women of the Earth series

Discuss

Why are fungi important to the Earth?

Share real examples of mycoremediation:

- Oyster mushrooms breaking down oil spills
- Fungi that absorb heavy metals from soil
- Mycelium filters cleaning polluted water

Read

The passage “How Do Fungi Help the Earth?”

Diagram

Use the diagram template to make a simple diagram or flowchart showing how mycoremediation works:

- a. Pollutant enters soil
- b. Fungal mycelium grows through it
- c. Enzymes break down toxins
- d. Clean soil and nutrients are left behind

Encourage labeling and arrows to show cause and effect.

Model-Making

Design a mini-model or skit showing fungi cleaning up pollution.

- Example: Use sponges or string to represent mycelium spreading through “polluted” soil.
- Or act out fungi “eating” waste to make the environment clean again.

Optional: Compare to other remediation methods (plants = phytoremediation, bacteria = bioremediation).

Extensions

- Write a persuasive paragraph titled “Why Fungi Might Save the Planet.”
- Design a “Fungi Hero” who helps clean the Earth! Make a poster including your mushroom’s name, special powers, and a slogan.



Fungi to the Rescue: **Mycoremediation**

How Do Fungi Help the Earth?

Fungi are amazing decomposers! They help break down dead plants, animals, and other organic matter so the nutrients can go back into the soil. Fungi do this by releasing special chemicals called **enzymes**. These enzymes act like tiny scissors, cutting big pieces of dead material into smaller pieces that the fungi can absorb and use for food. Without fungi, leaves, wood, and other organic matter would pile up, and the soil wouldn't be as healthy for plants to grow.

Some fungi, such as mushrooms, can break down harmful chemicals in soil, water, or air. People use these fungi to help clean up polluted areas in a process called **mycoremediation**. These fungi use the same enzymes that help them decompose dead plants and animals to break down and eliminate pollution. By breaking down toxins, fungi make the Earth safer and healthier for people, animals, and plants—like tiny cleanup crews working quietly underground!

Mycoremediation Diagram

Create a simple diagram or flowchart showing how **mycoremediation** works. Use labels and arrows to show cause and effect.





Fungi Facts Sheet

What are Fungi?

Fungi are living organisms that are not plants or animals. They include **mushrooms**, **molds**, and **yeasts**—and they play a big role in keeping the planet healthy!



Listen

- [Part 1: What is a fungus?](#)
- [Part 3: Fungi Facts](#)
- [Part 4: How to Identify Mushrooms](#)

Fungi Fast Facts

- There are about 2.3 million species of fungi on Earth.
- The largest living organism in the world is a **fungus** — a honey mushroom in Oregon that covers more than 2,000 acres!
- Fungi reproduce using tiny **spores** that can travel through air or water.
- Fungi break down dead plants and animals, recycling nutrients back into the soil.
- Many medicines, including penicillin, come from fungi.
- Fungi help make foods like bread, cheese, and soy sauce.
- The white threads under the ground are called **mycelium**, which act like nature's internet, connecting plants and trees.
- Some fungi form partnerships with tree roots, helping plants absorb water and nutrients.
- Certain fungi can break down pollution, such as oil or plastics — this process is called **mycoremediation**.
- Fungi come in many shapes, colors, and sizes, from tiny molds to giant mushrooms!

Did You Know?

- 🍄 Fungi breathe oxygen and give off carbon dioxide, just like humans!
- 🍄 Some glow in the dark — that's called bioluminescence.
- 🍄 Fungi communicate with plants using chemical signals through the "wood wide web."

What is one cool thing you learned about fungi? _____

Why are fungi important to the Earth? _____

Extensions

- Draw and label the parts of a mushroom.
- Research one type of fungus (like mold, yeast, or a mushroom) and share 3 facts about it.
- Watch a time-lapse video of fungi growing and record your observations.
- Create a mini-poster titled "Fungi Are Fantastic!"



Fungi Heroes!

Design a “Fungi Hero” who helps clean the Earth!

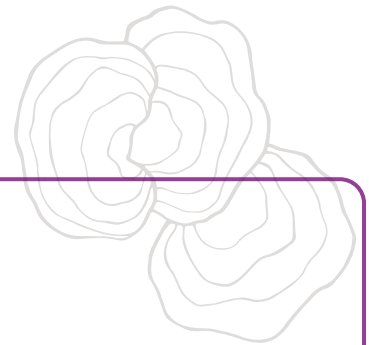
Learn

Do the “Fungi to the Rescue: Mycoremediation” lesson.

Share

Make a poster including:

- Your mushroom’s name
- Special powers
- Super slogan



Upload your Fungi Hero to our Instagram [@tchradio](#), TikTok [@thechildrenshourradio](#), and [Facebook page](#), and check out others’ designs!



Mail your design to:
The Children’s Hour
PO Box 70236
Albuquerque, NM 87197



Record a Voice Message

This might be used on The Children’s Hour!



Post your Fungi Hero on our Instagram, TikTok and Facebook! Check out others’ designs!



Additional Resources

[Fungi and Mushrooms: Adventures in Nature](#)

This blog post covers it all, from fun facts and engaging learning activities to suggestions for getting started foraging!

[Fungus entry from Britannica for Kids](#)

[Fungi](#)

A short article from Indiana's Department of Natural Resources.

[Exploring Fungi](#)

This article covers the fungi life cycle, why we need fungi, and includes a few *fungi* activities.

[Mushroom Identification Pictures and Examples](#)

A guide to "show beginners the thought process associated with identifying different types of mushrooms", including 8 mushroom identification traits.

Videos

[What Are Fungi? The Fungi Kingdom for Kids](#)

Educational video for kids to learn what fungi are and how we classify them.

[Fungi: Science for Kids](#)

An introductory video for younger kids.

[How Can You Tell If a Mushroom Is Poisonous?](#)

There may not be an easy answer to this question, but this Mystery Science video is full of information to explain why it's so tricky and how you can begin to become a mushroom expert.

[A collection of fungi videos from Britannica](#)

[Can Fungi Solve California's Toxic Soil Problem?](#) from PBS's Women of the Earth series
Environmental scientist Danielle Stevenson explains how fungi and plants can heal land with mycoremediation.

[What's in a Lichen? How Scientists Got It Wrong for 150 Years](#)

This short film showcase from National Geographic explains the symbiotic relationship within lichens.

[TED Talk: "Six Ways Mushrooms Can Save the World" — Paul Stamets](#)



Book List

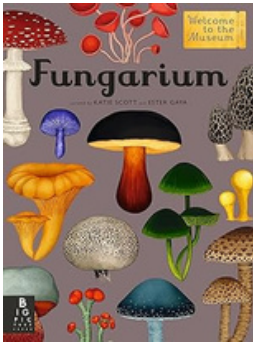


Fungus is Among Us!

by Joy Keller, illustrated by Erica Salcedo

Fungi are everywhere—in the air, on your food, even on your body! But there's no need to be afraid. This book shares fun facts, tasty surprises, and even a Q&A with a real mycologist.

ages 5-10

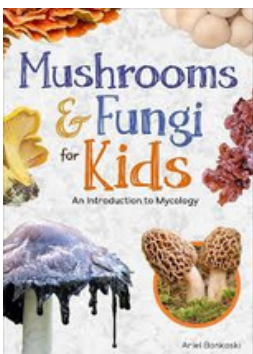


Fungarium: Welcome to the Museum

by Ester Gaya, illustrated by Katie Scott

Explore the fascinating world of fungi in this beautifully illustrated book. From everyday mushrooms to history-shaping species like penicillium, this captivating guide introduces what fungi are and why they're essential to our planet.

ages 8-12

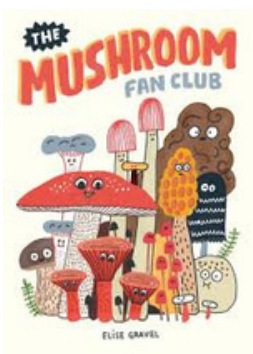


Mushrooms and Fungi For Kids: An Introduction to Mycology

by Ariel Bonkoski

This beginner-friendly guide to mycology is filled with diagrams, photos, and hands-on activities—perfect for taking along on hikes.

ages 6-12

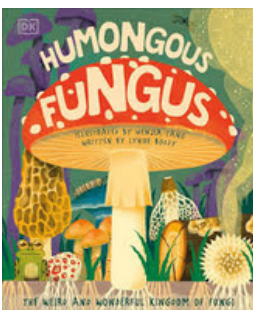


The Mushroom Fan Club

by Elise Gravel

A great pick for young children—fun to read, beautifully illustrated, and packed with learning.

ages 6+



Humongous Fungus: The Weird and Wonderful Kingdom of Fungi

by Lynne Boddy, illustrated by Wenjia Tang

Fascinatingly illustrated and full of interesting facts, kids will discover many types of fungi, where they grow, learn about their role in ecosystems, and see how people and animals use them for food and medicine.

ages 5-10