

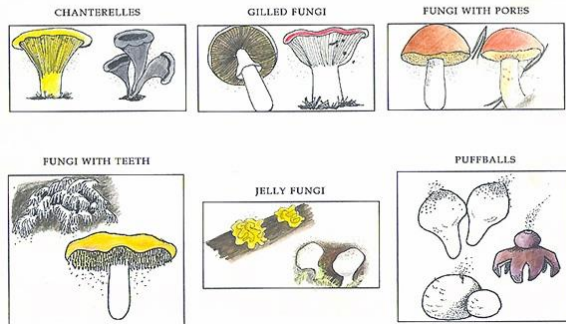
# Mushroom Multiplication

## E-learning lesson adapted from [Curriculum Matrix lesson](#) Grades 6-8

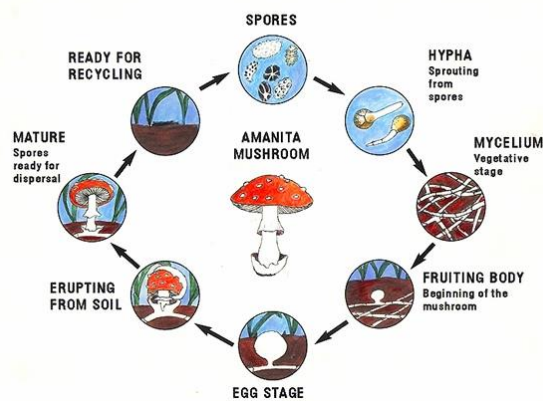
Learn about edible mushroom cultivation and how one mushroom multiplies into many more! Create a spore print, and explore ecology concepts by experimenting with mold and yeast growth and researching species of fungi.

| Explore   | Your Task  |
|---|--|
| <p>Why did the mushroom go to the party?<br/>Because he was a fun guy. Why did he leave the party? Because there wasn't mushroom!</p> <p>HA HA HA!!!</p>  <p>**Watch the <a href="#">MAITC Virtual Field Trip</a> to a Mushroom Farm!</p>  | <p>Did you know -</p> <ul style="list-style-type: none"><li>★ For every person on earth there are approximately 2 tons of fungi.<sup>1</sup></li><li>★ Experts estimate that there may be as many as 1.5 million species of fungi.<sup>1</sup></li></ul> <p><b>Watch</b> this video from the 'How Does It Grow' series about Mushrooms:<br/><a href="https://www.youtube.com/watch?v=HLtGRHX0sLI">https://www.youtube.com/watch?v=HLtGRHX0sLI</a></p> <p><b>Answer these questions:</b></p> <ol style="list-style-type: none"><li>1 - How are mushrooms different from plants?</li><li>2 - If mushrooms don't need light, where do they get their energy?</li><li>3 - What conditions do mushrooms need to grow?</li><li>4-Where do mushrooms grow naturally?</li><li>5 - How is a mushroom farm similar to a forest? How is it different?</li><li>6 - What purpose do mushrooms serve on the farm? In the forest?</li></ol> |
| Explain   | Your Task  |

## Different Shapes of Fungi & where the spores are formed



## HOW MUSHROOMS GROW



So many kinds of mushrooms...let's LEARN about them!

Choose one of the species from this list:  
[Species of Fungi for Research and Investigation List](#)

**Research** and share your findings by creating a poster or other media that includes:

- Common name
- Life cycle/reproductive strategy (e.g., spores, budding)
- Where species typically can be found
- Interactions with living and nonliving components of ecosystems, including:
  - Feeding strategy (e.g., parasite, decomposer)
  - How the species affects or is used by people (Is this a desirable or undesirable species? Can it be both in different environments?)
  - How species is affected by temperature, humidity, light, etc.
  - How can growth of this species be promoted (if it's desirable) or limited (if it's undesirable)
  - Interactions with plants

NOW...Extend option: Create YOUR own mushroom and name it! Need inspiration...watch this cool video with images of all the mushrooms grown in MN!

<https://www.youtube.com/watch?v=Yhk-oNkXbhA>

[Doc to create your OWN mushroom species!](#)

Apply

Your Task

## Moldy Bread - EW!



Check out this video about MN Puffball Mushrooms...pretty cool!

[https://youtu.be/Efv\\_puk2YN4](https://youtu.be/Efv_puk2YN4)



Let's get learning! Look at the moldy bread to the left.

*Did you know that molds growing on the bread belong to the same kingdom as the mushrooms we grow to eat? The life cycle of a mold is just like the life cycle of a mushroom, but rather than a visible fruiting body, they grow tiny branches that form spores on the tip. Mold spores are so small they can't be seen with the naked eye, except maybe as a puff of dust. Spores travel through the air, on animals, on human skin and clothes, and even get washed to new places by rain and streams. Mold spores are all around us, but they remain dormant until they land in a place that has the right conditions for growth.*

NOW, see if you can find 4 slices of bread for an experiment!

Select four slices of bread, preferably from a loaf without preservatives (this will speed your mold growth). Give each piece the following treatment and then place the slice into a "treatment-labeled" Ziploc bag. Store the bags in warm dark place for incubation.

1. Wipe an unwashed hand (pretend you are smearing on mayonnaise with your entire hand) on both sides of the slice, place it into a Ziploc bag.
2. Lick one piece on both sides with your tongue.
3. Wipe one piece on both sides on the floor.
4. **WASH YOUR HANDS.** Place the slice onto a paper towel. Moisten the slice with water from a mister bottle.





5. Observe the bread for mold growth every other day for the next week. (This may take longer if you are using bread that contains preservatives.) Record your observations below. At the end of two weeks review the results and make some class conclusions. Draw connections to ecology concepts: the slices of bread that touched the floor, your hand, and your tongue probably started with a higher population of spores; the slice moistened with water was in an environment with higher humidity.

Record Observations Here:

Draw Connections to Ecology Here:

EXTEND YOUR LEARNING...

Check out this video to see if Fungi can save the planet from Global Warming?! Watch the video below and write a summary of what you learned and what questions you still have.

<https://www.biointeractive.org/classroom-resources/can-funqus-save-plants-global-warming>

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