

## Photo Description



This bright yellow, bumpy thing is growing on old wood and leaves. It looks soft and spongy like a kitchen sponge. The yellow color is very bright and stands out from the brown leaves around it.

## Scientific Phenomena

This image shows a slime mold in its reproductive stage, specifically displaying its fruiting bodies (sporangia). The anchoring phenomenon is organism growth and reproduction in decomposer organisms. Slime molds are unique organisms that spend part of their life cycle as a mobile, blob-like mass that feeds on decaying organic matter. When conditions are right, they transform into these bright yellow, stationary structures that produce spores for reproduction. This demonstrates how living things have different life stages and can change form to survive and reproduce.

## Core Science Concepts

1. Living vs. Non-living Characteristics: This organism demonstrates key characteristics of living things - it grows, reproduces, and responds to its environment.
2. Life Cycles and Growth: Slime molds show dramatic changes in form during their life cycle, from mobile feeding stage to stationary reproductive stage.
3. Decomposers in Ecosystems: These organisms break down dead plant material, recycling nutrients back into the soil ecosystem.
4. Adaptation and Survival: The bright yellow color and elevated position help with spore dispersal for reproduction.

### Pedagogical Tip:

Use the "I notice, I wonder, I think" thinking routine when introducing this image. First graders will be naturally curious about the unusual appearance, and this structured approach helps them make scientific observations before jumping to conclusions.

### UDL Suggestions:

Provide tactile experiences by bringing in different textured sponges and materials for students to touch and compare to what they observe in the image. This supports students who learn better through hands-on exploration and helps make abstract concepts more concrete.

### Zoom In / Zoom Out

1. Zoom In: At the microscopic level, millions of tiny spores are being produced inside these yellow structures. Each spore is like a seed that can grow into a new slime mold when conditions are right.
2. Zoom Out: This slime mold is part of the forest decomposer community that includes bacteria, fungi, and insects. Together, they break down dead leaves and wood, creating rich soil that helps new plants grow in the forest ecosystem.

### Discussion Questions

1. What do you notice about how this living thing looks different from plants and animals you know? (Bloom's: Analyze | DOK: 2)
2. Why do you think this organism is bright yellow instead of green like most plants? (Bloom's: Evaluate | DOK: 3)
3. How might this spongy texture help the organism do its job in the forest? (Bloom's: Apply | DOK: 2)
4. What would happen to the forest if decomposers like this weren't there to break down dead leaves? (Bloom's: Synthesize | DOK: 3)

### Potential Student Misconceptions

1. "It's a plant because it's growing": Students might think this is a plant, but slime molds are neither plants nor animals - they're in their own special group of living things that don't make their own food like plants do.
2. "It's not alive because it doesn't move": In this stage, the slime mold appears still, but it is very much alive and actively producing spores. Earlier in its life cycle, it actually moved around like a slow blob.
3. "Yellow things are always flowers": The bright yellow color might make students think this is a flower, but this color helps with reproduction in a different way than flowers do.

### Cross-Curricular Ideas

1. Math - Counting and Patterns: Count the number of yellow fruiting bodies in the photo. Create patterns using yellow and brown colors to represent the slime mold and its forest home. Measure and compare the sizes of different structures using non-standard units like blocks or paperclips.
2. ELA - Descriptive Writing and Storytelling: Have students write or dictate sentences describing what they see using sensory words (bumpy, bright, soft, spongy). Create a simple story about the "life journey" of a slime mold from blob to yellow structure, using sequence words like "first," "next," and "last."
3. Art - Texture and Color Exploration: Create slime mold sculptures using yellow playdough, modeling clay, or crumpled yellow tissue paper on brown cardboard to represent wood and leaves. Make rubbings of textured surfaces to match the bumpy texture observed in the photo, then paint them bright yellow.
4. Social Studies - Caring for Our Environment: Discuss how decomposers help keep forests healthy by breaking down dead things. Connect this to classroom responsibilities like composting food scraps or caring for a classroom garden, showing how students can help nature just like slime molds do.

## STEM Career Connection

1. Mycologist (Fungus Scientist): A mycologist is a scientist who studies fungi, molds, and slime molds. They look at these organisms under microscopes, learn how they grow, and discover new species. Some mycologists help doctors understand diseases, while others help farmers protect their crops. They work in laboratories, universities, and nature centers. Average Annual Salary: \$45,000 - \$65,000
2. Forest Ecologist: A forest ecologist studies how all the living things in a forest work together, including decomposers like slime molds. They explore forests, take measurements, and help protect forests and the animals that live there. They might work for parks, universities, or organizations that protect nature. Average Annual Salary: \$50,000 - \$70,000
3. Science Educator or Nature Center Specialist: These professionals teach people of all ages about nature and living things like slime molds. They might give tours, create programs, or lead outdoor activities at museums, zoos, or nature centers. They help people understand why decomposers are important to our world. Average Annual Salary: \$35,000 - \$55,000

## NGSS Connections

- Performance Expectation: 1-LS1-1: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
- Disciplinary Core Ideas: 1-LS1.A - All organisms have external parts that they use to perform daily functions
- Crosscutting Concepts: Structure and Function - The shape and stability of structures are related to their function

## Science Vocabulary

- \* Organism: Any living thing that can grow and make more of itself
- \* Decomposer: A living thing that breaks down dead plants and animals
- \* Reproduce: When a living thing makes more living things like itself
- \* Spore: A tiny part of some living things that can grow into a new organism
- \* Life cycle: The different stages a living thing goes through as it grows

## External Resources

### Children's Books:

- "What's Alive?" by Kathleen Weidner Zoehfeld
- "Mushrooms, Molds, and Slime" by Judy Wearing
- "Who Grew My Soup?" by Tom Darbyshire