

Mycology

with Dr Chinyere Knight

Talking points

Knowledge

1. What are myxomycetes?
2. What is morphological identification?

Comprehension

3. Why were slime moulds previously considered fungi?
4. Why are slime moulds useful for biology education?

Application

5. What type of evidence do you think influenced scientists to reclassify slime moulds as protists rather than fungi?
6. Why do you think mycologists continue to study slime moulds if they are not true fungi?

Analysis

7. What types of sampling biases might be present in current slime mould collections?
8. What types of variables do you think the EAGER team will be comparing between the two field sites at Camp Atkins Forest and Tuskegee National Forest?

Evaluation

9. Chinyere mentions challenges in getting funding for mycology. How could mycologists and the general public help more funding be channelled towards this valuable field of research?
10. "There is plenty of room for discovery in the field of mycology!" says Chinyere. Based on what you have read in the article and your own thoughts, what notable discoveries could be on the horizon in the field of mycology?

Activity

This activity will help you develop an understanding of the structure and function of slime moulds. You will create a 3D model and a presentation to demonstrate your understanding of how these organisms live, grow and interact with their environment.

Use the resources below and do your own research to learn more about the specialised structure of slime moulds. Find definitions for the following structures and write a couple of sentences explaining how each structure helps slime moulds survive: capillitium; hypothallus; peridium; stipe and substrate.

Based on your findings, choose a species of slime mould and build a 3D model of it, like the one shown below. Get creative and use different materials to create your model such as cardboard, tissue paper, Playdough, pipe cleaners and pom-poms. Make your model as accurate as possible, thinking about the shape, colour and texture of slime moulds. Use a marker pen to label each part of your model.

Using Chinyere's article and your own research, write a couple of short paragraphs explaining how slime moulds interact with their environments. Try to answer the following questions: Where do slime moulds live and how do they move? What do slime moulds eat and how do they find food? How do slime moulds impact their environment and other organisms?

Using Google Slides or PowerPoint, create a presentation to explain your research and your model slime mould to the class. Tell them about the function of the slime mould's specialised structures, how it interacts with other organisms and the role it plays in its environment.

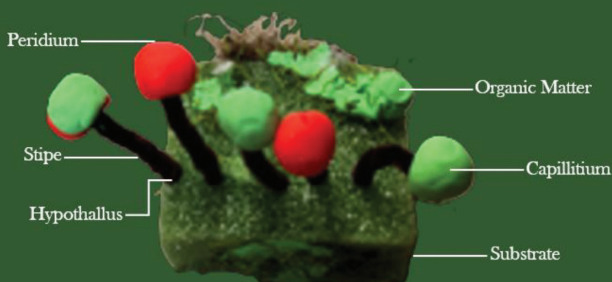
Reflection questions

- What parts of this creative process did you struggle with? What parts did you most enjoy?
- To what extent do you think art is a useful tool for teaching people about science, and why?

More resources

- This interview with Chinyere provides an insight into slime mould biology and how she teaches it: planetforward.org/story/slime-mold-hbcu
- This key can be used to identify slime moulds and learn more about their structure: upload.wikimedia.org/wikipedia/commons/f/f6/A_Key_to_Common_Genera_of_Slime_Moulds.pdf
- This video from Real Science provides a vivid look into the world of slime moulds: youtube.com/watch?v=nPOQQp8CCIs
- This article from the UN Decade on Ecosystem Restoration explores the benefits of fungi to humans and ecosystems: decadeonrestoration.org/stories/benefits-fungi-environment-and-humans

Paradiacheopsis rigida



Paradiacheopsis rigida: A 3D model constructed by Jeremiah Frazier, a student at Tuskegee Public School.