

RESOURCE LIBRARY | ACTIVITY : 1 HR

Misunderstood Microbes PSA Presentations

This is the culminating activity in the Misunderstood Microbes unit. Students finalize and present their public service announcement (PSA), which introduces a particular microbe to their community and an evidence-based argument regarding the value of eradicating the microbe. The audience members will provide written feedback to each group, which can be incorporated into assessments of their work. Finally, students individually reflect on their learning.

GRADES

6, 7, 8

SUBJECTS

Biology, Health

CONTENTS

2 PDFs

OVERVIEW

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For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/misunderstood-microbes-psa-presentations/>

In collaboration with

DIRECTIONS

1. Prepare for PSA presentations.

- Provide time for groups to finalize their PSAs.
- Explain the presentation format, which will vary depending on the type of PSA (online, poster, etc.), school context, audience, and venue for presentations.
 - Technology: Any technology involved in the PSA presentations (such as audio systems or projectors) should be tested by student groups ahead of time.
 - Student introductions: Even if the PSAs are digital, remind students to introduce themselves and their microbe before showing their PSA, and take questions from the audience after.

2. Facilitate PSA presentations.

- Welcome additional audience members and pass out copies of the Misunderstood Microbes PSA Presentation Audience Feedback form.
- After each group presentation, model how to ask appropriate questions that press the presenters' understanding about their microbe, particularly around how the microbe interacts with the systems of the human body.
- Prompt audience members to also ask questions.

3. Reflect on the Misunderstood Microbes unit.

- Collectively revisit the class *Know and Need to Know* chart; students can likely now answer many of the questions that they had at the beginning of the unit.
- Ask students to respond individually to some of the following prompts:
 - *What will you remember about creating your PSA? Why?*
 - *What would you change about this unit and the project? What would you keep the same?*
 - *How was your experience of working with your group in this unit?*
 - *How did your group work well together? What could your group have done better?*

- *What is the most important thing you learned during the Misunderstood Microbes unit?*
- Use a collaboration rubric (such as [this one](#) from the Buck Institute for Education) for students to assess themselves and/or peers on their collaboration skills.

Tip

Step 2: Consider requiring each student to ask at least one question of another group.

Rubric

Use the PSA Rubric to assess students' understanding of the key concepts of the *Misunderstood Microbes* unit via their group's PSA and presentations. Additionally, the audience feedback forms, student responses to the final reflection questions, and/or the collaboration rubric can all be used to inform your final assessment of each student's individual understanding and contribution to the project.

Extending the Learning

To further the impacts of PSAs, consider having groups present their PSA to a relevant audience in the community (such as food prep workers for *E. coli*/botulism, parents for measles, lifeguards for *Giardia*). Another option is to digitally record and upload their PSAs onto an internet platform to share their messages with a wider audience.

OBJECTIVES

Subjects & Disciplines

Biology

- Health

Teaching Approach

- Project-based learning

Teaching Methods

- Cooperative learning
- Discussions
- Reflection

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information Literacy
 - Media Literacy
 - Learning and Innovation Skills
 - Communication and Collaboration
 - Creativity and Innovation
 - Critical Thinking and Problem Solving
 - Life and Career Skills
 - Leadership and Responsibility
 - Productivity and Accountability
- Science and Engineering Practices
 - Engaging in argument from evidence
 - Obtaining, evaluating, and communicating information

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- CCSS.ELA-LITERACY.SL.7.4:

Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

- CCSS.ELA-LITERACY.WHST.6-8.6:

Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

NEXT GENERATION SCIENCE STANDARDS

- **MS. From Molecules to Organisms: Structures and Processes:**

MS-LS1-3. Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

- **Science and Engineering Practice 7:**

Engaging in argument from evidence

- **Science and Engineering Practice 8:**

Obtaining, evaluating, and communicating information

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Printed handouts or digital access to student handouts

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per classroom, Monitor/screen, Printer, Projector

PHYSICAL SPACE

- Classroom
- Meeting space

SETUP

Make the context for the final PSA presentations fun and engaging for students and audience members. Celebrate the completion of the Misunderstood Microbes unit!

GROUPING

- Large-group learning
- Small-group work

RESOURCES PROVIDED: HANDOUTS & WORKSHEETS

- [PSA Rubric](#)
- [PSA Presentation: Audience Feedback](#)

BACKGROUND & VOCABULARY

Background Information

Microbes are organisms that are too small to be seen by the human eye and include bacteria, archaea, protists, viruses, and fungi. Although some microbes cause disease, they are also crucial to the functioning of human bodies through processes such as digestion and aiding the immune system. The microbes found on a person's body are collectively known as a person's microbiome, especially those found in body organs and systems such as their skin, hair, and digestive system.

Most of microbes' interactions with humans are neutral or beneficial. However, they also can make us sick by acting as infectious agents. Microbes can cause disease through a variety of body organs and systems, which has cascading effects throughout the whole system and human body. Depending on the nature of their impacts on humans, the importance of eradicating particular microbes may vary.

Public service announcements (PSAs) are a way to communicate important information (often about a social issue or health concern) to a broad audience. A successful PSA is short, engaging, and contains a persuasive message for the viewer to act on in their everyday lives.

Prior Knowledge

["Relationship between structure and function", "Human body organization as complex system", "Systems thinking", "Cause and effect"]

Recommended Prior Activities

- [Create a Microbe PSA](#)
- [Deep Dive into the Cell](#)
- [Harmful Microbes](#)
- [Helpful Microbes](#)

- [Introduction to Microbes and Human Body Systems](#)
- [Microbe Eradication Complications](#)
- [Microbes Across the Tree of Life](#)
- [Research a Microbe and Develop an Argument about its Eradication](#)
- [The Interconnected Systems of the Human Body](#)

Vocabulary

Term **Part of Speech** **Definition**



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