

Bacterial Pathogenesis

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Engage

Ask students to raise their hand to indicate if they have ever had a bacterial infection. Select a common infection like strep throat and ask why people get strep throat and other diseases. Briefly discuss the role of bacteria in humans and other animals.

Explore

Have students gather soil or other environmental samples and test for bacteria using agar plates.

Explain

Show the T5C4 by Brett Finlay University of British Columbia, on “2000 and Beyond: Confronting the Microbe Menace” DVD. Students should take notes from the lecture about what microbes look like, what they do, how they are spread, leading infectious diseases, and how diseases are treated.

Elaborate

Divide the students into groups of 2 to 4 to research a bacterial disease using the research guide provide, the internet, and print resources. You might assign the diseases, let the students choose, or “catch” their own from a bucket of diseases (names written on strips of paper).

Evaluate

Have each group of students write and perform a skit using the information they gathered about a disease in their research. Use the rubric to evaluate the quality of the information they presented and their performances.

Extension

Which Household Cleaners or Soaps Work best Against Bacteria?, Melinda Pittis.
[Www.scienceteacherprogram.org/2001p/pittis2000.html](http://www.scienceteacherprogram.org/2001p/pittis2000.html)

Names _____ Class _____

Disease Research Guide

Disease Name _____

Caused by (name of virus, bacteria, fungi) _____

Symptoms _____

Diagnosis _____

Treatment _____

How spread and prevented _____

History _____

Immune System Role _____

Disease Presentations

- You will present your disease to the class in a skit.
- One of you will act as the doctor and one as the patient. If there are more than two in your group, assign at least one to each role.
- Dress and use props that will reflect your character.
- Use the research guide and the script sketch below to plan and perform your skit.
- Your project will be evaluated by the accuracy and thoroughness of the facts as well as how interesting your presentation is.
- Be creative and appropriately humorous.

Dr: Hello. I'm Dr. _____ . How are you feeling today?

Patient: Hi. I'm _____. I'm feeling _____.

Dr.: How long have you felt this way?

Patient: About _____.

Dr.: Let's take a look. (Examine appropriately for symptoms like fever, swollen glands...) Hmm. Looks like you have (describe symptoms). _____

Do you know how long this has been going on?

Patient: _____

Dr: I think you have _____ because (symptoms) _____

This is caused by (name of pathogen and how it is spread) _____

We can treat this by _____

This illness has a history (describe any treatment and prevention strategies used in the past) _____.

Your immune system helps fight this disease by _____.

Scoring Rubric for Evaluation

Cause	10%
Symptoms	10%
Treatment	10%
Transmission	10%
History	Bonus points
Interest level	10%
Worksheet	50%