

## Antibiotic Activities and the Central Dogma, A Role Playing Activity

**Resource Type:** Curriculum: Classroom

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### Abstract

This exercise is a role-playing activity to demonstrate the cellular basis of standard antibiotics. Students are assigned roles either as organelles or antibiotics. Those players representing organelles demonstrate the standard processes of transcription, translation, replication, and endocytosis. Students who have been assigned antibiotic roles join the action in progress without revealing their identity. The audience and players can be assessed on the basis of their ability to identify the antibiotic by its action, or the audience can try to score points as part of an elaborate charades game.

### Activity

**Invitation for User Feedback.** If you have used the activity and would like to provide feedback, please send an e-mail to [MicrobeLibrary@asmusa.org](mailto:MicrobeLibrary@asmusa.org). Feedback can include ideas which complement the activity and new approaches for implementing the activity. Your comments will be added to the activity under a separate section labeled "Feedback." Comments may be edited.

#### INTRODUCTION

##### Core Theme Addressed

3. Interactions and impact of microorganisms and humans - antibiotics and chemotherapy

#### PROCEDURE

##### Instructor version.

A group of 10 to 12 students is given a list of cellular components and antibiotics and told to develop a play illustrating the processes of transcription, translation, replication and endocytosis (as appropriate to the list of antibiotic activities to be addressed). On the day of the demonstration, those students who have the roles of cellular components will act out uninhibited transcription and translation. Then, the students assigned the roles of various antibiotics will one by one interfere with the process without revealing their identity. Students in the audience can be assessed on their ability to identify the antibiotics by their actions.

##### Materials.

This activity can be performed in a pantomime without any supplemental materials. Some creative students may choose to devise or purchase props or costumes in order to enhance their performance.

**Safety issues.** Not applicable