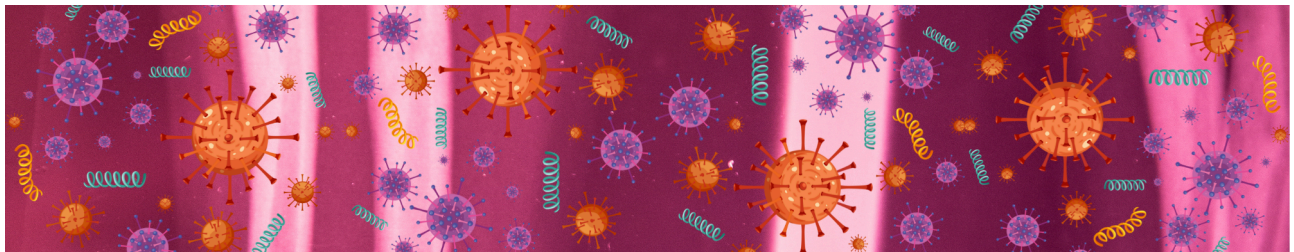




**MICROORGANISM FREEZE FRAME**  
**Grade Band: 4-5**  
**Content Focus: Theatre & Science**



**LEARNING DESCRIPTION**

Students will explore the concepts of beneficial and harmful microorganisms using their bodies to act in scenes and tableaux. By enacting different bacteria and viruses, students will learn scientific information kinesthetically.

**LEARNING TARGETS**

Essential Questions	"I Can" Statements
<p>How can theatre techniques be used to understand microorganisms?</p> <p>How are viruses and bacteria different?</p>	<p>I can demonstrate my understanding of tableau by freezing and moving when appropriate.</p> <p>I can demonstrate my understanding of the difference between bacteria and viruses using tableaux.</p>



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	<p>I can demonstrate my understanding of helpful and harmful bacteria by identifying the type of bacteria represented in each group performance.</p> <p>I can use my body to demonstrate my understanding of viruses and bacteria (both helpful and harmful).</p>
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## GEORGIA STANDARDS

Curriculum Standards	Arts Standards
<p><b>Grade 5</b> S5L4. Obtain, evaluate, and communicate information about how microorganisms benefit or harm larger organisms.</p>	<p><b>Grade 5</b> TA5.CR.1 Organize, design, and refine theatrical work. TA5.CR.2 Develop scripts through theatrical techniques. TA5.PR.1 Act by communicating and sustaining roles in formal and informal environments.</p>

## SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
<p><b>Grade 5</b> 5.L.4B.3 Construct explanations for how organisms interact with each other in an ecosystem (including predators and prey, and parasites and hosts).</p>	<p><b>Anchor Standard 1:</b> I can create scenes and write scripts using story elements and structure.</p> <p><b>Anchor Standard 3:</b> I can act in improvised scenes and written scripts.</p> <p><b>Anchor Standard 8:</b> I can relate theatre to other content areas, arts disciplines, and careers.</p>

## KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
<ul style="list-style-type: none"> <li>● <u>Microorganisms</u> - Living organisms so small that we need a powerful microscope to see them. They include bacteria, viruses, fungi, protozoa, and algae.</li> <li>● <u>Bacteria</u> - Single celled spherical, spiral, or rod-shaped organisms. Bacteria can be helpful or harmful to humans.</li> </ul>	<ul style="list-style-type: none"> <li>● <u>Theater</u> - Dramatic literature or its performance; drama</li> <li>● <u>Body</u> – An actor’s tool, which we shape and change to portray the way a character looks, walks, or moves</li> <li>● <u>Scene</u> – The dialogue and action between characters in one place for one continuous period of time</li> </ul>



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- Viruses - The smallest of the microorganisms, viruses are infectious agents that can only replicate inside the cells of other living things. They cause infectious diseases like chickenpox and measles.

- Improvisation - A creation that is spoken or written without prior preparation
- Ensemble - All the parts of a thing taken together, so that each part is considered
- Tableau - A “living picture” in which actors pose and freeze in the manner of a picture or photograph

## MATERIALS

- Notecards with helpful and harmful bacteria listed on them
- Pictures of bacteria and viruses
- Chart/poster paper and markers

## INSTRUCTIONAL DESIGN

### Opening/Activating Strategy

- Start with a general physical warm-up to get the students' bodies ready. Use exercises such as:
  - **Stretching:** Stretch all major muscle groups.
  - **Shaking Out Limbs:** Shake out arms, legs, and the whole body to release tension.
  - **Energy Passes:** Stand in a circle and pass a clap or a simple motion around to build group focus and energy.
- Begin the lesson by introducing the basics of tableau.
  - Stop/go: Tell students that when you say, “Go”, they should walk around the classroom. When you say, “Stop”, they should freeze in place. Repeat several times.
  - Now, tell students that when you say, “Stop”, they should freeze in place, but that you will tell them how you want them to freeze (happy, sad, angry, etc.). Repeat several times.
  - Now, tell students that when you say, “Stop”, you will tell them what you want them to be (car, tree, wall, cat, dog, etc.). Repeat several times.
  - Now, tell students that when you say, “Stop”, you want them to freeze as if they are doing something (eating, running, kicking a ball, planting a plant, cooking). Repeat several times.
  - Tell students that in this activity, they were making a tableau. A tableau is a frozen living picture.
- Have students return to their seats.

### Work Session

- Review/teach about microorganisms, the smallest living things.
  - Review two types of microorganisms: bacteria and viruses.



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- Divide students into small groups of 2, 4, or 6. Provide each group with chart/poster paper and markers. Students should divide their paper into two sections: bacteria and viruses.
  - With their groups, students should write down characteristics of each type of microorganism.
  - Provide time for groups to share and revise their work.
  - Next, groups should discuss how they could use movement to demonstrate the different characteristics of each.
  - For example, as a bacteria, students are able to completely take care of themselves; they are able to feed themselves and they are able to replicate.
  - As viruses, they must find other ways to eat and get energy because they are not self-sufficient. They must find other living cells in which to replicate.
  - Tell students that in their groups, students will act out each type of microorganism when prompted.
    - An example of what this might look like is two students moving the same way close together as a single bacterium and then splitting off into separate entities to show replication.
- Next, assign each group to be bacteria or viruses.
- Have the students make a tableaux of their microorganisms. Establish a cue to tell students to come to life.
- Circulate the room discussing how the different groups demonstrated their microorganism, pointing out the differences between viruses and bacteria.
- **Helpful and Harmful Microorganisms**
  - Introduce the concept that some bacteria are helpful and some bacteria are harmful.
  - Discuss examples of helpful bacteria, such as live bacteria in yogurt, bacteria that breaks down organic material and turns it into compost, bacteria that breaks down chemical waste to help the environment, etc.
  - Discuss examples of harmful bacteria, such as bacteria living on raw meat, bacteria living on dirty hands after touching a public handrail or a cell phone, bacteria that can cause an infection when you hurt yourself and don't clean the injury, etc.
  - Pass out cards to groups with each of these types of bacteria on them.
  - Ask the group to use their bodies to act out the location and the type of bacteria that would be found there (harmful or beneficial). Remind students to use their facial expressions and whole bodies as tools of communication in their scenes.
  - Provide time for students to plan and practice. Circulate to support students and check for understanding.

### Closing/Reflection

- Each group will perform for the class. Discuss appropriate audience participation and etiquette prior to performances.
- The class will decide if the group is showing helpful bacteria or harmful bacteria based on what they see. Ask the class to give a thumbs up if it is helpful or thumbs down if it is harmful.

## ASSESSMENTS



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## Formative

Teachers will assess students' understanding of the content throughout the lesson by observing students' participation in the tableau activator, review of microorganisms, and use of movement and tableau to demonstrate their understanding of microorganisms.

## Summative

### CHECKLIST

- Students can demonstrate their understanding of the difference between bacteria and viruses using their created tableaux.
- Students can demonstrate their understanding of helpful and harmful bacteria by identifying the type of bacteria represented in each group performance.
- Students can use their bodies to demonstrate their understanding of viruses and bacteria (both helpful and harmful).

## DIFFERENTIATION

### Acceleration:

- Students can write a scene that uses dialogue to demonstrate harmful or helpful bacteria. The setting for the scene would be where the bacteria lives (cell phone surface, yogurt, etc.). Students can take this one step further by turning their scenes into shadow puppet performances.
- Students can write and illustrate a story (can be in the form of a comic strip) that uses dialogue to demonstrate their understanding of bacteria and viruses. An example could be creating a villain who is harmful bacteria causing an infection and a superhero who is white blood cells fighting the bacteria villain.

### Remediation:

- Provide a graphic organizer or guided notes for students instead of having students write about viruses and bacteria on chart paper. Students could also use printed strips of paper with characteristics on them that they glue down under headings of bacteria or viruses.
- Scaffold this lesson by pausing throughout the lesson to brainstorm movements as a class to represent viruses and bacteria. This will help students who might struggle with ideas when they work in their groups.

## ADDITIONAL RESOURCES

NA

*\*This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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