

Teacher Directions

UNIT: CHIKUNGUNYA

LESSON 4: GATHERING EVIDENCE AGAINST CHIKV

Activity 4A: Emergency Bulletin! Fighting CHIKV Starts with Me!



TEXAS BIOMEDICAL
RESEARCH INSTITUTE
HEALTH STARTS WITH SCIENCE

Educational Objective

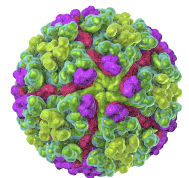
Recommend appropriate public health responses to limit viral outbreak.

Instructional Objective

Develop a public service announcement that informs the community of the emergence, spread, and risks of Chikungunya Virus.

Activity Summary

In this lesson, students work collaboratively in research groups to investigate different aspects of the Chikungunya virus through the lens of a specific public health profession. Each group analyzes background information and creates a Public Service Announcement (PSA) to educate the community using ideas from a choice board: a comic strip, poster, commercial/skit, chant/rap, podcast documentary, or create a children's book. Students must communicate accurate scientific information while making their message engaging and accessible to an audience. The project emphasizes understanding of virus transmission, symptoms, prevention, environmental factors, and immune responses while strengthening science communication skills. Final projects are evaluated using a rubric that assesses content accuracy, creativity, communication effectiveness, and adherence to format-specific requirements. This lesson connects to population health by examining how your community and environment affect your susceptibility to infection.



CHIKV Virus

Education Standards: Identifies Texas Essential Knowledge and Skills (TEKS) and Next Generation Science Standards (NGSS). This lesson addresses:

TEKS: High School Biology, Anatomy & Physiology, Pathophysiology, and Health

NGSS: Middle School and High School Life Science

Materials

- › Color Pencils
- › Markers
- › Rulers
- › Posters/Chart Paper
- › Thought Catcher



MIDDLE & HIGH SCHOOL LEVEL

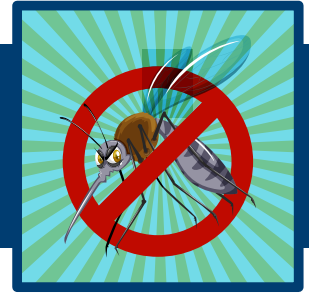
Teacher Enrichment Initiatives (TEI) | NIH SEPA | ©2026 | [TxBiomed.org](https://www.txbiomed.org)
NIH SEPA Project #1R25GM142021-01A1 | Some graphic elements courtesy of [Freepik](https://www.freepik.com)

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Teacher prep (Before the lesson)

- Print out the transformed article **Chikungunya: Silly Name, Serious Virus**
- Print out rubric (one per group).
- Print out choice board expectation (one per group)
- Print out Student Directions (recommend making laminated class set of transformed article and student directions)
- Processing Out (one per student)

Divide the students into 5 groups: epidemiologists, physicians, community health advocates, environmental virologists, and immunologists.

- Options:
 - ➔ There may be more than one of each group.
 - ➔ Different professions may be part of a group.
 - ➔ Assign advanced students to the environmental virologist and epidemiologist groups.
 - ➔ No repeats from choice board.

Five Group Model:

Each group will have different resources depending on the profession. Depending on your group size, you may need to print one copy per each student.

Group 1: Awareness of how transmission occurs

(Profession: Epidemiologist)

Group 2: What happens when you get CHIKV, symptoms, and long-term affects on the body

(Profession: Physician)

Group 3: How to limit the virus, preventative methods

(Profession: Community Health Leaders)

Group 4: Where chikungunya is from and why it's spreading

(Profession: Environmental Virologist)

Group 5: How does the immune system respond to CHIKV between humans and mice?

(Profession: Immunologist)

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Teacher Steps (During the Lesson)

- › Read the transformed article with the students.
 - Option: print and read only the **Student Background**
- › Divide the students into 5 groups
- › Give each group a profession (immunologist, physician, community health advocate, environmental virologist, epidemiologist)
- › Give the **Student Background** to each group. Allow students time to read the background (5 minutes)
- › Distribute or project the **Choice Board** (comic book, poster, commercial, skit, chant) and provide time for group to make their selection on how they will present the information (15 minutes)
 - Options:
 - Each choice can only be used once.
 - Place choices into a hat or on popsicle sticks and have a representative from each group randomly select their option.
- › Distribute the **Rubric** and **Choice Board Expectations**.
- › Students will create the final product. (30 min)
 - Option: This can be a multiple day project.
- › Groups will present the final product to class (25 min)
- › Prior to presentations, pass out the **Thought Catcher** (one per student). As groups are presenting, the classmates will answer the 12 questions located on the Thought Catcher.

Clarifying Questions to Guide Students: Use these questions to guide students who are struggling to create a Public Service Announcement (PSA) that reflects their assigned profession.

- › **Group 1: Epidemiologists.** Create awareness about how the Chikungunya Virus is transmitted.



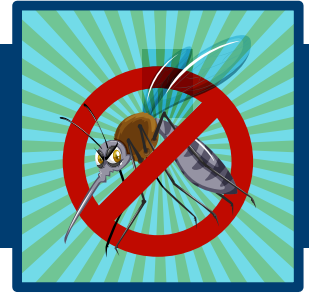
- How is the virus spread?
- How is Chikungunya passed from mosquitoes to humans?
- What do mosquitoes use to pass along the virus?

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› **Group 2: Physicians.** Explain what a patient experiences when they contract Chikungunya Virus, including symptoms and long-term body effects.



- What are the symptoms of the Chikungunya Virus?
- How many people show symptoms?
- What are the two phases of the virus, and how long do they last?
- What is the devastating effect of the Chikungunya Virus?

› **Group 3: Community Health Advocates.** Inform about and recommend preventative measures.



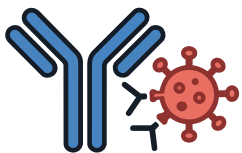
- How can individuals prevent mosquito bites?
- What are the methods communities can take as a whole to prevent mosquitoes?
- What are the most approved methods for repelling mosquitoes?

› **Group 4: Environmental Virologist.** Discuss where Chikungunya is from and why its geographic range is growing.



- Where was Chikungunya first detected?
- Where is it found now?
- What three ways does Climate Change impact the spread of arboviruses?
- What is an arbovirus?
- What other environmental elements impact the spread of the Chikungunya Virus?

› **Group 5: Immunologists.** Elaborate on how the immune system responds to Chikungunya Virus and discuss how human and murine immune systems react differently and the potential risks.



- What type of cells are most often infected with CHIKV?
- How does the Immune system respond once an infection has occurred?
- What differentiates an acute infection from a chronic infection?
- How do human immune systems react differently from murine immune systems?
- How does the human immune system lead to devastating effects?