

Bacteria

STEM Sims

Lesson 4: Which Vegetable Contains the Most Dangerous Bacteria?

Nutritionists tout vegetables as being healthy alternatives to typical snack food. But are vegetables capable of harboring dangerous bacteria? Do some testing to answer this question.

Doing the Science

1. Start the Bacteria Simulation by clicking on the “Sim” tab.
2. Move the mouse to the counter to the right of the flower.
3. When the words “Canned Foods” appear, click the mouse. The button in the “Sample Collected” area should turn red.
4. Move the mouse to the microscope and click on the scope.
5. View the sample by clicking on “Single,” “Multiple,” “Flagellated,” and “With Gram Stain.”
6. Sketch what you see in the microscope in the appropriate space in Table 1 below.
7. Select the “Back” button at the bottom right of the screen.
8. Click on the red “Clear” button in the “Sample Collected” area.
9. Move the mouse on the table.
10. When the word “Rice” appears, click the mouse. The button in the “Sample Collected” area should turn red.
11. Repeat steps 4 – 6, then repeat the collection process for the Veggie Surprise sample on the table.
12. Use the “Bacteria Database” in the “Background” section of the site to identify the bacteria type (if present) in the three different types of vegetables.

Table 1.

| Sample | Single | Multiple | Flagellated | Gram Stain | Bacteria Type |
|-----------------|--------|----------|-------------|------------|---------------|
| Canned Foods | | | | | |
| Rice | | | | | |
| Veggie Surprise | | | | | |

Do You Understand?

1. Which vegetable contained the most dangerous type of bacteria?
2. Do you think the presence of canned vegetables as opposed to fresh produce impacted your results? Explain why or why not.