NOTES

Food for America - Demonstration Plan

Unit:	Food Safety
Demonstration:	Bacteria Cupcakes (30 minutes)

Objective(s):

1. Students will be able to verbalize the importance of hand washing for food safety at home.
2. Students will be able to identify bacteria with a microscope.
3. Students will be able to connect bacteria to food-borne illnesses.

Materials, Supplies, Equipment, References, and Other Resources:

- Cupcakes
- Ketchup
- Mustard
- Pickle relish
- Sock
- Ball
- Petri dishes with bacteria samples (incubated)
- Microscopes and glass slides

**NOTES – before visiting school, make bacteria samples. Take Petri dishes and place your hand in the Petri dish. Label the sample, cover it with the lid and let it set in the back of the class, in a warm area for a few days. Take 3 samples: #1 unwashed hand, #2 hand washed with water, #3 hand washed with soap and water. Make multiple sets if you have the resources.

Check with teacher prior to lesson for dietary needs and to make sure it is OK to bring cupcakes.

Introduction:

Connection to students – Today we're going to take a sneak peek into the life of Joe, a student at "____ Elementary" school just like you. We had a camera crew follow Joe yesterday and this is what they found. ***FFA member "Joe" enters and acts like he just got to school. Joe sees a friend and shakes his hand, but his friend's hand is covered with mustard.*** Let's fast forward to Joe at recess. ***A friend passes Joe a ball, covered with ketchup.*** Let's look at Joe on his way home. ***Joe walks through class acting like he is walking home, and picks up a sock covered in pickle relish. Now Joe has ketchup, mustard, and relish on his hands. Joe gets "home" at the front of the class where he finds a cupcake and a note from his mom. Read out loud, "***Welcome home from school, Joe. Here's a cupcake, but don't forget to wash your hands!" ***Joe shrugs and picks up the cupcake, eating with his gross hands.***

What went wrong? (Students respond)

Motivation – We'd never ruin a great cupcake with pickle relish, mustard, and ketchup, but did you know that you might be ruining your cupcake without even knowing it? It is easy to see the relish on our hands, but we pick up bacteria on our hands all day, bacteria that can make us sick, and that are almost impossible to see!

Overview – Today we'll figure out how to keep our food safe, use some cool microscopes, and even eat some cupcakes.

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Steps and Procedures for Performing the Skill/Task:	
STEPS (What to Do)	**Procedures (How to Perform the Step)**
Explain Set-Up	
• Show Petri dishes	These are called Petri dishes. A few days ago we put our hands in these dishes, and they collected the bacteria that were on our hands. Now the bacteria have grown so we can see them. There are three dishes: Dish 1 is from a hand that wasn't washed. Dish 2 is from a hand washed only with water. Dish 3 is from a hand washed with soap.
Microscopes	Guide students in using microscopes to look at samples on slides from the bacteria Petri dishes. If multiple microscopes are available, split students into groups and hold a discussion about the difference between the three Petri dishes.

Plans for Learners/Participants to Practice the Skill/Task:

- Explain procedure to class as a whole.
- If multiple microscopes are available, split into groups and allow students to look at bacteria from each sample.

****Adaptations for Upper Elementary**

- If you have time, have students each place their hand in a Petri dish and incubate for a few days. Bring Petri dishes back so students can look at their own sample.
- Have students collect 1 bacteria colony from the Petri dish and place it on the slide to look at.

Summary of Key Points:

- Have students gather back together for final discussion.

Conclusion – What did you see today? (bacteria) What did it look like? Where did it come from? Think back to Joe, who we watched when we first got here. What did Joe do wrong? (He didn't wash his hands.) What is probably on our hands right now? (bacteria) What can bacteria do to us? (It can make us sick.) Well, let's wash our hands before we enjoy some cupcakes to celebrate your findings today! *Have students wash hands and then enjoy cupcakes.*