

How Fast Does it Grow?

Module 6

Introduction:

- This activity should accompany Module 6: Personal Hygiene and Employee Health Part 1. This demonstration is designed to help participants visualize the rate at which bacteria grow and replicate. It is suggested that this activity is started before Module 6 and used to illustrate what can occur during temperature abuse

Materials needed:

- Four or more jars of the same size
- Small dry objects of equal size (coffee beans, popcorn kernels, dry beans, dry rice, etc)
- Permanent marker

Preparation:

- Label each jar in 20 minute increments (0min, 20 min, 40 min, 60min, etc)
- Measure a small amount of your dry objects into the start time jar
- Measure double the amount of the dry objects into each subsequent jar
 - Ex: ¼ cup in the start jar, ½ in 20 min jar, 1 cup in 40 min jar, 2 cups in 60 min jar, etc.

Instructions:

- Introduce the demonstration at the beginning of the module. Show everyone the start jar, and explain how in ideal conditions (remember FATTOM?) some bacteria can replicated every 20 minutes
- Set a timer for 20 minutes, then pause the module and show the next jar. Repeat for an hour
- Debrief talking about bacterial replication.
 - If your jar is full after 60 minutes, after four hours you would have 512 full jars!
 - After eight hours you would have 2,097,152 full jars

The four-hour rules we see are based on how long it can take a small amount of pathogenic bacteria to grow to a level high enough to make someone sick.

