

# Keeping Food Healthy

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# Word Bank

contamination

citizen scientists

*Salmonella*

bacteria

public health

food recall

foodborne illness

*E. coli*

	people who help collect data for research projects conducted by professional scientists
	microscopic living organisms
	an action by a food manufacturer to protect from food that might cause health problems
	when bacteria or other harmful microorganisms spoil food
	bacteria found in the intestines of people & animals; most cause salmonellosis
	the science of protecting and improving the health of people and their communities
	any illness resulting from spoilage of contaminated food
	bacteria found in the environment, foods, & intestines of people and animals



# Understanding Foodborne Diseases

- **Foodborne illness outbreaks:**
  - when two or more people get the same illness from the same **contaminated** food or drink
- Two of most common outbreaks caused by:
  - *E. coli*
  - *Salmonella*





## Think About It

1. Are all bacteria harmful?
2. What are two bacteria that can be found in the human intestines?
3. Have you heard of any food items that were recalled?

# Food Safety and CDC

- Division of Foodborne, Waterborne, and Environmental Disease at CDC
  - monitor surveillance systems that track + monitor reports of foodborne & waterborne diseases
- PulseNet:
  - national laboratory network
  - connects foodborne illness cases to detect outbreaks
  - uses DNA fingerprinting of **bacteria** making people sick



# Food Safety and CDC



- FoodNet:
  - conducts surveillance for infections of nine foodborne **bacterial** and parasitic pathogens
  - tracks number of cases + where cases came from, monitors changes
- FoodNetFAST:
  - charts + tables of foodborne illness data
- Four steps to protect from food poisoning:
  - clean, separate, cook, and chill



## Think About It

1. Why would an *E. coli* outbreak with broccoli in California be important to residents of other states across the country?
2. What dangers could consumers experience if strict guidelines weren't in place for food handling?
3. What safety protocols have you noticed when shopping for fresh produce in your local grocery store?

# From the Expert



<https://youtu.be/ilaKWNZhz74>





## Think About It

1. Why should raw meat be prepared separately from fruits and vegetables?
2. Why is cooking food to the proper temperature important?
3. What do you think is the best way to convince other people to follow Clean, Separate, Cook, and Chill?

## Call to Action!

1. Conduct an Experiment with Fruits & Vegetables
2. Create a Public Service Announcement (PSA)
3. Share Your Findings

Why do you think participation is important?

Give it a  
Try

# Conduct an Experiment with Fruits and Vegetables



Ask

Ask a question



Research

Do background research



Hypothesis

Construct hypothesis



Test

Test with an experiment



Analyze

Analyze data



Conclusions

Draw conclusions



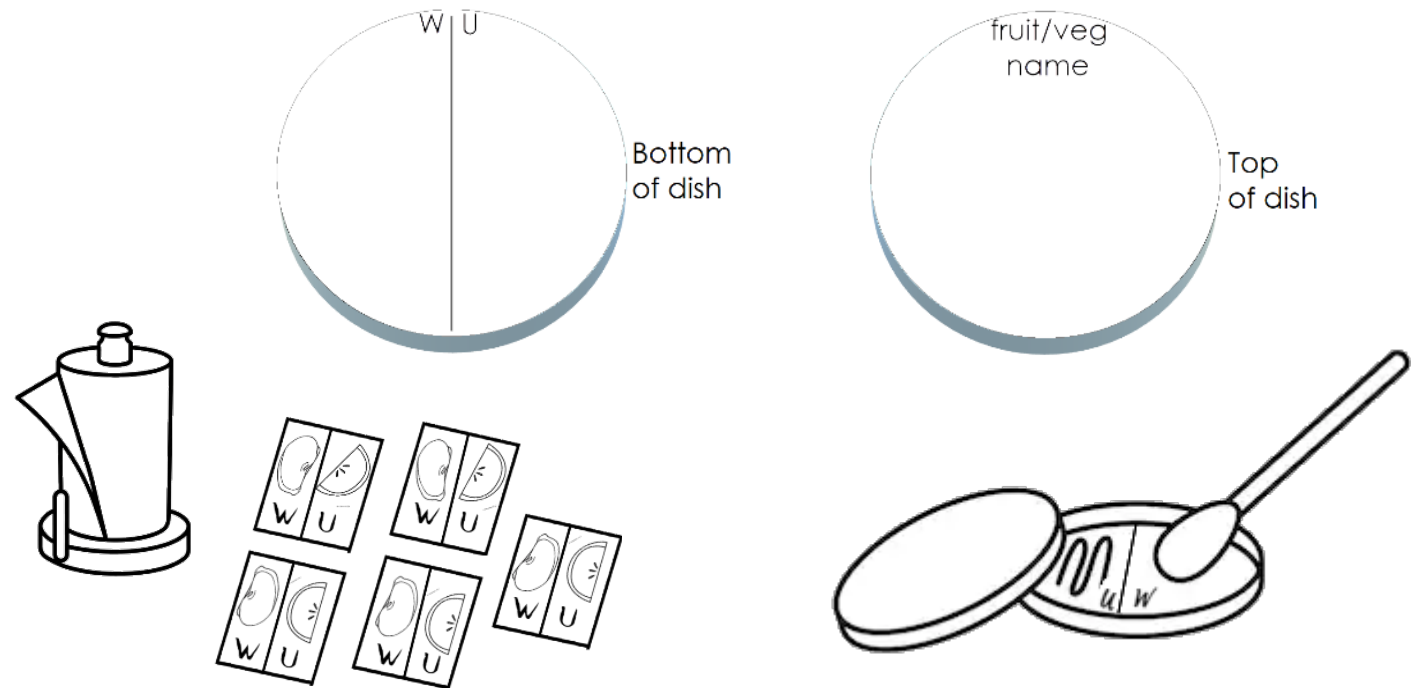
Share

Communicate results

# Give It a Try

## 1. Conduct an Experiment with Fruits & Vegetables

- Prepare the petri dishes & cleansing solution
- Prepare the fruits/vegetables
- Conduct the experiment with unwashed and washed samples

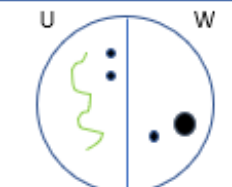
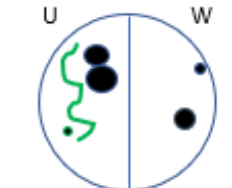



# 1. Conduct an Experiment with Fruits/Vegetables

- Data collection
- Disposal of your petri dishes

Fruit/Vegetable: Romaine Lettuce

Describe Packaging: Head of lettuce was sealed in a plastic bag (not chopped)

Day	Unwashed Observations	Washed Observations	Draw your Observations
1	There is a thin light green line forming where I swabbed. I also see two small black dots towards the top right of the line.	I don't see anything where I swabbed yesterday. Two small black dots area forming on the bottom of the dish.	
2	The green line is darker and there is a green dot towards the bottom. The two black dots are much larger.	There are now 2 black dots on the dish. The two black dots remain the same size from yesterday.	
3	The black dots are much larger. A new oval shaped growth appeared close to the edge of the Petri dish.	One of the black dots doubled in size. Also, a wavy purple line has formed at the top of the dish.	

# Give it a Try

## 2. Create a Public Service Announcement (PSA)

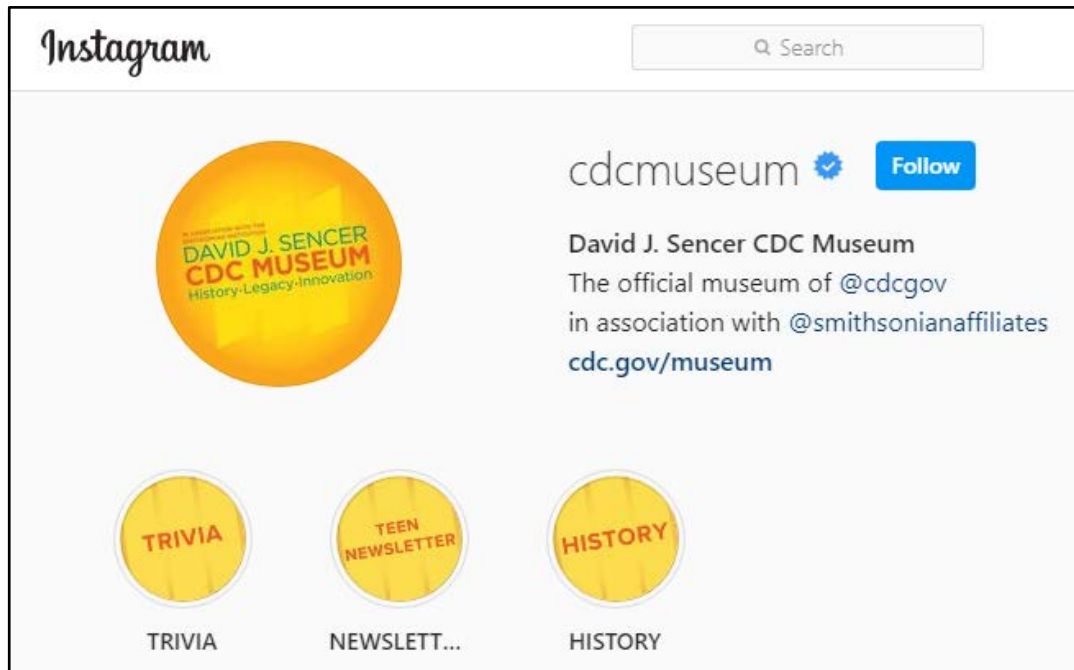
- Topic: Four Steps to Food Safety



Give it a  
Try

### 3. Share Your Findings

- Instagram @CDCmuseum



Give it a  
Try

Questions? 