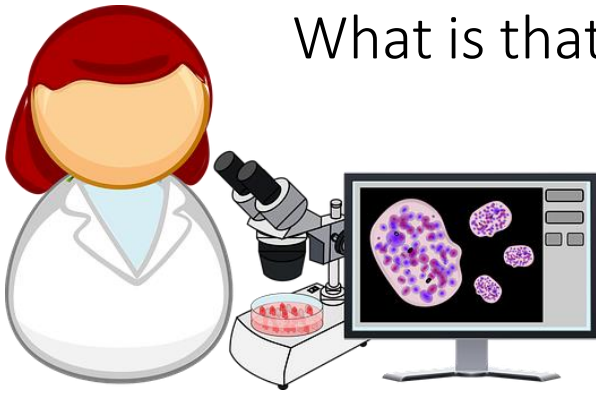




Virtual Kids Day - Bioforensics

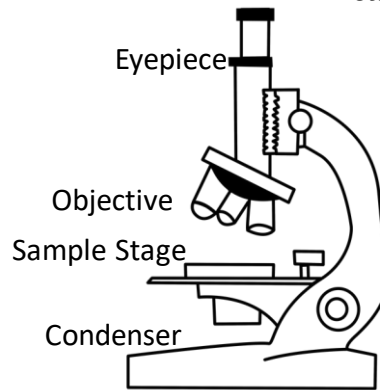
What is that microbe?



- Microbes are tiny organisms (~10 times smaller than the width of a human hair), most often bacteria, but also viruses and fungi.
- Most microbes are “good.” but some can make us very sick.

Microbes usually can't be seen with your eye alone so we need to view them under a microscope.

The microscope uses optics to magnify the bacteria so we can identify them based on shape and size.



1. Perform the activity – “Microorganisms in My Life” to learn how you were helped by microorganisms today.

2. How do “bad” bacteria get in our food?

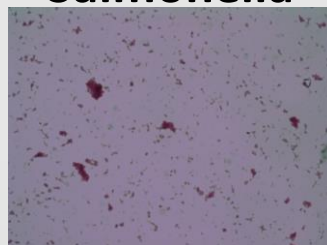
3. How can we prevent it?

E. coli



Escherichia coli, or E-coli for short, are bacteria found in the environment, foods, and intestines of people and animals. Most strains of *E. coli* are harmless, others can make you sick.

Salmonella



Salmonella is a bacterium that makes people sick. It was discovered by an American scientist named Dr. Salmon. There are many varieties of *Salmonella*, but none are “good.”

Giardia



Giardia is a parasite that is found in soils, water, and food that is contaminated with feces (poop) from animals or humans. The arrows show the “cyst” form of giardia.



What is that microbe?

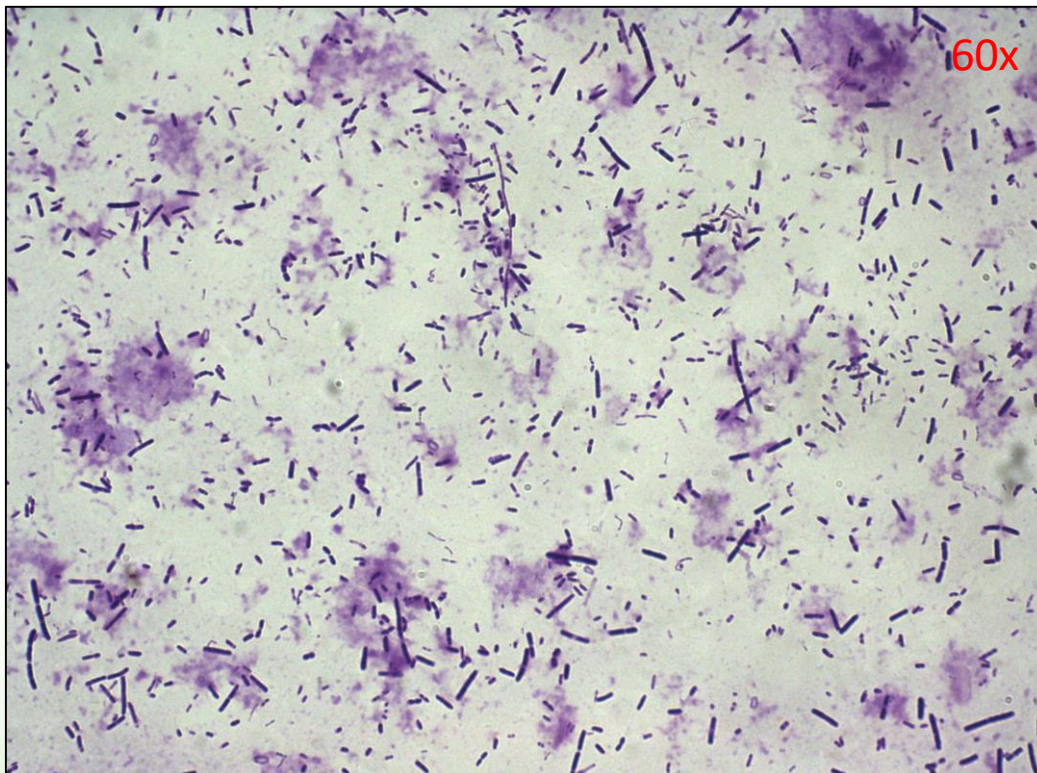
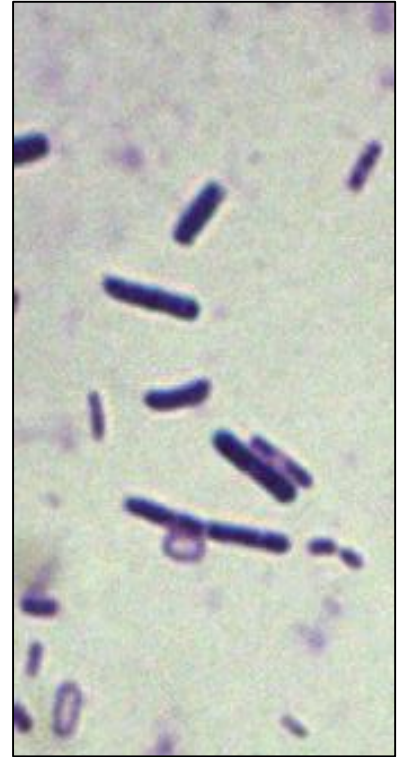
[Watch Video](#)



Escherichia coli

- Gram-negative rod-shaped bacteria
- Generally, 2 microns long by 0.5 microns wide
- Found in the environment, foods (like raw cookie dough), and intestines of people and animals.
- Although most strains of *E. coli* are harmless, others can make you sick. Some cause diarrhea, while others cause urinary tract infections, respiratory illness and pneumonia.
- 3-4 days after exposure to *E. coli* you can experience diarrhea, fever, and vomiting.
- To prevent illness, wash your hands often and follow the Clean, Separate, Cook, Chill guidelines described here:

<https://www.cdc.gov/foodsafety/keep-food-safe.html>



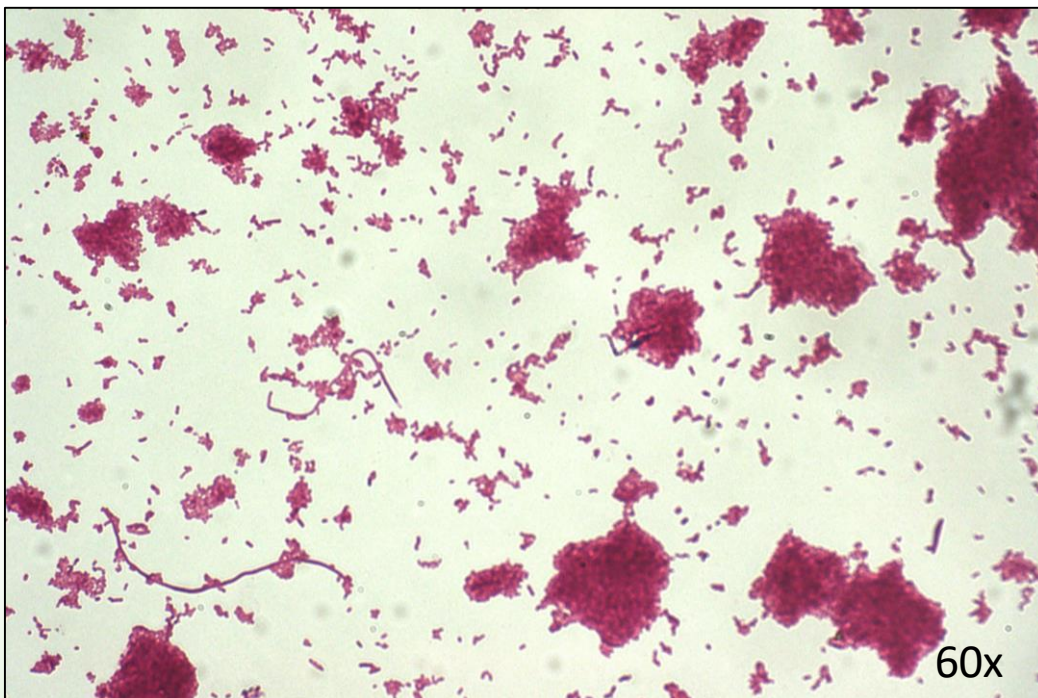
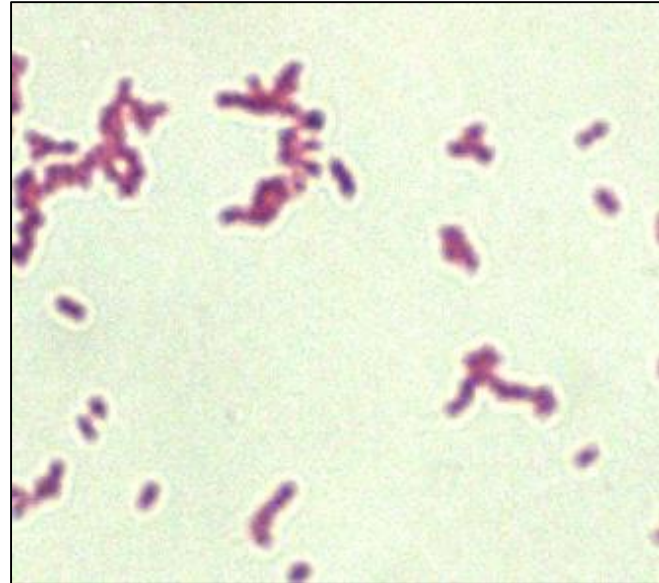
Press the microphone to learn more about *E. coli*





Salmonella

- Gram-negative rod-shaped bacteria
- Generally, 2–5 microns long by 0.5–1.5 microns wide
- Can be found in many foods including raw eggs, beef, chicken, eggs, fruits, pork, sprouts, vegetables
- 12 to 72 hours after exposure to salmonella you can experience diarrhea, fever, and abdominal cramps
- To prevent illness, follow the Clean, Separate, Cook, Chill guidelines described here:
<https://www.cdc.gov/foodsafety/keep-food-safe.html>



Press the microphone to learn more about *Salmonella*





Giardia duodenalis

- *Giardia* is a tiny parasite found on surfaces or in soil, food, or water contaminated with feces (poop) from infected people or animals.
- *Giardia* spreads easily between people or through contaminated water, food, or surfaces. The most common way people get sick is by swallowing contaminated water from a lake, river, or pool.
- 1-2 weeks after contact with *Giardia* you may experience severe diarrhea and vomiting that lasts as long as 6 weeks!
- To prevent illness, wash your hands and clean and disinfect often and avoid swallowing water that could be contaminated.



Press the microphone to learn more about *Giardia*





What Microbe was on your Strawberry?

Match the microscope picture of your microbe found in your participant packet with the images previously shown to ID your microbe!