



Course Healthcare
Section: Allied Health



James Rumsey
Technical Institute

Medical Lab Technician Investigation

What You Will Do

Learn how medical laboratory technicians test samples, organize data, observe carefully, and help doctors diagnose patients.

This is a safe simulation using household materials only. No real bodily fluids or medical samples are used.

Materials You Will Need

- Helper
- 3 clear cups
- Water
- Food coloring
- Salt
- Sugar
- Spoon
- Labels or sticky notes
- Paper
- Pencil
- Flashlight (optional)

What Is a Medical Lab Technician?

Medical lab technicians work behind the scenes in healthcare. They test samples such as blood, urine, and other specimens to help doctors understand what is happening in the body.

They use:

- Careful observation
- Accurate labeling
- Measuring tools
- Data recording
- Microscopes and machines

Part 1: Sample Identification

Label cups:

- Sample A
- Sample B
- Sample C

Fill each with water.

Then secretly add:

- Cup A = plain water
- Cup B = salt water
- Cup C = sugar water + food coloring

(Student can have another person set this up, or set it up themselves and later test without looking.)

Part 2: Observation Testing

Examine each sample.

Record:

Sample	Color	Clear/ Cloudy	Smell	Notes
A				
B				
C				

Use flashlight to inspect clarity.

Part 3: Conductivity/ Residue Test (Optional)

Place one drop of each sample on separate paper towel spots.

Let dry.

Observe residue left behind.

- Salt water leaves crystals
- Sugar water may leave sticky residue

Part 4: Diagnosis Challenge

Based on evidence, decide:

- Which sample was plain water?
- Which contained salt?
- Which contained sugar/coloring?

Write your conclusions.

Part 5: Importance of Labeling

- Switch labels accidentally and discuss:
- What problems could happen in a real lab?

Reflection Questions

- Why must lab workers be careful with labels?
- Why are observations important?
- Why do doctors rely on lab results?
- Why should scientists record data clearly?