



Course Building Construction
Section: Plumbing



James Rumsey
Technical Institute

How a P-Trap Works

What You Will Do

Build a simulation of a P-trap used in plumbing.

Materials You Will Need

- Clear flexible tubing or clear plastic bottle(s)
- Funnel (optional)
- Water
- Food coloring (optional)
- Tape
- Small bowl or cup

What Is a P-Trap?

A P-trap is the curved pipe found under sinks.

It is designed to:

- Hold a small amount of water
- Block sewer gases and odors
- Catch small dropped items
- Allow wastewater to drain

Common places:

- Bathroom sinks
- Kitchen sinks
- Laundry tubs

Step 1: Build the Trap Shape

Make a curved pipe shape like the illustration shows. The shape should look like a letter P from the side.

Step 2: Add Water

1. Pour water through the “sink drain” side.
2. Watch some water remain in the curved bottom section.

This standing water is the seal.

Step 3: Test the Drain

Pour more water in.

Observe:

- New water pushes old water through
- Trap still keeps some water behind

Step 4: Why It Matters

Pretend the outlet side leads to a sewer line.

The water sitting in the trap blocks:

- Bad smells
- Sewer gases
- Bugs from entering through pipes

Step 5: Dry Trap Test

1. Empty the trap and leave it dry.
2. Now imagine no water seal exists.

What could come back through the pipe?

Step 6: Lost Ring Challenge

1. Drop a coin or washer into the model.
2. Where does it collect?

Often the trap catches small items before they go farther into the plumbing.

Reflection Questions

- Why does water stay in the curved section?
- Why are sewer gases a problem?
- Why might a sink smell if unused for a long time?
- Why do plumbers sometimes remove traps?