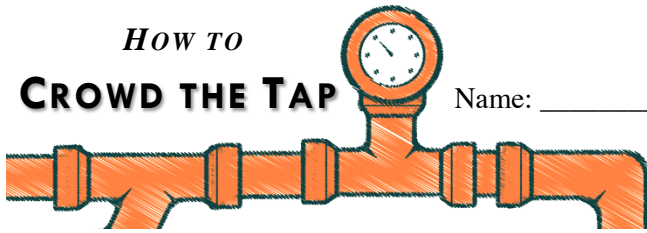


HOW TO CROWD THE TAP



Name: _____ Class Period _____ Date _____

INTRODUCTION

Have you ever wondered where your tap water comes from, and whether it is safe to drink? Drawn from surface sources (such as lakes and rivers) or from underground aquifers (a.k.a. groundwater), water ends up conveniently coming out of your faucets and showerheads and filling up your toilets. But how does it get there?

For some people, tap water comes from a private well. The majority of Americans, however, get theirs from a public water supply that typically flows from its source through pipes to a treatment plant. There the water is treated to ensure its cleanliness and then sent to a storage tank until needed. When it is distributed to your home—and to grocery stores, parks, schools, and more—it travels through a network of pipes that may be made of different materials: copper, steel, plastic or lead.

Lead pipes cause concern, because they have the potential to affect drinking water in ways that can harm the human body. Lead is a naturally occurring metal, and in the past, pipes were often made of it. Unfortunately, though, the process of *corrosion* can cause lead from the pipes to enter the water supply. When water is exposed directly to the pipes, chemicals in the water react with the metal, causing lead to leach, or release, ions into the water, thus oxidizing it. To fix this problem, *corrosion inhibitors* are added to the water. These help to create a coating inside of the lead pipes that prevents the chemical reaction.

If lead pipes are not treated to stop the corrosion, lead can reach high levels in tap water traveling through the pipes. The lead particles, when ingested, can cause serious harm to the human body. Children are affected by lower levels of lead than adults are. In children, lead poisoning can cause serious health problems, including nervous system damage, learning disabilities, slowed growth, impaired hearing, and impaired function of blood cells. For adults, lead poisoning can cause high blood pressure, decreased kidney function, and other problems.

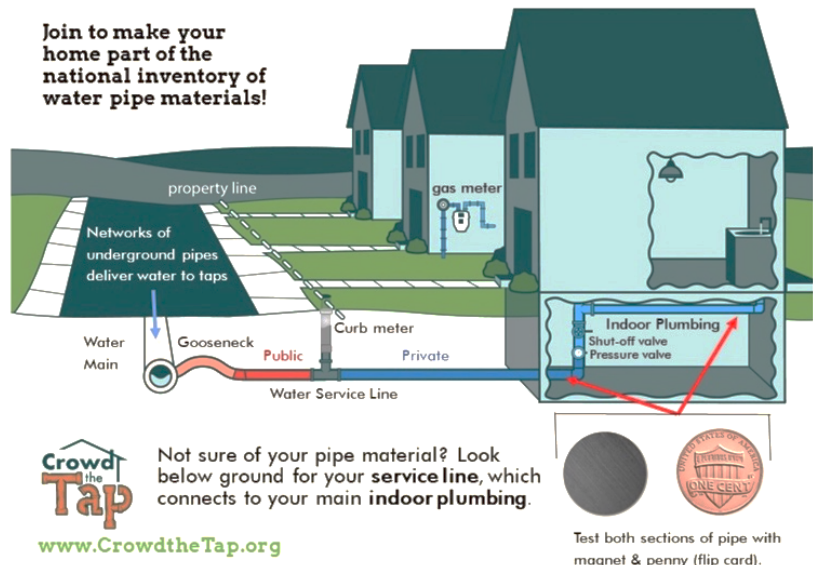
Knowledge of the types of pipes where you live and the quality of your tap water is important for the health of your family and your community. Crowd the Tap, a nationwide citizen science project, is designed to help us all be more informed and take action where needed.

HOW TO PARTICIPATE

Crowd the Tap is organizing a first step toward safe drinking water by helping to create a national inventory of water pipe material. **What materials were used to make your water pipes?** You have an opportunity to work within your own household to contribute to Crowd the Tap.

All your family will need is:

- access to CrowdTheTap.org using a mobile device or computer;
- a penny;
- a magnet.



Would you like to help this national effort to identify areas for tap water testing and infrastructure replacement?

Yes _____ No _____

Are you willing to be part of Crowd the Tap to connect with others in your neighborhood and beyond who want to make drinking water safe for all?

Yes _____ No _____

If you answered yes to the questions above, here are the steps to take:

1. **Get started:** Go to CrowdTheTap.org and click the **JOIN** button. You will create a SciStarter account for data entry.

2. **Conduct the magnet and scratch tests:** The challenge is finding the right pipes. Look for the place where your service line (or well pipe) and home tap water plumbing connect (this could be in your crawl space, cellar/basement, etc.) Keep in mind that there are many pipes transporting water *out* of the home. Pipes with outbound water are often larger and more visible than pipes bringing water *into* the home.

Use this simple test to identify the type of pipes



3. **Enter data on the Report Data page** (includes five parts):
 1. *Your Consent:* To participate, give consent and select your privacy preferences. Learn how the research team will handle contributions.
 2. *Your Home:* Provide home location, type, water system (well or municipal), and other information.
 3. *Your Pipes:* Share water pipe information. Depending on your water systems, you'll provide information about your well pipe or service line.
 4. *Your Water:* Provide tap water observations, including appearance, odor, taste, staining, etc.
 5. *Your Chemistry (optional):* Two additional tests are available to provide information about your tap water quality:
 - A simple water chemistry test strip, which you can request by sending an email to crowdthetap@ncsu.edu.
 - A kit to test your tap water for lead from the non-profit Healthy Babies Bright Futures. Go to www.hbbf.org/lead-drinking-water to order. Through a donation program, it is possible to receive the kit for as little as \$12.

My household completed Crowd the Tap on (date) _____

Signature _____

