Name: _____
Date: _____
Period: _____

Lead and Drinking Water from Private Wells

http://www.cdc.gov/healthywater/drinking/private/wells/disease/lead.html

What is lead?

Lead is a naturally occurring bluish-gray metal found in small amounts on the earth's outer layer. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Lead is found in many different materials. It can still be found in lead-based paint, batteries, ammunition, metal products such as solder and pipes, and devices to shield X-rays. Because of health concerns, the amount of lead found in gasoline, paints and ceramic products, caulking, and pipe solder has been reduced in recent years. As a result, the amount of lead in our blood now is much less than it was 30 years ago.

Where and how does lead get into drinking water?

Lead rarely occurs naturally in water; it usually gets into the water from the delivery system. Lead pipes are the main contributor to high lead levels in tap water. Other sources include parts of the water delivery system such as lead solder used to join copper pipes, brass in faucets, coolers, and valves. Although brass usually contains low lead levels, the lead can still dissolve into the water, especially when the fixtures are new. Private wells more than 20 years old may contain lead in the "packer" element that is used to help seal the well above the well screen. Some brands of older submersible pumps used in wells may also contain leaded-brass components. Corrosion of pipes and fixture parts can cause the lead to get into tap water.

How can I find out whether there is lead in my drinking water?

If you suspect a problem and your drinking water comes from a private well, you may contact your state certification officer for a list of laboratories in your area that will perform tests on drinking water for a fee.

How do I remove lead from my drinking water?

First, try to identify and remove the lead source. If you have a private well, check both the well and the pump for potential lead sources. A licensed well water contractor can help you determine if any of the well components are a source of lead.

Heating or boiling your water will not remove lead. Because some of the water evaporates during the boiling process, the lead concentration of the water can actually increase slightly as the water is boiled.

If it is not possible or cost-effective to remove the lead source, flushing the water system before using the water for drinking or cooking may be an option. Any time a particular faucet has not been used for several hours (approximately 6 or more), you can flush the system by running the water for about 1-2 minutes or until the water becomes as cold as it will get. Flush each faucet individually before using the water for drinking or cooking. You can use the water flushed from the tap to water plants, wash dishes or clothing, or clean. Avoid

cooking with or drinking hot tap water because hot water dissolves lead more readily than cold water does. Do not use hot tap water to make cereals, drinks or mix baby formula. You may draw cold water after flushing the tap and then heat it if needed.

You may also wish to consider water treatment methods such as reverse osmosis, distillation, and carbon filters specially designed to remove lead. Typically these methods are used to treat water at only one faucet. Contact your local health department for recommended procedures. If you want to know more about these filters, please contact NSF International, an organization for public health and safety through standards development, product certification, education, and risk management. Remember to have your well water tested regularly, at least once a year, to make sure the problem is controlled.

1. Use your Periodic Table to diagram the Lead atom.

2. Where has lead contamination been a national issue recently? _____ Why is lead a health hazard? (Research if necessary)_____

3. Sometimes when bacteria or other contaminants get into our water local officials tell us to boil our water. Why is this not a good strategy to remove lead contamination? _____

4. In what ways could you remove lead?