



4-H Grab and Go: *Chemical Footprint—Family Activity*

Background Information:

Unfortunately, pollution is a fact of life in the Earth's surface water, but if we each took responsibility for what we put down the drain, we really could make a difference! When it comes to pointing the finger, it's easy to look at big industry, or at agriculture, or at waste water treatment plants. Pointing the finger is often blaming without all of the facts. This is where point and non-point pollution come into play. **Point pollution** is when a contaminant is delivered directly into a water source from the company, industry or person. In **non-point pollution**, it is very hard to trace the source because many individuals may have had a role in contaminating the water source. We cannot point our finger at the exact person who polluted because each individual played a role.

1. Watch an Educational Film with your Family

Watch *Clearwater Deliver Parts 1 & 2*, an educational film about how point and non-point pollution has affected the Hudson River and how a group of people have been able to turn the water quality around. To view the streaming videos, visit: www.4-H.org/curriculum/filmmaking and click on "Featured SET Films". Find and view the films: *Hudson River Clearwater Revival (Part 1)* and *(Part 2)*.

2. Discuss

- Discuss a scenario:
There is a waste pipe that goes into the river; someone dumps a chemical down the drain that feeds into the river. When a water test is done, the analysis shows this specific chemical in 15 parts per million (ppm). There is only one company along the river's path that uses that chemical. What kind of pollution is it? What could be done to make sure this "accident" does not happen again?
- In the Home Water Audit, you and your family checked to see if your car was leaking oil or any other fluids. When these fluids get washed into a water source, do you think it is a form of point pollution or non-point pollution? Why?
- President Lyndon B. Johnson said this at the signing of the Clean Water Act of 1965:
"No one has the right to use America's rivers and America's waterways, that belong to all the people, as a sewer. The banks of the river may belong to one man or one industry or one state, but the waters which flow between the banks should belong to all the people."
What do you think President Johnson meant when he said this? How does this relate to what happened with the Hudson River?

3. Complete a "What's Under My Bathroom Sink?" Audit

See page 2 for instructions.

4. Brainstorm

- Come up with 5 alternatives for the products that you feel your family should remove from under the sink.

5. Share Your Findings

- Create a bar graph depicting the level of toxicity of each product you chose for your audit.
- Use your chart to present your case for removing these products from your family's daily use. Share your ideas and see which ones your family members are willing to implement.



Chemical Footprint—Family Activity (Continued)

6. Try it Out

- Once you and your family have made the decision on what products you are willing to give up, survey the main user of each product and find out how they feel.
- Head out for a supermarket exploration. Try to find a product that you could use to replace one that you have gotten rid of. Does it cost more or less than the old product? What price are you willing to pay for a product that does not put pollutants into our water?

What's the Issue?

What is the difference between point and non-point pollution?
What effect do we have on our local watershed due to products that we use daily?

Collect the Tools:

- Pencil
- What's Under My Bathroom Sink Audit chart (youth will need to create)
- Computer with Internet access
- 10 personal hygiene/beauty products that you find in your bathroom, including soaps and shampoo.

Related National 4-H Curriculum:

Exploring Your Environment (www.4-H.org/curriculum/environment)

Instructions: (Observe and Collect Data)

What can we change in our daily lives to help us from polluting our water?

Recreate the chart below in your field notebook so that you will have enough rows for 10 products. Find 10 products in your bathroom that you want to test. Chemicals to look for include: methylparaben, DMDM Hydantoin, propane, BHA, aluminum starch octenylsuccinate, triclosan, triethanolamine, among many others. Investigate some of the other chemicals that you see in the ingredient list of the products you choose. Using a search engine, you can try to search for the product name or the chemical name. Add descriptors like toxicity, hazard or chemical levels.

In the *Clearwater Revival* film, they spoke of chemicals that come from our home and make it into the smallest of our food chain and eventually up to the largest. This is your chance to reduce the amount of non-point pollutants that your family is adding into our water.

What's Under My Bathroom Sink Audit

| Product Name | Use | Toxic Chemicals | Toxicity Rating (1-10) | What are you going to do? |
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