**Solutions and Solubility: Water Pollution Research Assignment**

**The Great Lakes: A Chemical Hot Spot**

Over 360 chemical compounds have been identified in the Great Lakes. Many are persistent toxic chemicals – alkylated lead, benzo(a)pyrene, DDT, mercury and mirex – potentially dangerous to humans and already destructive to the aquatic ecosystems.

For example, various species of fish now suffer from tumours and lesions, and their reproductive capacities are decreasing. Populations of fish consuming birds and mammals also seem to be on the decline. Of the ten most highly valued species of fish in Lake Ontario, seven have now almost totally vanished.

**Water Pollution:**

1. Identify the major sources of water pollution in the Great Lakes
2. What natural events and human activities are responsible for the pollution in the Great Lakes?
3. What are the short-term and long-term effects of damaging the Great Lakes?
4. Identify Canadian initiatives to improve the water quality in the Great Lakes.
5. Suggest ways for citizens to reduce their contribution to the problem(s) in order to improve water quality in the Great Lakes.

**Water Purification:**

1. Using a flow chart, illustrate the steps involved in the purification of drinking water in your municipality (see pg 434).
2. Describe each of the steps involved in the purification of drinking water.
3. Identify the acceptable concentrations of metallic and organic pollutants in drinking water.
4. What is potable water? Answer question 12 on page 436.

**Sewage Treatment:**

1. Using a flow chart, illustrate the steps involved in the treatment of waste water in your municipality (see pg 435).
2. Describe each of the steps involved in the treatment of waste water.

**References**

Include all url’s that you have used in your research (minimum 3) as well as our textbook section 9.3 Water Quality pg 422 and 9.4 Water Treatment pg 430.

See also: <http://www.ec.gc.ca/eau-water/default.asp?lang=En&n=6A7FB7B2-1>   
http://www.ec.gc.ca/eau-water/default.asp?lang=En&n=B1128A3D-1