How Many Drops?

# Background Information:

One mole of water = 18.02 g of water

One milliliter = one cubic centimeter = one gram (for water)

Lake Erie has an average depth of 18 m

Lake Erie has an average width of 91 km

Lake Erie has a length of 338 km

One mole = 6.022 x 1023 molecules

**Objective:** To design and conduct an experiment to determine the number of water molecules in Lake Erie.

**Materials:** You may use water from the tap, an eyedropper, and a graduated cylinder.

**Procedure:** You and your lab partner need to determine how many drops are in one mL of water. Then, using this information, answer the following questions.

**Analysis:**

1. How many drops of water are in a 2.0 L bottle of pure water?

2. How many molecules of water would you drink if you drank 1.0 L of water?

3. How many drops of water are in Lake Erie?

4. How many molecules of water are in Lake Erie?

5. How much would it cost to buy all of the water in Lake Erie if it was bottled and bought at a price of $0.75 for 1/2 liter?