

## Money Down the Drain Worksheet DIFFICULT VERSION

Names: \_\_\_\_\_ Date: \_\_\_\_\_

*Instructions:* Complete the information for your faucet, then meet with other groups to fill in the rest of the data. Observe the water dripping from the faucet and answer the following questions. Record your responses on the attached answer sheet.

1. **How many drops fall each minute?** Take three readings and then calculate the average. Tell your teacher if there are no longer any drops or if the drops have turned into a steady flow.

Reading 1: \_\_\_\_\_ drops/minute

Reading 2: \_\_\_\_\_ drops/minute

Reading 3: \_\_\_\_\_ drops/minute

Determine the average drops per minute

= \_\_\_\_\_ average drops per minute

2. **How much water drips into the container in a minute?** Collect one minute's worth of water and measure the volume in a graduated cylinder. Take three readings and calculate the average.

Reading 1: \_\_\_\_\_ mL

Reading 2: \_\_\_\_\_ mL

Reading 3: \_\_\_\_\_ mL

Determine the average dripped volume per minute

= \_\_\_\_\_ average mL per minute

3. What is the volume of the container collecting the faucet drips (ask your teacher if you cannot determine this)? \_\_\_\_\_ mL

**Guess how much time it will take the container to fill:** \_\_\_\_\_ minutes

4. Calculate the time it will take the container to fill.

= \_\_\_\_\_ minutes to fill container

5. **Time how long it takes for the container to actually fill.** \_\_\_\_\_ minutes

6. How do the answers to 3, 4, and 5 compare to each other?

7. Determine how much water was lost from this leaking faucet in one hour.

= \_\_\_\_\_ mL per hour

8. How much water would be lost in one day?

= \_\_\_\_\_ mL per day

9. How much water would be lost in one week?

= \_\_\_\_\_ mL per week

10. How much water would be lost in one month? Assume 1 month equals 4 weeks.

= \_\_\_\_\_ mL per month

11. Many people have to pay for their water. If water cost \$10\* for every 5,700,000 mL (approx. 200 ft<sup>3</sup>), how much would a person pay each month for water down the drain from this leaky faucet?

\_\_\_\_\_ mL per month x (\$10 / 5,700,000 mL) = \$ \_\_\_\_\_ per month

*\*\*Replace value with actual cost of water for your community if known\*\**