



Now for the Maths!

Activity Sheet 03

The Cost of Water

Dublin City Council are installing water meters at all schools. This meter records the volume of water used at your school. Your school is charged €1.47¹ for every 1,000 litres used. This covers the cost of treating the water and distributing it to your school (see **Info Sheet 03**) and the cost of treating any waste water from your school.

Having completed **Activity Sheet 02** you now know how much water you are using. If it costs €1.47¹ for 1,000 litres (1 m³) of water can you work out how much it is costing your school per day?

What about at weekends and holidays, are you using water? If so how much is it costing your school per day?

Assuming you are in school 200 days per year, the other 165 days per year are weekends and holidays. Can you work out how much your school is spending on water every year?

How Much Will You Save?

Urinals

1. Everytime a urinal flushes in the boys toilet, a bucket full of water goes down the drain (9 litres). This happens every 20 minutes if there are no controls, night and day, 365 days a year. Work out how much water is used in:

- a)** 1 hour **b)** 1 day **c)** 1 year

How much does it cost to operate that urinal for the year (remember it costs €1.47¹ per 1,000 litres)?

2. Controls are fitted to the urinals so that it only flushes for 8 hours a day on the 200 days per year when the school is open:

- a)** How much water does the urinal use in a year now?





On the other 165 days (weekends and holidays), the urinal flushes once a day to keep it fresh.

- b)** How much water does the hygienic flush use per year?
- c)** Now add the two volumes together to give the total volume.
- d)** What is the new cost?
- e)** How much money did fitting the controls save?

3. Lets say the urinal control device costs €140. How long would it take to pay for itself?

Toilets

Every time you flush the toilet 9 litres of water is used.

1. If you flush the toilet 4 times per day how much water will you use:

- a)** Per day **b)** per year (200 days that you are in school).

2. If every student (estimate 500) in your school flushed the toilet the same number of times. How much water will be used in the year when flushing the toilet?

3. How much will this cost (€1.47¹ = 1,000 litres)?



If you insert a Hippo Bag in your toilet you will reduce the amount of water used when flushing by about 3 litres.

4. If you still flush the toilet 4 times per day but there is a Hippo Bag in the cistern, how much water will you use per year (200 days in the school year)?

5. If every student (estimate 500) in your school flushed the toilet the same number of times, how much water will be used in the year when flushing the toilet?

6. How much will this cost?

7. How much money will you save by inserting the Hippo Bags in your toilet cistern?

Note¹: Correct at time of print (October 2007). Contact Dublin City Council's Water Services Division for the most up to date charges.

