

How Water-Smart Is Your Household?

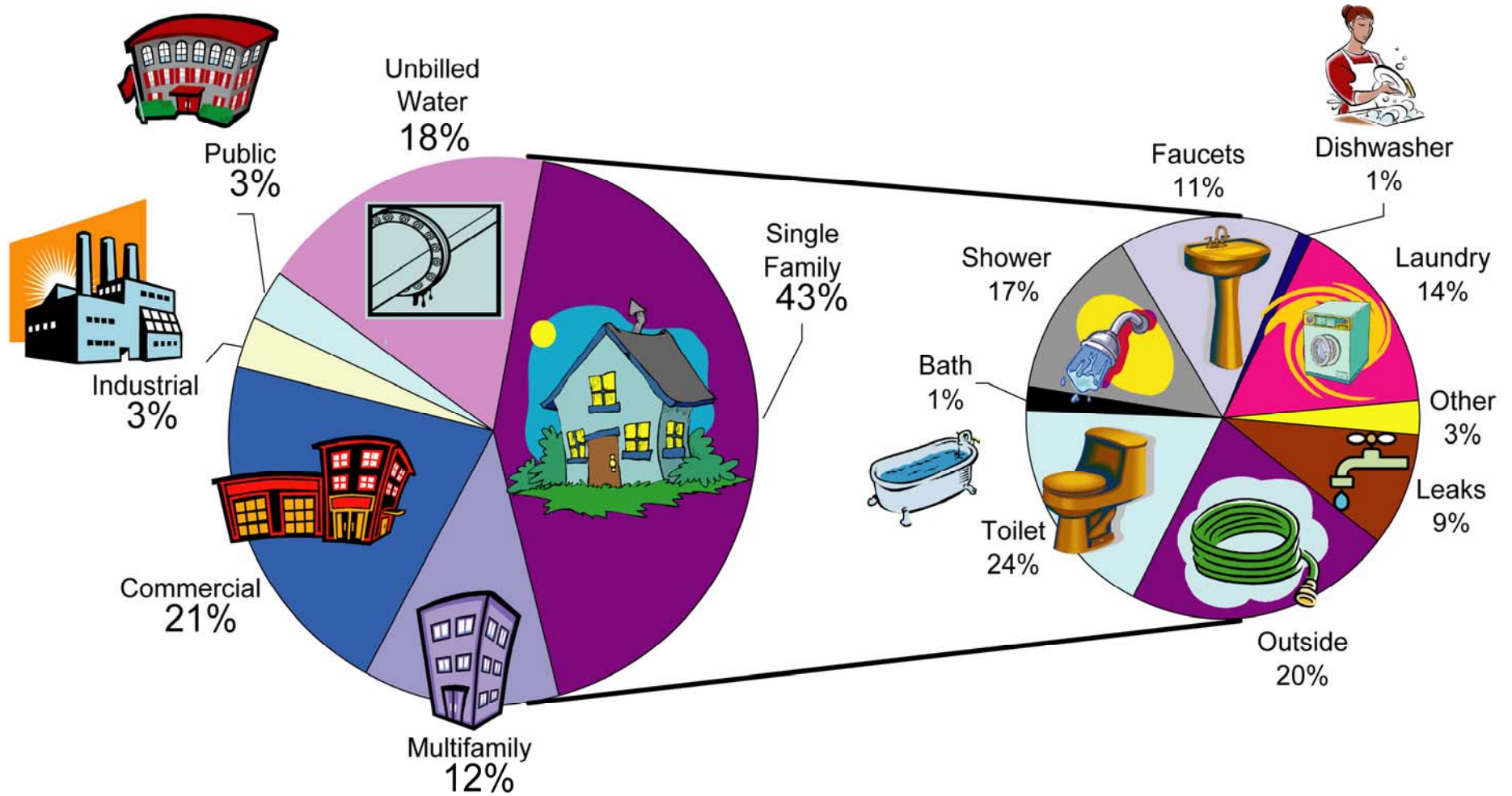
Metropolitan North Georgia Water Planning District

Household Water Assessment

- Analyze household and per person use
- Look for leaks
- Evaluate fixture and appliance efficiency & water conservation practices



How Do We Use Water?



How much water do you use?

- Figure from your water bill
- Read your water meter

How to Read Your Utility Bill

COUNTY SEAL

Service & Due dates

Utility Bill

Account Number: [REDACTED] **Your address and account info** Due Date: 09/11/2003
 Name: [REDACTED] Service From: 07/25/2003
 Service Address: [REDACTED] Service To: 08/11/2003

Bill Type	Current Reading	Previous Reading	Usage in 1000 Gallons
Estimate	000000203	000000198	00000005

Estimated or Actual **Your water usage**

Current Charges:

Maintenance – Water/Sewer.....	\$15.50
Water.....	\$10.55
Garbage.....	\$5.00
Recycling.....	\$3.30
Total Current Charges.....	\$33.35
Past Due Balance.....	\$57.36
Total Amount Due by 09/11/2003.....	\$90.71
Amount Due After 09/11/2003.....	\$94.05

Usage fees

10% Late Charge added to Current Charges if payment not received by Due Date. See reverse side for additional billing information. IF MAILED PLEASE ALLOW SEVEN WORKING DAYS FOR POSTING TO ACCOUNT.

Bulletin Board: **announcements area**

Usage History

Aug. =	00000006
Jul. =	00000004
Jun. =	00000005
May =	00000004
Apr. =	00000004
Mar. =	00000004

2 RETAIN THIS PORTION FOR YOUR RECORDS

RETURN THIS PORTION OF BILL WITH PAYMENT. DO NOT SEND CASH.
 Make Check Payable To: [REDACTED]
 Payment must be RECEIVED, NOT POSTMARKED, by the due date to avoid a late payment charge.

Utility Bill

CURRENT CHARGES	\$33.35
PAST DUE BALANCE	\$57.36
TOTAL AMOUNT DUE BY	09/11/2003 \$90.71
AMOUNT DUE AFTER	09/11/2003 \$94.05
PAYMENT AMOUNT ENCLOSED	

011003090000

Bottom section gets mailed in for payment

Fill this in

000001100309000030009071

Reading Your Water Meter

- Read same time 2 consecutive times
- Subtract 1st reading from 2nd



Convert to Gallons

$$\text{m}^3 \times 264 = \text{gallons}$$

$$\text{CCF} \times 748 = \text{gallons}$$

$$\text{L} \times 0.264 = \text{gallons}$$

Calculate Per Person Use

Determine the # of gallons per cycle



÷

Divide by the # of days in the billing cycle



= ?

Divide this by the # of people living in your home



How Efficient Is Your Water Use?

Gallons per Person per Day

Winter	Summer	Rank	Comments
50 to 65	65 to 80	EFFICIENT	GOOD! Water Wise
70	91	AVERAGE	OK Average
Exceeds 70	Exceeds 100	INEFFICIENT	POOR Water Waster

Source: Metropolitan North Georgia Water Planning District Water Supply and Water Conservation Plan, Georgia Department of Natural Resources Water Conservation Plan Guidelines (Draft)

Detecting Leaks

- Turn off all faucets & water-consuming appliances
- Read your water meter
- Write down the current meter
- Read the meter again after 30 to 60 minutes if it has changed, you have a leak.
- Also if triangle or leak detection hand moves, you may have a leak.



Detecting Leaks- Pipes

- Sudden increases in your water bill may indicate a leak
- Water marks on floors, walls or ceilings
- Outside, water on ground surface or on pavement when there has not been rainfall can indicate a broken underground pipe



Leaks: Drops



60 drops per minute=
192 gallons per
month



90 drops per minute=
310 gallons per
month



120 drops per minute=
429 gallons per
month

Leaks: Smooth Stream



3" stream=
1,095 gallons per
month



6" stream=
2,190 gallons per
month

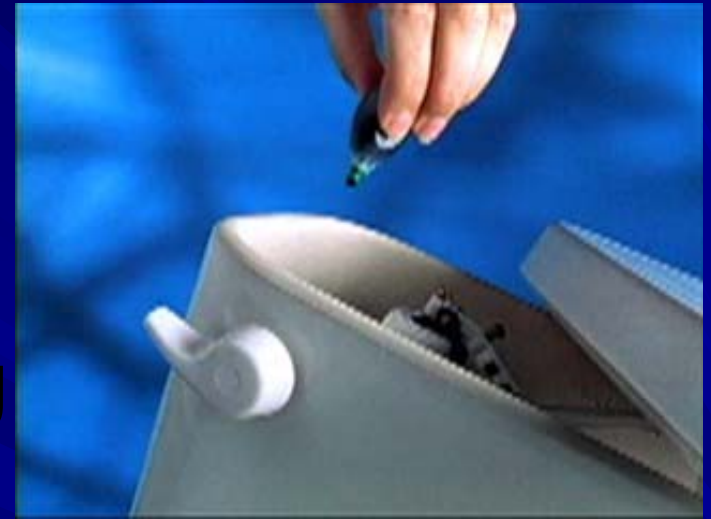


9" stream=
3,290 gallons per
month

*Source the California Urban Water Conservation Council

Detecting Leaks- Toilets

- Listen for “running” toilet
- Can't hear your toilet, check it anyway. Add food coloring or dye tablets in the tank.
 - Wait 30 minutes.
 - **DO NOT FLUSH.** If the water in the bowl becomes colored, you have a leak.



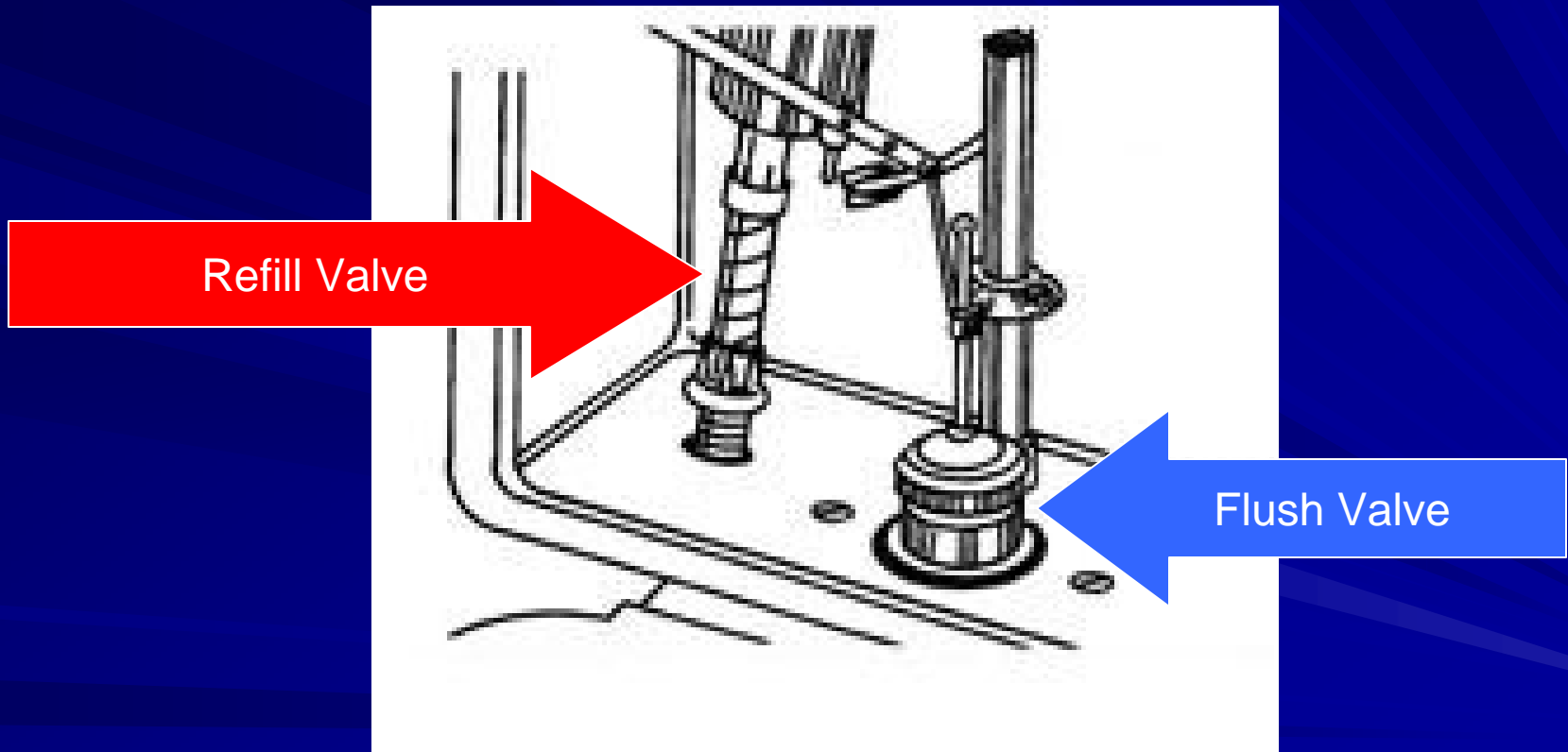
Leaky Toilet- Which Part is the Problem?

- Draw a pencil line on the inside of the tank
- Turn off the water supply to the toilet
- Wait 30 minutes.
- If the water level stays the same, the leak is the refill valve
- If the water level drops below the line, the leak is the flush valve or flapper



Photo Courtesy of Fluidmaster

What Part of the Toilet Tank Leaks?



Fixing Toilets

Refill valves



Float (ballcock)

Pilot valves

Flush valves



Typical

Pedestal type

Plunger

There are two main parts of the toilet to repair:

- Refill Valves
- Flush Valves & Flappers

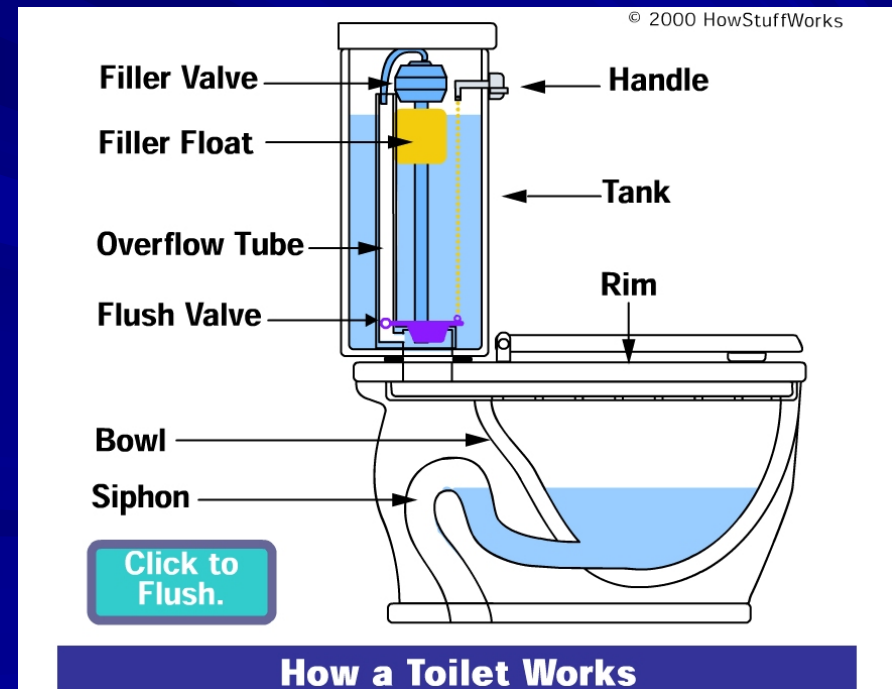
The Flap About Flappers



Assortment of 2" flappers

Sources for More Information On Toilets

- www.acmehowto.com/howto/homemaintenance/plumbing/toilet/toilet.php
- http://homerepair.about.com/od/toiletrepairmaintenance/ss/leaky_toilet.htm
- www.toiletology.com
- www.toiletflapper.org



Detecting Leaks- Faucets

- Simple observation
- Test how much the leaks add up by using a drip calculator at www.awwa.org/advocacy/learn/consERVE/dripcalc.com



Other Possible Leaks

- Hot Water Heater
- Service Line
- Pool/Spa

Need a repair?

- Call a plumber



Outside Leaks

- Identify number of hose spigots
- Determine if there are leaks
- Irrigation type
 - Sprinklers
 - Drip
 - Bubblers
 - Spray Heads



Checking the Efficiency of Fixtures and Appliances

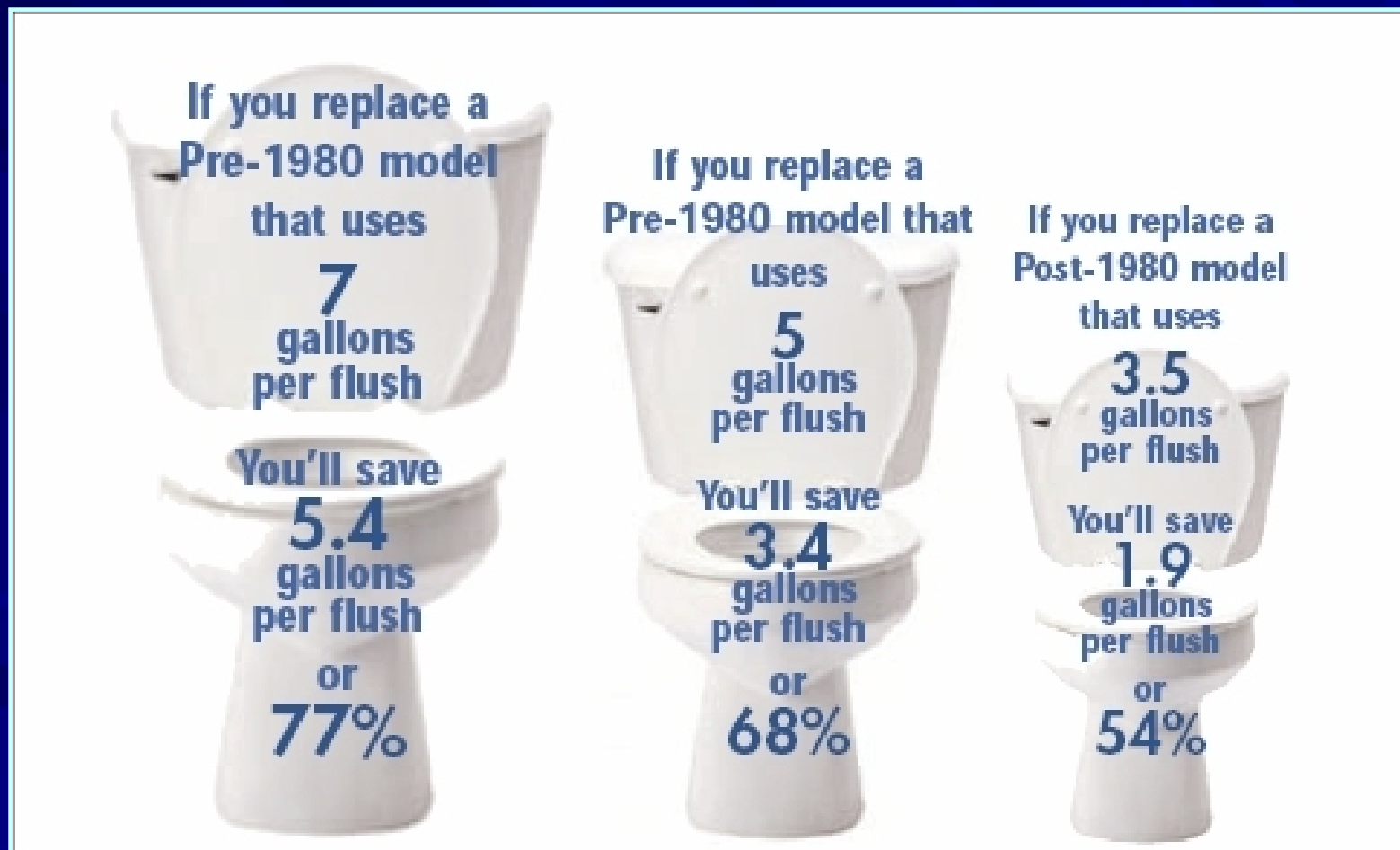
-it's easy to check

Toilets

- Home built before 1992, may contain inefficient toilets.
- Cannot see the label or know how old your toilet is, measure it.
 - Carefully shut off the valve to the toilet tank supply line
 - Mark the water line in the tank
 - Flush toilet
 - Use a quart or measuring cup to refill the tank to the line
 - When done, turn water supply back on



How Much Water Does Installing A 1.6 Gallon Toilet Save?



Measuring Water Use by Faucets and Showerheads

- Use a plastic bag or bucket, place it under the entire stream so all will be caught
- Turn on water *full blast* for 5 seconds and turn off
- Use a measuring cup to scoop out the water and measure how many cups were in the bucket/bag

Change Your Fixtures to Save Water?

- Convert cups to gallons
 - Multiply the number of cups of water in the bag/bucket by 0.0625= ___ gallons
 - Divide the number of gallons by 0.0833 to get a flow rate in gallons per minute (gpm)
- If your showerhead uses more than 2.5 gpm, replace it and you could save water and money
- If your faucets (bathroom, kitchen or other) uses more than 2.0 gpm, change your aerator

Aerators



- Most aerators are rated at 2 - 3 gallons per minute (gpm)
- By replacing them with 1 gpm in the bathroom and 1.5 gpm in the kitchen, you're cutting your waste in half.

Washing Machine

- Old inefficient washing machines use an average of 40.9 gallons of water per load
- New front loading washing machines use an average of 24.3 gallons of water per load



Dish Washer

- Run full loads- scrape dishes, don't rinse them
- Old dish washers use average 12 to 15 gallons per load
- New ones use average 6-gallons per load



Conserving Water

- Add low-flow aerators to faucets
- Install low volume showerheads
- Replace old toilets with new ultra low-flush toilets

Using Water Outdoors

Efficient Irrigation

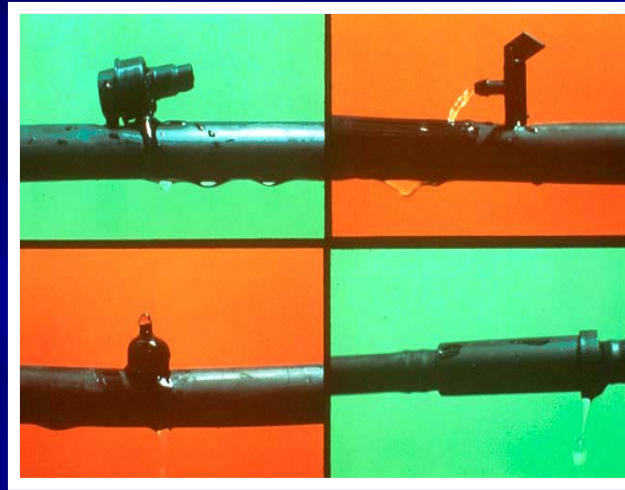
- Make sure sprinkler spray heads are away from hard surfaces (i.e. driveways)
- Don't sprinkle hard surfaces (i.e. driveways)
- Don't over water a lawn
- 1" per week
- Water during early morning and late evening (there is less wind and lower temperatures=less water loss from evaporation)
- Place empty tuna cans on lawn to measure the water from sprinklers.

Other Ways to Irrigate

Tree Bags



Drip Irrigation



Rain Barrels



Rain Sensor Shut Off

- All new in-ground landscape irrigation systems must have an automatic rain sensor shut-off switch.
- If you have an older in-ground system, consider purchasing a rain sensor shut-off switch and save.



Other Tips to Conserve

- Use a broom instead of a hose to clean the driveway or sidewalk
- Plant drought resistant plants
- Raise your lawn mower blade to at least 2-3"



Watering Outside

- Never let a hose run unattended
- Use a nozzle and save water
- Alternative: hand watering



Changing Your Habits

- Keep showers under five minutes
- Turn off water while brushing your teeth or shaving
- Turn water faucets off tight
- Run the dishwasher or clothes washer only when full
- Instead of rinsing, scraping dishes before putting in dishwasher
- Don't use toilet as waste basket

Resources

For general information on water conservation

- www.wateruseitwisley.com
- www.northgeorgiawater.com

- Information on inefficient fixtures & repairs
- www.h2ouse.org
- www.diynetwork.com
- www.acmehowto.com
- www.toiletology.com

- Ultra Low Flow Toilet Performance
- www.northgeorgiawater.org/MaPFinalReport.pdf
- www.savingwater.org(see FlushStar link)
- www.ci.austin.tx.us/watercon/toiletreatelist.htm (Austin, TX list)

- Toilet Flapper Information
- www.toiletflapper.org
- www.awwa.org/waterwiser/watch/Toilet-Flapper-Study-12-16.pdf