

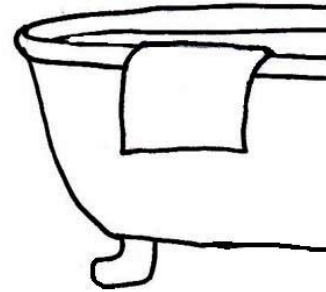
How Much Water?

July, 2015

- Overview
 - A guessing game in which students guess the water that goes into making various products
- Goal
 - To introduce young students to water issues and encourage them to be conscious of these issues in the future
- Objectives
 - Help students visualize embodied or “virtual” water that goes into products
 - Convey the importance of smart water use and the scope of water scarcity
 - Allow students to consider the impact they have on the environment
 - Practice estimation skills
 - Spark a conversation about how students can reduce their water impact
- Instructions
 - Make sure the class understands the importance of fresh water, and how it’s scarcity affects more than 3 billion people.
 - Flip through slides and ask students to guess how much water it takes to make each item.
 - Encourage students to guess—it’s only a guess, it’s okay to be wrong.
 - Ask students why they think it takes so much water to produce these products.
 - For each product, explain for what processes the water is needed.
 - After the guessing game, ask students if they know of any ways to limit their water use. Ways they can reduce their water usage include eating less red meat, eating local fruits and vegetables, buying secondhand clothes, drinking less soda, wasting less food, turning off the tap when they brush their teeth, taking shorter showers, and showering instead of bathing.



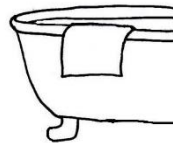
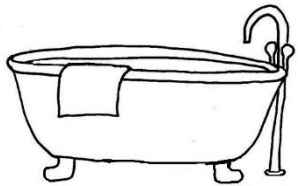
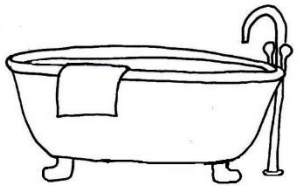
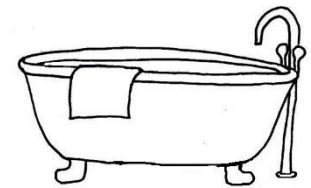
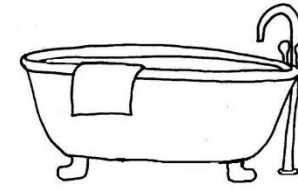
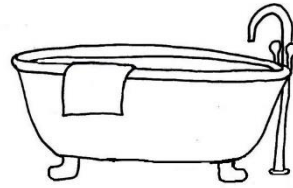
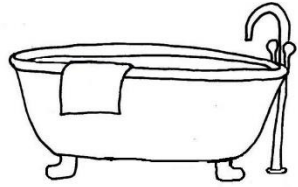
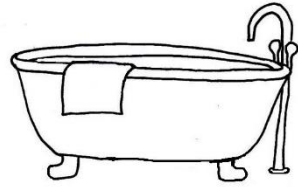
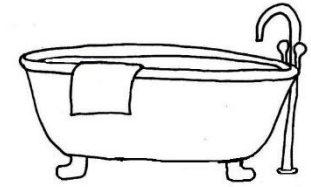
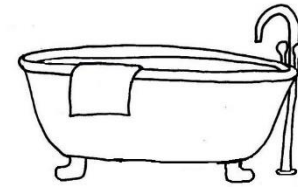
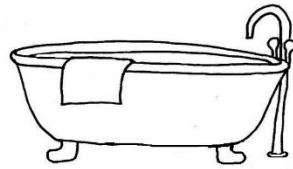
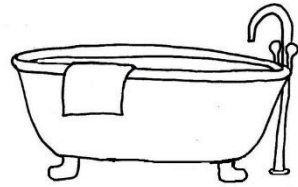
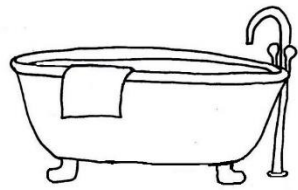
1 Apple



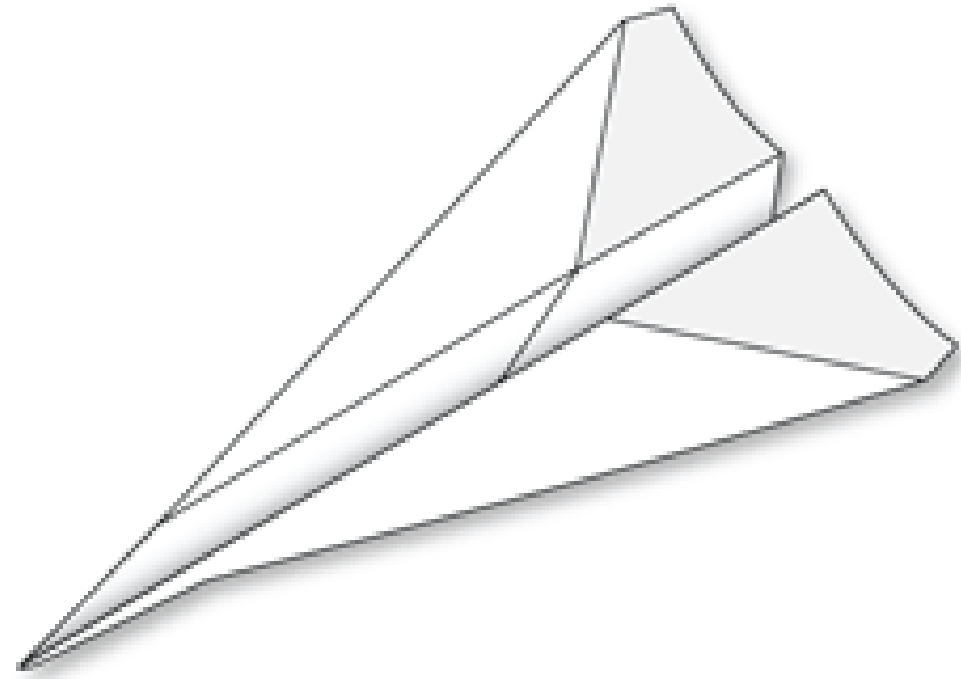
=18 gallons of water (1/2 a bathtub)



1 Chocolate Bar



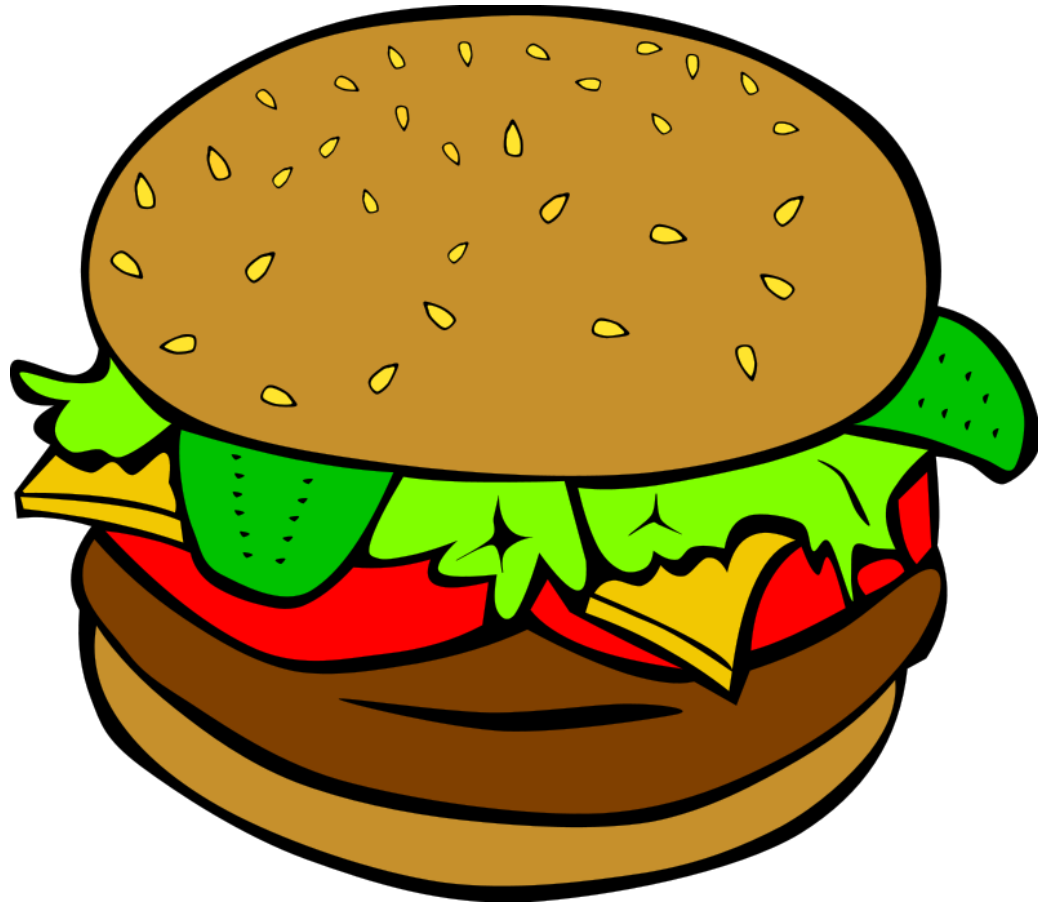
=450 gallons of water (12 ½ bathtubs)



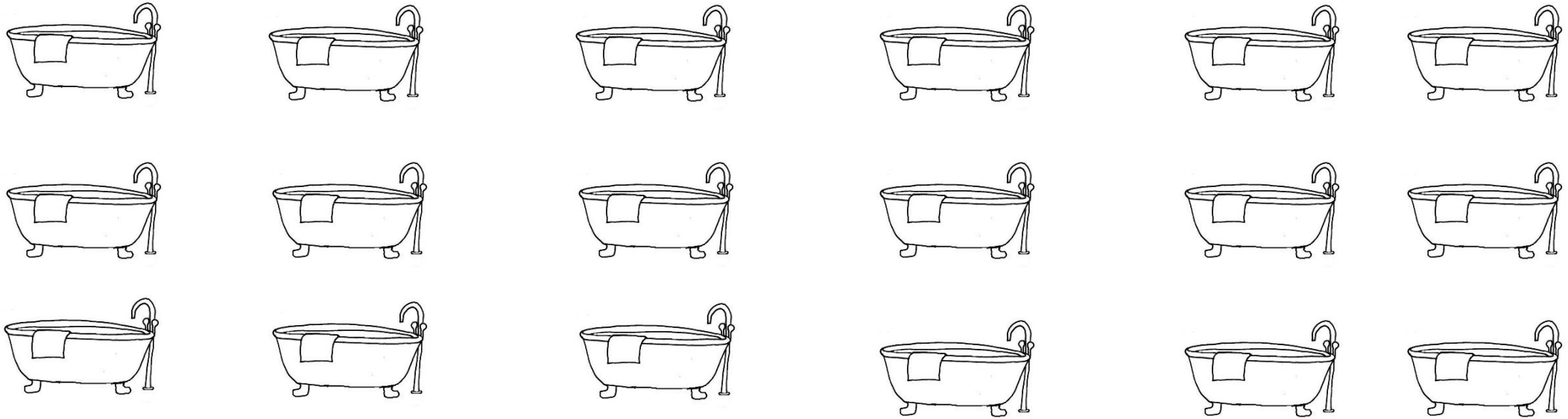
1 Sheet of Paper



=2 ½ gallons of water



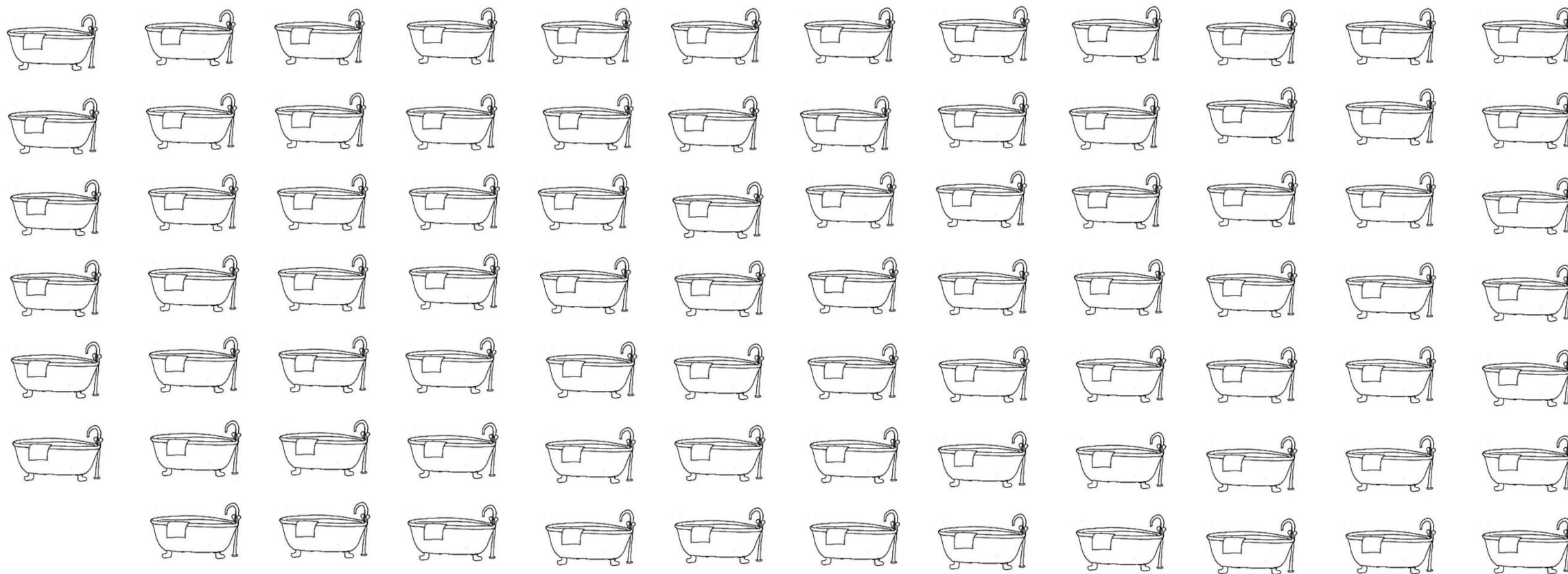
1 Hamburger



=660 gallons of water (18 bathtubs)



1 Pair of Jeans



=3,000 gallons of water (83 bathtubs)



1 Can of Soda



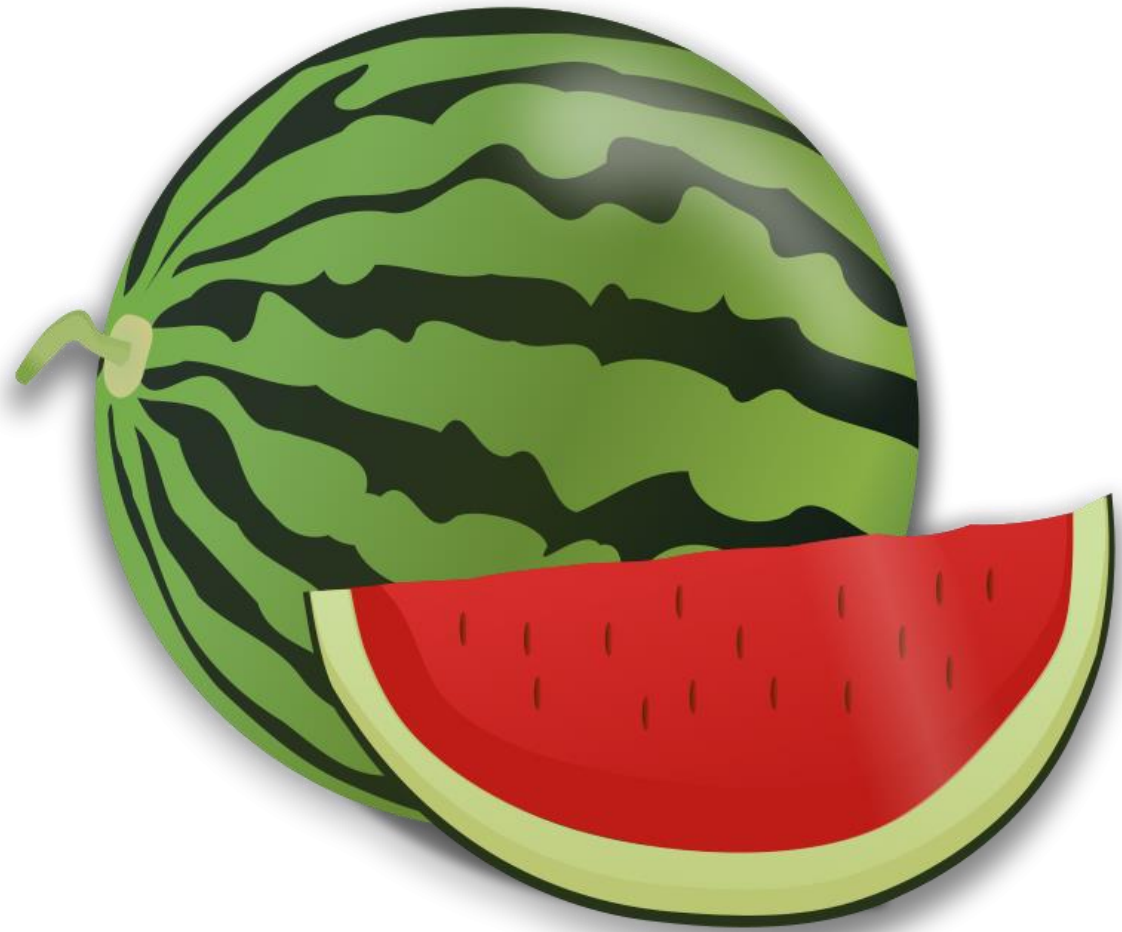
=16 ½ gallons of water (1 ½ water coolers)



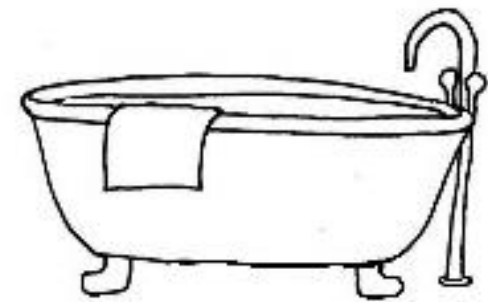
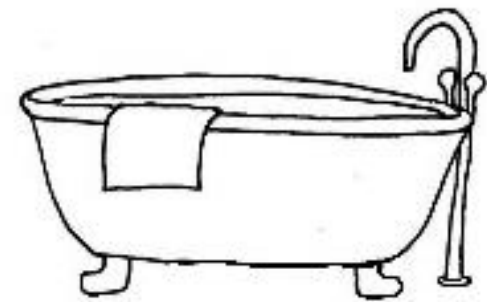
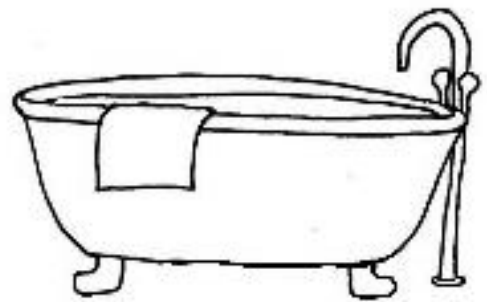
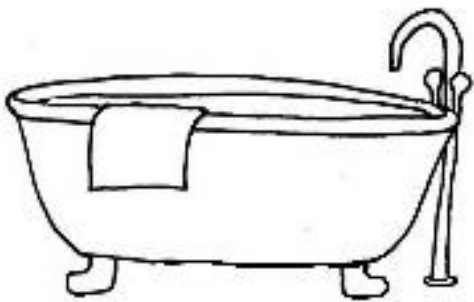
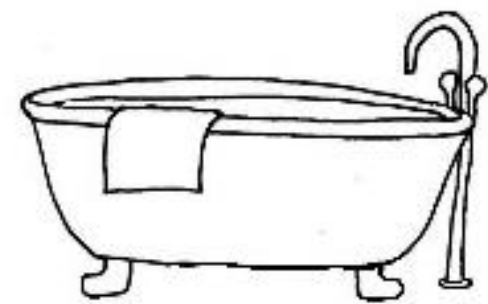
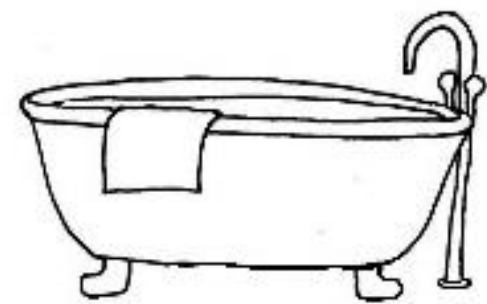
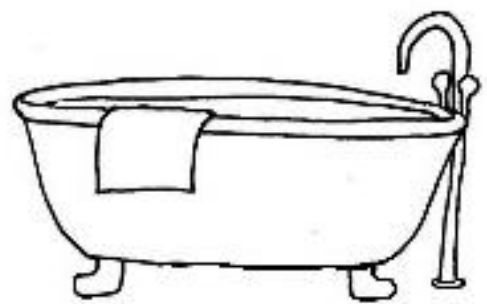
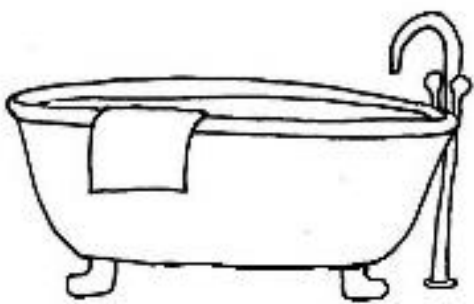
1 Latte



=50 gallons of water (1 ½ bathtubs)



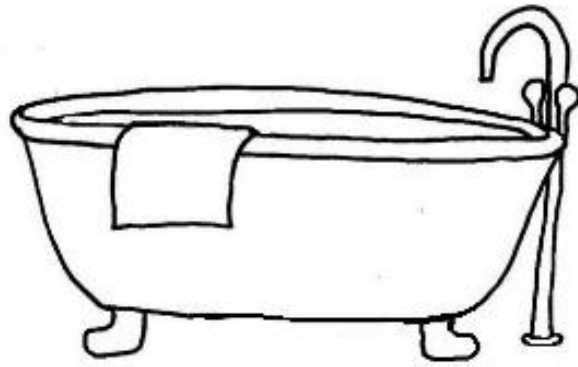
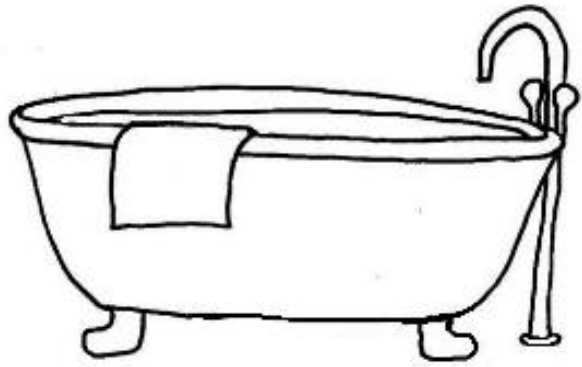
1 Watermelon



=300 gallons of water (8 bathtubs)



Daily Household Use per Person



=98 gallons or 2 ½ bathtubs

Sources and Notes

- Assume 1 bathtub = [36 gallons](#)
- [Apple](#): Water needed to grow fruit.
- [Chocolate](#): As a plant naturally found in the understory of rainforests, cocoa beans need enormous amounts of water to grow.
- [Paper](#): Water required for growing trees.
- [Hamburger](#): Water for irrigation of grains and grasses for cattle feed, drinking water for cattle and for processing. Also, water is needed for growing wheat that goes into the bun and for growing the vegetables in the burger.
- [Jeans](#): Water is used to irrigate the cotton, which takes especially huge amounts of water in arid regions such as in the Middle East.
- [Soda](#): Water needed for growing corn for high-fructose corn syrup.
- [Latte](#): Water needed for growing coffee beans.
- [Watermelon](#): Water needed for growing watermelon plant.
- [Daily Household Use](#): Brushing teeth, washing dishes, showering, flushing toilet, laundry machine, etc.