

## Lesson 5

# Water Reserves

Where does our drinking water come from?  
What is the largest reservoir in Farmington River Watershed?  
What does the term, “carrying capacity” mean?

**GOAL** To understand that reservoirs are used to store surface water (water above soil).

**OBJECTIVES** Students will:

- ✓ identify reservoirs in Farmington River Watershed.
- ✓ add carrying capacities of reservoirs
- ✓ understand that pipes and gravity help water flow
- ✓ understand that drinking water goes through many steps before reaching our faucets

**MATERIALS** sheet with listing of reservoirs and carrying capacities, raindrop story, pencils, question and answer sheet; reservoir map from CD

### CORE CURRICULUM CONTENT STANDARDS

- Language Arts 1(1,5,7,13)
- Math 1(2,3), 2(2)
- Science 7(3), 8(2,6 – 8), 9(2), 13(6)
- Social Studies 9(3),10(3,4), 12(5)

**VOCABULARY** gravity, wetlands, ridge, turbulent

### PROCEDURES

1. Inquire if students are familiar with the term reservoir. (*stores water*) Determine if they are aware of the purpose of a reservoir and what carrying capacities mean? (*how much water can they hold or carry*)
2. Ask students if they know of any reservoirs close to their homes. Discuss reservoirs that exist in Farmington River Watershed. How big are they? What are their carrying capacities?
3. List reservoirs on the board. Have students add up carrying capacities (*gallons of water*) of all reservoirs listed. (*Listing is provided on separate sheet.*)
4. Discuss the transport mechanism of the water. How is water brought to our homes and faucets?
5. Have students read *raindrop story* or read aloud. When completed, they should be able to answer questions that follow.

## **EXTENSIONS**

1. Have students act out raindrop story.
2. Have students draw the path of the raindrop.

## **RESOURCES**

Farmington River Watershed Association, August 2003, *State of the Farmington River Watershed Report*, Farmington River Association, Inc.

## **GLOSSARY**

**gravity** - the natural force of attraction exerted by a celestial body, such as Earth, upon objects at or near its surface, tending to draw them toward the center of the body

**ridge** - a long, narrow upper section or crest

**turbulent** - violently agitated or disturbed

**wetland** - a lowland area, such as a marsh or swamp, that is saturated with moisture, especially when regarded as the natural habitat of wildlife

**Lesson 5 – Student sheet 1**

**It happened one rainy day...**

I fell to the ground one rainy and cloudy day with a thump and a crash. I was high above the valley looking down over 2,000 feet. Boy, was I scared of heights! I was high up in Becket, MA in Berkshire Hills. Before falling to the top of the mountain, I had been cramped inside the cloud, bumping into other water droplets, when suddenly the cloud burst with water molecules and exploded.

I am a raindrop and I was pounded down into a strange area surrounded by forests, hills, wetlands. It was difficult to catch a view and very slippery. I started to fall. I was sliding, sliding down a high ridge and fell with a plop into the west branch of the Farmington River. What a ride! It was so big and flowing very quickly. I was bobbing up and down, below and above the turbulent, rushing waters. Would I ever be able to enjoy the scenic view? I traveled 16 miles down hill (one of the biggest drops or slides I have been on) and finally entered the state of Connecticut.

I dropped into a huge pool of water, called the Colebrook Reservoir. This is a storage area for lots of drinking water, 32 billion gallons. I was still 1,300 feet high in the town of Colebrook, CT. I was happy here, as the water was flowing much more slowly and I was even here long enough to make a few friends. Within a few days, I was off on my journey again and flowed rapidly through the openings of the dam and continued down the Farmington River. I traveled awhile until I met up with other drops that recently left the watershed's biggest reservoir, called Barkhamsted. They told me that they floated over 2,276 acres and 30.3 billion gallons of water for weeks. Then they passed by a lot of swimmers and boaters in Lake McDonough.

When I finally left, I was back on the Farmington on my way to the last reservoir, called the Nepaug. This was smaller, holding 9.5 billion gallons of water. It was here that I was pumped into a pipe heading towards Bloomfield or West Hartford. The pipes were long and wide and I was swiftly heading to the last leg of my journey. Gravity carried me to what is called a treatment plant, a place to make me drinkable.

I heard the words, "Turn on the faucet and get yourself a drink," to a small girl as she raced in from soccer practice. Quenching her thirst, I reached my final destination!

**Questions:**

- 1) **Where does the raindrop's journey begin?**
- 2) **How high is the mountain ridge?**
- 3) **What is the name of the river?**
- 4) **How far is Connecticut from Massachusetts?**
- 5) **What is the name of the first reservoir the droplet passed through? How much water can it hold?**
- 6) **What is the biggest reservoir and how much water can it hold?**
- 7) **What is the name of the last reservoir and how much water can it hold?**
- 8) **How was the droplet carried in the pipes?**
- 9) **What was the final destination of the raindrop?**

**Otis Reservoir**  
**5.8 billion gallons**

**Colebrook Reservoir**  
**32.1 billion gallons**

**West Branch Reservoir**  
**6.5 billion gallons**

**Barkhamsted Reservoir**  
**30.3 billion gallons**

**Lake McDonough**  
**2.9 billion gallons**

**Nepaug Reservoir  
9.5 billion gallons**

**Mad River Detention Reservoir  
3 billion gallons**

**Highland Lake  
482 million gallons**

**Rainbow Reservoir  
4 billion gallons**

**Whigville Reservoir  
37 million gallons**

Find the Reservoirs

What do Reservoirs look like?



EXAMPLE OF MAP  
SEE CD