Lesson 2: Our Water Supply System

Overview

Summary: Students discuss how much water the average person uses daily and learn that our water comes from lakes managed by the Tarrant Regional Water District. Students learn the process for providing clean water to our community and create a 3-D model of the water supply system. They reflect on the extensive infrastructure and labor required to deliver clean water and how this affects the value of water and the importance of conserving it.

Teacher Prep Time: 10 minutes

Student Prep Time: 0 minutes

Lesson Time: 45-50 minutes

- Classroom Delivery: 25 minutes
- Classroom Activity: 20 minutes
- Student Assessment in Workbook: 5 minutes

Focus Questions:

- How much water do we use daily?
- Where does our water come from?
- How is clean water delivered to our community?
- Given the effort and money required to bring people clean water, is it okay to waste water?

Learning Intentions:

- We use large quantities of clean water in our homes every day: 80-100 gallons per person.
- The water we use comes from lakes and reservoirs built by the Tarrant Regional Water District and local cities to provide drinking water and flood control.

- Water is transported from lakes to cities through pipelines, cleaned at water treatment plants, pumped into water towers, and delivered through city pipes to places where we need it.
- Building and maintaining our water supply system requires a diverse team of professionals and billions of dollars. Water is precious and should always be used responsibly and never wasted.

Student Assessment: 5 minutes, Student Workbooks, page 7

Homework Exercise: 15 minutes, online lesson for "Our Water Supply System" in the Student Portal.

TEKS (paraphrased):

- SS.5.9.A – describe how and why people have modified their environment to meet basic needs
- SS.5.13.A – compare how people in different parts of the U.S. earn a living, past and present
- S.5.1.B – make informed choices in the conservation of materials
- S.5.3.C – connect grade-level appropriate science concepts with science careers

Common Misconception:

- *Misconception:* Clean water is easy to get because safe, drinking water always comes out when we turn on the faucets.
- *Correction:* Supplying clean water to our communities requires extensive infrastructure and constant effort by diverse teams of professionals.

Materials:

- Teacher computer and projector
- PowerPoint or Google Slides from Teacher Portal
- Student Workbooks
- Activity supplies: straws, paper, tape, markers, and a timer. Optional: cardboard tubes, colored felt, different size straws, etc.

Teacher Preparation

Time: 10 minutes

1. Download the slides and review content. Be sure to look at the notes for each slide.
2. If you wish to extend student learning about water treatment and distribution, preview Video 2a and 2b in the Teacher Portal.

Classroom Delivery

Time: 45-50 minutes

1. Open the PowerPoint or Google Slide presentation
2. Slide 1: Introduce the lesson.
3. Slide 2: Ask how much water the average person uses in a day.
4. Slide 3: Discuss how much water the average person uses in a day, week, month, and year.
5. Slides 4–5: Discuss where our water comes from.
6. Slides 6–14: Discuss how we deliver clean water through the water supply system.
7. Slides 15-16: Classroom Activity: Ask students to work individually or in groups to build a 3-D model of the water supply system using simple craft supplies within 20 minutes. Their models must include a lake, pipeline, water treatment plant, water tower, city water pipe, and a home.
8. Slides 17: Reflect on the types of workers needed to build and maintain our water supply system.
9. Slide 18: Reflect on how we value of water more when we understand the extensive infrastructure and labor required to provide clean water. Reflect on whether it is okay to waste water.
10. Slide 19: Ask students to complete the lesson assessment on page 7 of their workbooks.

Student Assessment

Answer Key

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ASSESSMENT

Instructions:
Match each action in our water supply system with the correct step by drawing an arrow. We've completed the first one for you.

Steps	Actions
Step 1	City water utilities and the Trinity River Authority clean the water at treatment plants.
Step 2	TRWD pumps untreated water from lakes & reservoirs to cities through huge pipelines.
Step 3	Clean water is ready to use at homes, schools, and businesses.
Step 4	Clean water from water towers and treatment plants is pumped throughout the city.
Step 5	Clean water is pumped into tall water towers to help with distribution.