

Water Distribution System Design Competition

Sponsor

Tennessee Water Resources Research Center (TNWRRC)

Description

Students will work in small teams (1-3 members) to design and build a small network of pipes that deliver water from an elevated reservoir to three storage containers. The objective is to design a network that delivers water equally to each container. The team that designs the network that fills the containers most equally wins the competition.

Rules

1. Students must design their network according to the following rules:
 - a. The network must be connected to the main water reservoir and the containers at the specified locations. These locations will remain the same for the entire competition.
 - b. At least 16 pipes must be used in each design. All pipes must be connected to each other at junctions.
 - c. There may be no dead-end pipes.
2. Designs will be tested and scored by the staff working at the booth. Scores will be calculated by summing the difference in water levels between the three containers. A penalty point will be assigned for each gram (or mL) difference. The lowest score will win the competition.
3. After each team's initial run, the students will have two additional opportunities to modify their design and try again for a lower score.