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New England Water Works Association Youth Education Committee Classroom Module

Water Quality and Laboratory Activity Star Wars – Water Awakens

Summary and Objective

Water quality is constantly monitored throughout a public drinking water system—from source to tap—to ensure that the water is safe. To determine water quality, samples are taken throughout the system and a variety of different analyses, or tests, are performed in the laboratory by trained lab technicians, who follow standard procedures to perform the analyses. The results from the lab tests are compared to water quality standards to determine if the water is safe.

In this activity, students work in a team and perform lab analyses to gather quantitative data about the quality of a water sample and compare it to standards to determine if it is safe.

Students will be introduced to general water quality parameters, laboratory test methods and procedures, lab equipment, lab safety, and data analytics.

Applicable Curriculum Standards

Next Generation Science Standards: ESS3-1, ESS3-2, ESS3-3, ETS1-1, and ETS1-3, HS-LS2-1, HS-LSU-7.4; ESS3 A,C,B

Recommended Grade Level(s)

4-8

Time Required

1 class session

Materials and Facilities Required

- Water faucet or fountain
- Activity test kit, which includes;
 - (3) ~250mL sample bottles or mason jars
 - Nitrile gloves
 - pH test strips
 - Chlorine test strips
 - Hardness test strips
 - Household bleach
 - Calcium carbonate or calcium chloride

Module Contents

1. Module cover
2. Module procedure
3. Test Kit

Acknowledgements

This module was prepared by the New England Water Works Association Youth Education Committee.