



## **Living River of Words -Water Quality**

### **Grade 3-12**

**Description:** Field Study portion of a Living River of Words Arts and Science program. Students rotate through three sessions during the two – three hour field study trip.

#### **Water Quality:**

This activity emphasizes the importance of perennial water sources in the Sonoran Desert to wildlife and humans. During the field trip to the Santa Cruz River or Agua Caliente Park students learn the concept of water quality and the importance of water quality monitoring. Under the supervision of the instructor, students take samples and measure the temperature, pH, turbidity/transparency, nitrates and dissolved oxygen. Water quality tests performed are dependent on grade level.

**Duration:** Field trip rotation - 45 minutes

#### **Objectives:**

- This activity emphasizes the importance of perennial and reclaim water sources in the Sonoran Desert to wildlife and humans.
- Understand the importance of the permanent source of water for humans and wildlife in the past as well as the present.
- Understand the concept of water quality and water quality monitoring.
- Students make basic water quality measurements and record data collected.
- Students understand that the physical characteristics of the water determine the organisms that can live there.
- Students learn the concept of water quality and the importance of water quality monitoring.

#### **Description of Activity:**

- Organize all materials and make sure to take all equipment needed according with the program location.
- Under the supervision of the instructor, students take samples at the site and measure and record the temperature, pH, transparency, and other quality tests of the samples, depending of the students' grade level.

**Vocabulary:**

Base	Groundwater	Nitrates
Celsius	Hydrologist	Temperature
Dissolved Oxygen	Hydrology	Transparency
Effluent	pH	Turbidity
Fahrenheit	Neutral	Watershed

**Materials:**

Hydrology Data Sheet for each student and pencils, if needed  
Clipboard for each student  
Dry erase board or flip chart with a grid for recording data  
Sample buckets with rope attached  
Measuring cups  
Celsius thermometers  
pH meters/kit test  
Laminated pH scale  
Transparency tubes  
Dissolved Oxygen kit test  
Nitrate kit test  
Folding table (s)  
Hands sanitizer  
Paper towels  
Trash bags  
Container with lid to dispose tested water samples  
Disposable gloves

**Linked to Arizona Academic Standards:**

**Science:** SC03-08-S1C2-01,03,04,05;SCHS-S1C2-01,02,04,05;SC03-HS-S3C1-01,03,04,05;SC0304-S3C1-01,02;SC0304-S3C1-01,02;SC05-08-S3C1-01,02;SCHS-S3C1-01,02,04,05;SC0607-S4C3-01,02;SC08-S5C1-03;SCHS-S5C4-02,04,012;

**Math:** M03-MD; M03-HS-MP.1, MD