



**Pima County Natural Resources, Parks and Recreation  
Environmental Education Field Study**

**Water Quality  
Elementary School K-3 Level**

**Description:** Water Quality

Students learn first-hand how scientists study water by collecting water samples and taking scientific water quality measurements. Types of test performed depend on grade level.

**Linked to Arizona Academic Standards:** Mathematics 1M- R1, F2, E1, E6; 2M- R2, F1, F2, E1, P1, P2; 5M- F2; 6M-E1. Science S4: C1: G6PO1; S6: C3: G4PO1. Social Studies 3SS: F2PO5, E7PO6, P4PO3, D3PO6; 6SC: F1, E6, P5.

**Duration:** 2 hours

**Objectives:**

- Understand the importance of the natural spring water source for humans and wildlife in the past as well as the present
- Understand the concept of water quality and water quality monitoring
- Make basic water quality measurements and record data collected
- Understand the concept of watershed

**Conceptual Framework:**

- The essentials of habitat, required by plants and animals, including humans, are food, water, shelter, and space in a suitable arrangement.
- Change in the hydrologic cycle due to human and non-human forces is a fundamental characteristic of the physical environment that shapes populations, species, communities and ecosystems.
- Natural resources such as a perennial water source sustain human life and economic prosperity.

**Vocabulary:**

Agua Caliente	Hydrologist	Temperature
Celsius	Hydrology	Thermal Spring
Fahrenheit	Inlet	Transparency
Groundwater	Pond	Watershed

**Materials:**

- Student data recording worksheet
- Clipboards, pencils
- Dry erase board or flip chart with a grid for recording water sample measurements
- Sample buckets with rope attached
- Measuring cups

Revised 6/09

Celsius thermometers

Transparency tubes

Materials for watershed activity: copy paper, construction paper, markers (at least three colors), spray bottles filled with water, tape

**Description of activity:**

- This activity emphasizes the importance of perennial water sources in the Sonoran Desert to wildlife and humans.
- Students learn the concept of water quality and the importance of water quality monitoring.
- Students understand that the physical characteristics of the water determine the organisms that can live there.
- Students create a watershed model and see the effects of rainfall on the watershed (see Exploring Watersheds lesson plan for details).
- Under the supervision of the instructor, students take samples at three sites at Agua Caliente and measure the temperature, and transparency of the samples.
- Students compare and analyze water quality data from three sample sites at Agua Caliente Park: the spring, the inlet and the pond.