

# Water Discovery Field Trip Program

## K-12 Activity Guide



The Inland Empire Utilities Agency is pleased to offer FREE Water Discovery field trips to the Chino Creek Wetlands and Educational Park in the city of Chino. The Water Discovery Field Trip program was developed to connect students with the environment, promote the public understanding of the value of natural treatment wetlands, explain and show the creation of habitat for endangered/sensitive species, and provide ways to practice environmental stewardship.

The Water Discovery Field Trip program incorporates hands-on educational activities tailored to grade levels, tours of the wetlands and engages students in learning about current water and environmental challenges in a fun, outdoor environment. The program aligns with California State Curriculum Standards; Science, Technology, Engineering and Mathematics (STEM) and Next Generation Science Standards (NGSS).

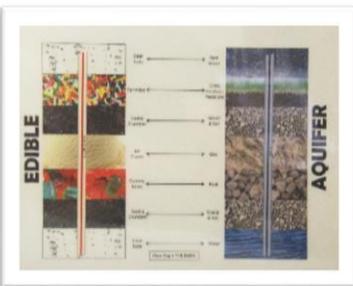
During the field trip, students will partake in the **Wildlife Observation Study / Nature Walk** and **three** of the following activities selected by the teacher:



### Bird Bingo

Students will learn how to identify a variety of bird species found at the wetlands, including a discussion of local, migratory and invasive birds. Students will participate in “Bird Bingo,” where students are given a bingo sheet and attempt to identify birds that are discussed. *Note: This activity correlates with the Wildlife Observation Study / Nature Walk.*

**Kindergarten-3<sup>rd</sup> Grade**



### Edible Aquifers

Students will learn about aquifers, groundwater and pollutants. The students will create an edible model of an aquifer, which includes groundwater (clear soda), sand and gravel (cookie crumbs), rocks (gummy bears), and clay (ice cream).

Students will then simulate how “pollutants” (sprinkles) enter an aquifer. Then, using a straw, students will “drill” a well in the middle of their aquifer to simulate how water is pumped from the aquifer. A discussion on pollution sources will be included. *Note: This activity is available to field trips of 30 students or fewer.*

**3<sup>rd</sup>-8<sup>th</sup> Grade**



### Enviroscope

Students will observe a three-dimensional model of a watershed. Students will learn about the Santa Ana Watershed, pollution (point and non-point), effects of pollution, and groundwater contamination. Students will “pollute” the watershed by placing “pollutants” (i.e. Kool-Aid, sprinkles and cocoa powder) on the model and will then simulate rainfall (spray bottle). Students will observe the effects of the “pollutants” on the community and water supply.

**3<sup>rd</sup>-12<sup>th</sup> Grade**



## Hamburger Water Model

Students will observe a three-dimensional model of a cheeseburger and learn how much water is used to make each part. Students will establish a connection to how much water goes into the production of our food supply. Students will make a key-ring of the cheeseburger model with construction paper as a reminder of how many gallons of water it takes to make a single cheeseburger.

**Kindergarten-5<sup>th</sup> Grade**



## The Long Haul

Students will develop an awareness and appreciation of water's value and availability. This activity will focus on worldwide and historical access to water. Students will participate in a relay to move "buckets of water" (using buckets and bean bags) between two points demonstrating the difficulty of hauling water.

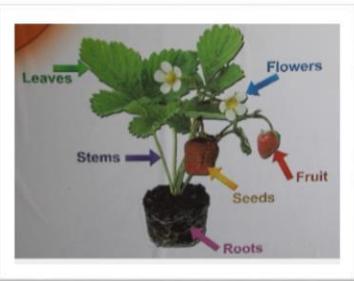
**4<sup>th</sup>-12<sup>th</sup> Grade**



## Microscopic Pond Life Study

Following a brief introduction and discussion on pond life, students will use microscopes to view pond samples. Students will view pre-assembled slides and write their findings on an activity sheet. A discussion on their findings will follow.

**4<sup>th</sup>-12<sup>th</sup> Grade**



## Plant Factory

Students will learn about the different parts and functions of plants. Students will discuss what plants need to survive, the five parts of a plant, photosynthesis, and construct a human plant from roots to flowers.

**Kindergarten-3<sup>rd</sup> Grade**



## Recycled Water Bracelets

Students will participate in a discussion on where water comes from, how water travels, water treatment plants, and the importance of recycled water. Students will assemble bracelets with colored beads that represent the different stages of water in the treatment process. Students will be able to keep their bracelets as a reminder of the recycled water process. *Note: This activity correlates with the Wastewater Treatment Plant Tour.*

**5<sup>th</sup>-12<sup>th</sup> Grade**

## Wastewater Treatment Plant Tour



Students will tour a Wastewater Treatment Plant, learn the seven-stage treatment process and develop an understanding of wastewater flows and where it comes from. Students will develop an understanding of the importance of being aware of what should, and shouldn't be, "flushed" down the drain, and learn the essential process that helps preserve potable water for the region's future. **5<sup>th</sup>-12<sup>th</sup> Grade**

## Water Cycle Bracelets



Students will simulate the journey of water molecules moving through the water cycle and will collect colored beads to represent their journey. At the end of the activity, students will discuss the water's specific journey, including molecule transfer. Students will be able to keep their bracelets as a reminder of the various journeys water molecules take.

**2<sup>nd</sup>-6<sup>th</sup> Grade**

## Wetlands Metaphors



Students will learn the value and role of wetlands and make comparisons between objects through metaphors. Each object represents a function of the wetlands. Students will explain how the object is a metaphor for a wetland's function (ex. A sponge would represent the function of water retention in a wetland).

**4<sup>th</sup>-8<sup>th</sup> Grade**

## Wildlife Observation Study / Nature Walk



Students will be guided through the Chino Creek Wetlands and Educational Park to observe plants and wildlife. Students will utilize their senses as they explore, and using checklists, students will observe and monitor the wetlands' habitat. Students will engage in discussions about wetlands, habitat loss, the impact of human interference with nature, and develop an appreciation of wetlands and natural resources.

**Kindergarten-12<sup>th</sup> Grade**