

Educator's Guide To Community W.A.T.E.R. Lesson Plans

Lesson Plan Activities that open up Pima County Stormwater Parks and the urban landscape as a dynamic environment for learning, connection, and community action.

BACKGROUND

Dear Educator, thank you for diving into the Community W.A.T.E.R. (Water Advocates Training in Ecology, Equity, and Resilience). Community W.A.T.E.R. is a partnership program between Pima County Regional Flood Control District and Ironwood Tree Experience (ITE), a local youth and nature non profit.

Community W.A.T.E.R. seeks to increase teacher and student engagement with their community through green stormwater infrastructure (GSI) and watershed education. To accomplish this goal, Community W.A.T.E.R. provides educational, experiential learning opportunities for students at Pima County Stormwater Park sites.

Pima County's Stormwater Parks are located throughout the city of Tucson and provide powerful opportunities for hands-on, place-based learning. These GSI sites are engineered to mimic natural systems by capturing stormwater runoff, and reduce localized flooding, and support native desert ecosystems. They are vibrant examples of how infrastructure can serve both people and nature, offering accessible, outdoor learning spaces in the heart of Tucson even to prepare youth for potential internships and workforce pathways in environmental careers.

Teachers & Student Opportunities

Community W.A.T.E.R. provides support for teachers in the classroom and for their students in the field.

Educators who take part in Community W.A.T.E.R. professional development workshops can register at no cost for ITE-supported Field Studies for Schools, which include class trips to Pima County Stormwater Parks. These engaging experiences provide site-specific education, interactive environmental science activities, and help students understand their roles in safeguarding their watershed. Inspired students are encouraged to seek internships that offer valuable, skill-building, hands-on experiences for individuals aged 14 to 20.

Educators interested in participating in a Community W.A.T.E.R. professional development, or a Field Studies for School class field trip to Pima County Stormwater Parks are able to register on line at

<https://ironwoodtreeexperience.org/educator-and-school-programs>

Community W.A.T.E.R. Lesson Plans

Community W.A.T.E.R. Lesson Plans and Worksheets contain the necessary teacher lesson plan information and student worksheets for a successful class field trip to a Pima County Stormwater Park site. Access to Community W.A.T.E.R. lesson plans and worksheets can be found at

<https://ironwoodtreeexperience.org/educator-and-school-programs>

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The Anatomy of W.A.T.E.R Lesson Plans

Lesson Plan Title: Indicates the name of the activity

Activity Description: shares background information about the Lesson Plan activity

Suggested Curriculum Applications: shares academic subjects that readily tie in with the Lesson Plan activity

W.A.T.E.R. WORKSHEETS

FOR TEACHERS

MAPPING THE INVISIBLE

A lesson for exploring the environment through sensory mapping and feelings-based observation of the natural world

BIG PICTURE CONCEPT

Research shows that time in nature offers an abundance of psychological and physiological benefits. However, according to data gathered by Statista, over half of the world's population lived in urban areas in 2021, with around 82% of North Americans, 80% of Latin Americans, and 75% of Europeans residing in cities. Luckily, even if you don't have easy access to lush forests or fresh sea air, opening up to the benefits of nature is as simple as tapping into your five senses.

ACTIVITY DESCRIPTION

A sensory map is a creative and reflective way to explore an environment using all five senses: sight, sound, touch, smell, and taste (if safe and applicable). This activity encourages students to deepen their connection with the natural world by documenting their sensory experiences in a stormwater park or other outdoor setting. By mapping their observations, students gain a greater awareness of their surroundings and how different elements of the landscape interact.

Students will work individually or in small groups to observe, document, and map sensory experiences at different locations within the park. They will create a visual representation of their environment based on what they perceive through their senses. This lesson provides an interactive and reflective way for students to connect with their environment while developing observation, artistic, and critical thinking skills.

SUGGESTED CURRICULUM APPLICATIONS

- Science:** Ecology, environmental awareness, sensory biology.
- Art:** Sketching, cartography, creative expression.
- Language Arts:** Descriptive writing, poetry, journaling.
- Geography:** Mapping techniques, place-based learning.

ACTIVITY VITALS

- Activity Time:** 45 minutes
- Subject Areas:** Science, Art, Geography, Language Arts
- Grade Levels:** 3rd-8th grade
- Skills:** Observation, critical thinking, artistic representation, mindfulness
- Key Vocabulary:** Sensory mapping, perception, landscape, ecosystem, observation
- Jobs & Careers:** Environmental Designer, Ecologist, Landscape Architect, Urban Planner

ACTIVITY OBJECTIVES

Engage students in mindful observation and reflection.

Explore how different environmental features contribute to a multi-sensory experience. Develop creative mapping skills by representing sensory input visually.

Connect sensory perception to ecological awareness and environmental design.

Activity Icon: indicates the emphasis of the activity

Activity Vitals: shares key activity information to ensure Lesson Plan activity and curriculum are aligned.

Activity Objectives: shares baseline outcomes that the Lesson Plan activity will achieve

Let's Get Started: introduces the activity methodology

Activity Material: Indicates the tools required to do the activity

Activity Procedure: Explains the step by step process for conducting the activity

LET'S GET STARTED

THIS ACTIVITY CAN BE DONE USING A VARIETY OF MAPPING TYPES - VISUAL, WRITTEN, COLLAGE, MUSIC, OR OTHERS MODES OF EXPRESSION

ACTIVITY MATERIALS

- Clipboards & pencils
- Blank paper or printed sensory mapping templates
- Colored pencils, crayons, or markers
- Optional: Field guides for identifying natural elements
- Optional: Small containers for collecting natural items (leaves, soil, etc.)

ACTIVITY PROCEDURE

Preparation (Before the Activity)

- Choose a location within the stormwater park where students can sit quietly and observe their surroundings.
- Provide a brief introductory to sensory mapping, explaining how it involves documenting what they perceive with each of their five senses.
- Encourage students to slow down and engage fully with their environment.

Step 1: Guided Discussion and Grounding Exercise as a Group

- Ask students to close their eyes for a moment and take a few deep breaths.
- Guide them to focus on each sense one at a time.
 - **Sight:** What colors, shapes, and patterns do you see?
 - **Sound:** What natural and human-made sounds can you hear?
 - **Touch:** What textures can you feel around you?
 - **Smell:** What scents are present in the air?
 - **Taste (if applicable):** Is there moisture, dust, or a distinct taste in the air?

Step 2: Mapping the Sensory Experience

Students may perform the following individually, in small groups, or as a class.

- Students sketch a simple map of the area they are exploring.

STUDENT WORK + DATA SHEETS

Sensory Mapping Template
Observation & Reflection Questions

EXTENSIONS:

- Art Connection:** Create a watercolor or pastel drawing inspired by the sensory experience.
- Poetry & Writing:** Write a descriptive paragraph, poem, or short story inspired by what was observed.
- Science Investigation:** Compare sensory observations in different weather conditions or seasons.
- Community Engagement:** Create a public sensory map for display at the park to encourage others to explore.

• Using colors, symbols, and labels, they document their sensory experiences in different locations on the map.

Encourage creativity! For example:

- Wavy lines to represent the sound of rustling leaves
- Dots to symbolize bird songs in the distance
- Textures drawn or shaded to represent smooth rocks or rough bark.
- Colors to capture mood or atmosphere (e.g., warm for sunlight, cool for shadows).

Set sensory Goals or Guidelines for Mapping such as:

- Map at least 1 of each of your 5 senses
- Map at least 1 uncomfortable feeling
- Map at least 1 exciting feeling

Step 3: Reflection & Discussion

- Have students share their maps with a partner or small group.
- Discuss how different people noticed different things—why might that be?

Ask reflection questions:

- What sense provided the strongest connection to this place?
- Did anything surprise you about what you noticed?
- How might weather, time of day, or season change your sensory experience?
- How can sensory mapping help us design and build better outdoor spaces?

Data Sheets: Identifies the data Sheets that should be printed for students to perform the activity

Extensions: Activities that can deepen understanding, provide extra practice, or challenge advanced learners by applying learned concepts in new ways