



LAND, WATER & WILDLIFE EXPEDITIONS

A Program of the Texas Wildlife Association (TWA)

Purpose: To collaborate with schools to deploy free natural resources, conservation, agriculture, and stewardship education programs to middle school students to enhance comprehension of natural resources as part of their formal science studies.

Objective: Provide and deploy rigorous and relevant science TEKS-aligned lessons culminating in an Expedition Field Day that raises the conservation knowledge and natural resources science understanding of the secondary student.

TWA's Commitment to Your Conservation Education

- ✓ Provide the Land, Water & Wildlife Expeditions Program at no cost to the school - student-gear natural resources, conservation, and stewardship education
- ✓ Free professional development and content support to participating science teachers
- ✓ Science TEKS-aligned land, water, and wildlife lessons
- ✓ Coordination and facilitation of the Expedition Field Day
 - Where classroom studies meet on-the-ground stewardship and conservation!
- ➔ • To streamline Field Day logistics, efforts, and costs, TWA plans to host multiple schools over the course of one (!) week on a nearby property.

Your School's Commitment to Conservation Education

- ✓ Teachers, students, and administrators commit to the Land, Water & Wildlife Expeditions Program
- ✓ Complete provided professional development
- ✓ Implement five (5) provided classroom lessons
- ✓ Teachers provide simple monthly check-ins
- ✓ Be a proud TWA Conservation Partner School - signing a Conservation Partner Promise, committing to the program
- ➔ The only potential cost to the school may be the transportation to the Field Day site.





Professional Development

- ## Inclusion of five (5) Land, Water & Wildlife Lessons

- ## Required Monthly Check-ins & Content Support

- ## One (1) Required Classroom Visit

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EXPEDITIONS IN THE FIELD

The Expedition Field Day is where science, natural resources, conservation, and stewardship becomes tangible and is reinforced.

Four (4) Hours of Field Investigation

+ Opportunity for outdoor recreational activity, if time allows

Local (Private) Property

- TWA strives to immerse students on the land within one (1) hour from your school
- Students will become 'Junior Landowners' for the day, learning and implementing real-life stewardship science and practices, which reinforces the importance of private land stewardship (95% of Texas is privately-owned)

Six (6) Stations - 2 Land, 2 Water, 2 Wildlife

- Led by local instructors
- Student-driven - engaging, hands-on, and content-reinforcing
- **LAND:** Soil + Erosion | Color Scavenger Hunt
- **WATER:** Macroinvertebrate Assessment | Rainfall Simulator
- **WILDLIFE:** Predator Prey Game | Quail CSI Nest Predation

Making the Most of the Expedition Field Day...

- Teachers should help students get excited about learning outdoors! TWA will help with this during their classroom visit as well!
- An Expedition Field Day is more than a "field trip" - the learning is being shifted outside and will be rigorous - therefore, teachers (not parents) are required to serve as group leaders.
- Students should wear pants and closed-toe shoes, bring a water bottle, and be ready to spend a great day outside!



Land



Water



Wildlife



EXPEDITIONS IN THE FIELD



Land Stations

Soil + Erosion

- Students will collect a soil sample and conduct a ball/ribbon test to determine soil characteristics.
- Students will gain a better understanding of soil scientific research by identifying a correlation between the soils of Texas and the ecoregions of Texas and how soil diversity leads to biodiversity.

Color Scavenger Hunt

- Students are allowed to safely wander the property, with the purpose of identifying natural resources.
- Students will utilize technology to attempt to identify natural resources and work with a naturalist/scientist to identify and learn more about 'hunted' items.



Water Stations

Macroinvertebrate Assessment

- Students will identify the macroinvertebrates from a local water source - students will collect samples on-site if possible.
- Students will assess macroinvertebrate pollutant sensitivity to determine the health of the water and make correlations with the influences of human activity on groundwater and surface water in a watershed.

Rainfall Simulator

- Students will manipulate a model that demonstrates the relationship between rainfall, ground cover, and infiltration, to see what happens to the water.
- Students will witness how different variables (ground cover, pollution, etc.) impact water and discuss negative (pollution) and positive (open and private land) human influences.



Wildlife Stations(choose 2)

Predator Prey Game

- Students will participate in a game modeling predator/prey relationships, competitive relationships, and limiting factors.
- As students model relationships in an ecosystem, they will demonstrate and discuss how disruptions such as population changes, natural disasters, and human intervention impact ecosystem energy.

Quail CSI Nest Predation

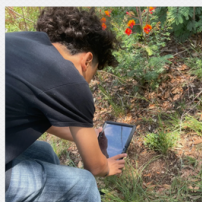
- Students will utilize critical thinking to extend their current knowledge of domestic animals and wildlife and apply it to the adaptations, traits, and characteristics of native wildlife.
- Students will utilize newfound knowledge to investigate predated quail nests to determine the predator.

Web of Life

- Students will actively model a food web to identify energy exchanges within the trophic pyramid.
- Students will explain the importance of stewardship within the environment to protect producers, consumers, and decomposers within food webs.



Soil + Erosion



Color Scavenger
Hunt



Macroinvertebrate
Assessment



Rainfall Simulator



Predator Prey
Game



Quail CSI
Nest Predation



Web of Life