Gonzales Ranch Restoration Program Learning Design

Established Goals:

- Students will discover that all things in nature are connected in a web of interdependence and that they are an important part of that web.
- Students will feel empowered by their increased ecological literacy and be inspired to be environmental activists and leaders at their school
- Students will participate in enhancing their own community through restoration and share their work with their community.

Enduring understandings:

- Students will understand that there are many different animals and habitats in their community that are important to the overall function of the ecosystem
- Students will evaluate food webs to determine how animals and plants need each other for survival
- Students will understand the importance of biodiversity
- Students will understand that habitat restoration work benefits animals, humans, and the ecosystem
- Students will understand that they are a part of a multi-year program and a scientific community where they can continue investigating their place and habitats for years to come!
- That there are ways to continue to be involved in their community through STRAW and other programs and organizations.

Essential Questions:

- How can we better understand ourselves and our environment through learning about our watershed?
- How are native plants important to animals, humans, and the ecosystem where they grow?
- What are some ways we can continue to make our watershed healthier?

Students will know:

- Observation is the first step towards being a good scientist
- There are many different plants and animals in our neighborhoods
- There are career options in science, specifically related to environmental sciences
- Why habitats are being lost and what people are doing to repair them
- That seasons matter to animals and plants and may be altered by climate change
- Animals need native plants for habitat, protection, and food
- There are different ecological communities within our neighborhood

Students will be able to:

- Apply observation skills when learning
- Identify structures and functions of a riparian zone
- Describe one native plant and its importance to native animals in detail
- Identify common native plant and animal species in their neighborhood
- Describe the relationship between various plants and animals
- Apply knowledge regarding how to plant native plants through doing restoration work
- Make a difference in our watersheds

NGSS Standards:

- Science and Engineering Practices:
  - Asking questions and defining problems
  - Constructing explanations and designing solutions
  - Obtaining, evaluating, and communicating information
- Disciplinary Core Ideas:
  - ESS2.A Earth materials and systems
  - ESS3.A Natural resources
  - ESS3.C Human impacts on Earth Systems
  - LS1.A Structure and function
  - LS1.D Information processing
  - LS2.A Interdependent relationships in ecosystems
  - LS2.C Ecosystem dynamics, functioning, and resilience
  - LS4.D Biodiversity and humans
- Crosscutting Concepts
  - Cause and effect
  - Structure and function
  - Stability and change
  - Systems and system models
  - Patterns
  - Scale, proportion, quantity