



## **Theme: Water (Grades 6-8)**

### **Sub Theme: Ecosystem of Wetlands**

#### **Post Visit Activity # 1: (30-45 minutes)**

#### **3-D Cienega**

##### **Overview:**

This is a concluding activity designed to follow previous wetland activities and the Springs Preserve wetland field trip. Students will show the components and the relationships of the components of the specific wetlands system (cienega) they visited at the Springs Preserve by creating a three-dimensional model. Each model must include one food chain consisting of at least 3 organisms that they studied at the Springs Preserve. For example, students can show the chain, "plant seed, rabbit, hawk." Students will design a seed and the animals, and include those images within their 3-D models. This activity will demonstrate their knowledge and understanding of the wetlands ecosystem at the Springs Preserve.

##### **Objective:**

1. Students will review wetland ecosystems that they studied while at the Springs Preserve
2. Students will enhance their knowledge about wetlands and food chains
3. Students will practice their research skills
4. Students will learn how to make in depth 3-Dimensional models

##### **Materials:**

###### **Flat Surface Model:**

- A tray or board
- Natural materials, such as grass, dirt, rocks
- Glue
- Papier-mâché
- Craft supplies
- Animal/plant models or clay
- Paint
- String
- Markers

###### **Shoe Box Model:**

- Natural materials such as rock or dirt

- Glue
- Construction paper
- Craft supplies
- Animal/plant models or clay
- Paint
- String
- Marker

**Activity:**

1. Students should have taken notes while visiting the Springs Preserve. They may refer back to these notes once back in the classroom in order to complete this activity.
2. Students must choose a food chain consisting of at least three organisms they learned about in the cienega area at the Springs Preserve to recreate in a three-dimensional model form, including those organisms in the food chain.
3. Instruct students to write down everything they know about the cienega wetland food chain they chose. They should include information about the animals, plants, land forms, and environmental wetlands that they learned about. They will incorporate this information into the design of the wetland food chain model.
4. Once their information is gathered, instruct students to recreate a three-dimensional model. They can organize the animals in line to show the order of organisms in the food chain. They can also use a creative way of showing the order of energy transfer, such as attaching thread or string between organisms.
5. Along with the 3-D model, students should each include a short essay/paragraph to explain the relationship of their wetland organisms to each other.
6. Have each student present their model to the class and describe the food chain that they chose.

**Teacher Note:** Teachers should share with the students an example of the model the students will be using. Verbal and written directions are greatly enhanced when an example model is available for students to analyze. Students create higher-quality work when they have observed the set criteria.

**Examples of Wetland Models:**

**Example #1 - The Flat Surface Model**

The Flat Surface Model is built on a cookie tray, cake pan, or other shallow tray. The land forms are built using dirt, clay or paper mache and are then painted. The contents may include anything from mirrors for water, cellophane, toy/clay animals or plants, dirt, rocks, twigs, etc.

### Example #2 - The Shoe Box Model

The Shoe Box Model is created by taking the lid off of a shoe box, placing the box on its side and the lid under the box. If the lid is turned upside-down, it can hold part of the diorama. The objects and features in the lid and box may be assorted items, similar to the Flat Surface Model, or only construction paper, or a combination of either of these.

### **Discussion:**

Did every student have a different food chain? Was at least one organism different in some models? What would happen to a high-level organism, such as a red-racer snake or hawk, if most of the plants died at the cienega? What would happen if the amount of water in the wetland decreased by half due to drought? Would all organisms be affected? Or would only a few of the organisms be affected? Would we see those changes right away? Why or why not? Why is it important to use three-dimensional models to describe systems like this?