The Heart of a Watershed – Student Instructions

In groups of 3- 4, make a model of the historical Everglades Watershed (Part 1) and then alter it to reflect the changes that have been made to it (Part 2). Answer the questions after each part.

Part 1 - The Historic Everglades

To build the model:

- Place the pan on a flat surface. Designate a "north" side and a "south" side.
- Using toothpicks and post it tabs, make labels for each body of water.

Label:

- Lake Kissimmee
- Caloosahatchee River
- Lake Hicpochee
- "River of Grass"
- Kissimmee River
- St. Lucie River
- Lake Okeechobee
- Florida Bay

- Take the clay and spread in the northern ⅔ of the pan in the shape of the Florida peninsula. Leave the south side empty to represent Florida Bay. Label Florida Bay.
- In the center of the clay, make a 3"diameter indentation, about ½" deep to represent Lake Okeechobee. Label Lake Okeechobee.
- Using the *Map of The Historic Everglades* as a guide, make channels in the clay to represent the Kissimmee River and Lake Kissimmee, as well as the Caloosahatchee River, and St. Lucie River. Notice how the historical Caloosahatchee River barely connects with Lake Okeechobee. You can even use different colors of clay to represent each of these features in your model. Make sure the Kissimmee River meanders as it does in the diagram.
- Put toothpick labels in the model to designate locations.
- Slightly lift the north end of the pan and pour water into Lake Kissimmee and check to see if it flows into Lake Okeechobee. The lake should overflow at its southern end. Keep pouring water until water flows into Florida Bay.

Questions:

1. How long do you think it would actually take for water to flow from Lake Okeechobee down to Florida Bay?

2. What is the advantage of having a slow, steady flow of water would be to the ecosystems and animals that lived in them?

Part 2 - The Altered Everglades

- Alter your clay model to reflect the changes made to the KOE watershed.
- Using toothpicks and post it tabs, make labels for all areas listed below

Label:

- Lake Kissimmee
- Lake Okeechobee
- St. Lucie River
- ARM/Loxahatchee NWR
- Big Cypress National Preserve
- Everglades National Park
- Kissimmee River
- Caloosahatchee River
- Everglades Agricultural Areas
- Water Conservation Areas
- Tamiami Trail
- Florida Bay

- Using the *Map of The Altered Everglades* as a guide, make channels in the clay to represent the present day channelized Kissimmee River and Lake Kissimmee, as well as the Caloosahatchee River, and St. Lucie River. Notice the altered shape of the Kissimmee River is a straight channel, and the Caloosahatchee River and the St. Lucie River are now connected with Lake Okeechobee and are wider and deeper.
- Put toothpick labels in the model to designate locations.
- Slightly lift the north end of the pan and pour water into the Kissimmee River. As water flows into Lake Okeechobee and then through the Caloosahatchee and St. Lucie River, note how much of the water makes it to Florida Bay.

Questions:

1. How do the alterations to the Everglades affect the water flow to Florida Bay and to the east and west coasts of southern Florida?

2. Why were these changes made?

3. What are the advantages and disadvantages to the altered systems? Name two of each.