Title

Food Web Frenzy

Objective: Students will be able to identify and explain how food chains and webs are composed, and understand the interconnectedness of Buffalo National River wildlife, and how protecting one species can affect many.

Standards:

K-LS1-1, K-ESS3-1, K-ESS3-3, G.9.K.1, G.9.1.1, 3-LS4-3, 3-LS4-3, 6-ESS3-3, 7-LS2-1, 7-LS2-3, 7-ESS2-1

Introduction:

John Muir said, "when we try to pick out anything by itself, we find it hitched to everything else in the Universe." Muir was right in suggesting that all wildlife species are interconnected and interdependent upon each other, meaning that a change in one species can cause changes in other species as well.

Audience:

4 - 12+ and works best with at least ten participants.

Duration:

30-45 minutes

Vocabulary:

Food chain, food web, habitat, producers, primary consumers, secondary consumers, top predators

Material:

Wildlife name tags

Ball of yarn

Warm up:

Wildlife species at Buffalo National River live in a variety of habitats, but are interconnected and dependent on each other for survival, reminding us of our own dependence on the earth and moving us to protect individual species for the sake of all species.

- Defining "habitat"
 - What is a habitat?
 - The place where a plant or animal lives, including the abiotic and biotic factors within that area.

Main lesson/Activity:

- Activity 1: Drawing OR Group Discussion
 - Give participants a piece of paper and drawing utensils.

- Ask participants to draw lines to divide their paper into 4 sections.
- Instruct them to draw 4 different habitats that wildlife may live in at the Buffalo River (one habitat per quadrant).
- They can draw or write a list of plants and animals that they think would be found in each habitat.
- After everyone has finished drawing, ask each participant to describe what they drew.
- Be sure to highlight species commonly found at the Buffalo.
- This activity can be conducted as a group discussion instead, in which participants discuss habitats verbally, if desired.
- Discuss the definitions of "food chain" and "food web."
 - Food chain: a hierarchical series of organisms, each dependent on the next as a source of food.
 - Food web: a system of interlocking and interdependent food chains.
- Activity 2: Food Chain
 - Tell participants that we will now discuss food chains and food webs of wildlife at Buffalo River.
 - To depict "food chain," hand out wildlife nametags to participants (these should be chosen before the program, to ensure that the ones handed out will make a complete food chain).
 - Ask the participants to place themselves in order from the bottom of the food chain to the top.
 - After participants are in line, ask each participant to describe which habitat they live in (the hope is that multiple habitats will be represented, and that participants will see that food chains connect habitats).
 - Repeat if desired.
- Activity 3: Food Web Frenzy
 - To depict "food web," hand out an assortment of native wildlife name tags to all participants (specifics are not a concern here as long as a web can be formed with organisms such as algae, acorns, grass, seeds, tadpoles, owls, mice, coyotes, eagles, rabbits, fish, turtles, raccoons, bears, deer, berries, etc.).
 - Ask participants to form a circle.
 - Instruct participants that one person will start with the ball of yarn. They should hold the end of the string tightly and throw the ball to someone else in the circle that they are connected to (their predator or their prey). This person will hold onto the string tightly and throw the ball to someone else.
 - Continue this process until all participants are connected at least once.
 - Repeat if desired.
 - Now remove someone from the circle (they should drop their string).
 - Instruct any participants who were connected to that person to drop their string and step back.
 - Continue this process until no one is holding onto the string.
- Conclusion: We are all connected!
 - Discuss: what happened when we removed just one species from the food web? What does this tell us about the importance of protecting all species here at the Buffalo?

- \circ $\;$ What are some things that threaten the success of wildlife at the Buffalo?
- \circ What are some ways that we can protect each species? Give examples.
- How can we protect habitats for these species?