Lesson 3 – Everyone is Connected in the Web of Life

Key Concepts

- Web of life – everything is connected
- Jobs – producer, herbivore, carnivore, omnivore, detritivore/decomposer/scavenger
- Generalists & specialists, predators & prey
- Tracks, scat & bones– what is left behind as an ID tool

Materials

- *Let's Go Outside* notebooks – one for each student
- Lesson 3 Workbooks – *Web of Life Edition*
- Station boxes with samples, Fast Fact sheets, laminated images
- Sample web drawings
- Paper & markers?
- Timer
- Volunteer nametags

Set –up

- Give workbook to teacher
- Ask teacher to turn on camera projector for projecting webs in conclusion
- Students divided into 5 groups and tables/desks cleared
- Each instructor has the box of props for their station and picks a location to start
- Instructors have notebooks to hand out

1. Intro (5 minutes)

1. Welcome and introductions – Explorers in Training will acquire additional skills today
2. Recap of adaptation lesson – What is an adaptation and examples?
3. Overview of today's lesson – learning about the connections between living things on the refuge. All the pieces are important in the web of life.

2. Lecturette (10 minutes)

1. Adaptations determine the job an organism has:
    - Producer = makes food from non-living elements, generally plants
    - Herbivore = organisms that eat plants
    - Carnivore = organisms that catch and eat the flesh of animals
    - Omnivore = organism that eats both plant matter and animal flesh
    - Detritivore/Scavenger = an organism that eats decaying matter or animals killed by other organisms

2. Everybody is connected in a "web of life":
   It's easy to see how things are connected by who eats whom: Plants **produce** food using the sun (some steal it from others – saprophytes). Herbivores and omnivores eat plants and are **prey** for **predators**. Sometimes predators are in turn eaten by other predators. Waste (dead plants and animals, poop, cough pellets and

urine)is not wasted - it is recycled into nutrients and soil by fungi, bacteria, worms and insects, and/or scavenged by animals. AND there is more to the web of life – think about habitats and where an organism gets its food, water, shelter and space. This may link an organism to something else in the web – not because it eats or is eaten by another organism, but because it needs that organism for shelter.

3. Explorers use all of their senses and their great minds to 'read' clues in nature and unravel the web of life: You can use your observations of adaptations to determine what an organism's job is and you don't even need to see the whole animal to make a good guess. Since most wildlife can move, would rather not be near you (we are predators after all!)– think about what is left behind: poop, tracks and bones (Remember that owl pellet? What about a hair-filled coyote poop, or berry-filled bear scat?)

   PREY: Eyes on sides of head to see danger, eaten by others
   PREDATOR: Eyes facing forward for binocular vision, capture & eat other animals
   HERBIVORE: Clipping teeth in front, grinding teeth in back for eating plants
   CARNIVORE: Sharp teeth for holding and tearing for catching and eating animals
   OMNIVORE: Mix of all teeth, eats plants and animals
   DETRITIVORE/DECOMPOSER: Eats dead plants or animals, or waste
   SCAVENGER: Eats animals killed by another organism

3. Learning stations (30 minutes)

Each station is based on refuge habitats and includes at least one plant from Lesson 1, one bird from lesson 2, and a variety of organisms that web together. The organisms may be represented by one or several of the following: live specimen, skulls, pelts, study skins, shell, photos, illustrations, etc. Each station has large pieces of paper and markers.

1. Students examine organisms' adaptations and determine their job. SME provide novel information about the organism, directs student observations to note specific adaptations. What body parts are important to observe, where might it live, what might it eat, what time of day is it active – what is its job? Place samples on large piece of paper in preparation for next activity.
2. Build a food web for this habitat using images & samples on a large piece of paper – have students connect by drawing lines on paper with markers or have them direct you.

4. Closing (5 minutes)

1. Recap jobs and associated organisms
2. Nature is complicated doesn't follow our rules and is all connected.
   Use web illustrations to show how some organisms in one habitat are connected to organisms in another.
   Generalists use a broad range of habitat, **specialists** can only live in specific places or eat a few things. This will be important in lesson 4 - Change in Wild Communities
3. Pass out notebooks to each student and discuss recording field observations to better understand the web of life. *Note that the teacher now has a set of Wildlife Pocket Guides for use in the classroom.