# Food Chain and Food Webs

## Overview:

Food chains are all around us. People, animals, and plants depend on each other to sustain the food chain. In this lesson the students will be exposed to vocabulary that identifies the components of a food chain (producer, consumer, and decomposer). They will label components of a food chain using the appropriate label related to food chains.

## Procedure:

Over the course of five or more days the students will examine components of food chains through multimedia presentations and hands on exploration.

**Day 1:**

Using the attached PowerPoint screens to introduce food chains that the students may encounter in their environment. Teacher led discussion about what/who "eats" what. Guide the students to notice the sun in each food chain. After using the PowerPoint, introduce a food chain game using available classroom technology. The food chain game www.sheppardsoftware.com/content/animals/kidscorner/games/foodchaingame.htm

**Day 2:**

Using molds of animal tracks the students will match pictures of animals with the animal track molds. Use the animal tracks and pictures of animals to discuss which animal would have eaten who. Using cut and paste pictures have students recreate food chains. Animal Track Molds can be found at www.acornnaturalists.com/store/search.aspx

**Day 3:**

If possible have students explore owl pellets to track an owls activities as part of a food chain. Owl pellets can be purchased at www.acornnaturalists.com/store/search.aspx if the school district does not have them as part of an established science program.
Explain to the students that owl pellets will show what an owl has eaten. Discuss what an owl pellet is and why they are being used to look at food chains. Hand out owl pellets and tweezers to each student. Some students may need additional help using the tweezers. Have the students look through the pellets and hunt for bones. Ask the students what animals that they believe the owl ate.

**Day 4:**

Demonstrate a food chain using cereal boxes that are painted and have pictures of plants and animals on them. www.state.me.us/dacf/php/integrated_pest_management/school-ipm-curricula/elementary/documents/45_U1_L1_EverybodyIs.pdf

To demonstrate how a food chain works, set up a display, using boxes to represent the various parts of a food chain (herbivore, carnivore, decomposer). Each box represents a link in the food chain and is placed so that if you push on the Decomposers box, the rest will fall like dominoes, and if you remove a box from the row, the boxes beyond that one will remain standing when you push the Decomposers box over.

The action of the falling boxes symbolizes one animal receiving food from the preceding member of the food chain. When all of the boxes have fallen, it means that all of the links (members) have connected (eaten) and will survive. If a box remains standing, it means that a link of the food chain has not connected with (eaten) its food source and is in danger of dying.

Demonstrate a cereal box food chain by pasting on the following pictures or words: Hawk (bird of prey), Snake, Songbird, Ladybug, Aphid, Plant, and Decomposer. Show the children how a missing link in the food chain, in this case the ladybug, affects all of the other creatures in the chain. Set the boxes up in this order: Hawk, Snake, Songbird, Ladybug, Aphid, Plant, and Decomposer. Remove the Ladybug box from the row. Tell the participants that pesticides killed all of the ladybugs. Make sure the boxes are spaced so that the Aphid box will not touch the Songbird box when it falls. Push the Decomposers box over. The Songbird, Snake, and Hawk boxes will still be standing. This activity physically depicts that without some members of the food chain, other members of the food chain could be in danger of extinction.

Ask the children to determine which would be the bottom (Decomposers) and which would be the top (Hawk) of the food chain.

**Day 5:**
Hand out pictures of plants and animals for the students to color. Have some samples made so that the students color them correctly. Pictures can be printed out from the following Web site: http://forces.si.edu/main/pdf/2-5-WeavingTheWeb.pdf

Give the students long pieces of paper. Have them lay out possible food chains. There are endless possibilities.

Another option is to hand out magazines and have students cut pictures of plants and animals to create their own food chain by wearing a picture around their neck and placing themselves appropriately in a food chain. Using signs labeled with producer, consumer, and decomposer have students take turns labeling the pictures others are wearing.
After students have created their own food chain, lay out pictures of plants and animals in a circle. Give one student yarn and have them create a food chain. Have the next person start with the same plant or animal as the previous person. Make a different food chain.
Show how many chains make a web. http://forces.si.edu/main/pdf/2-5-WeavingTheWeb.pdf

## ASOL Covered in this Activity:
## ASOL 3S-LPS 6
The student will investigate and understand relationships among organisms in aquatic and terrestrial food chains. Key concepts include:
producer, consumer, and decomposer

Extension Idea:
Food Chain Song (Heath) - www.youtube.com/watch?v=ttpNGJcpJ68
Food Chain Song (Maria Dolores Sanchez) - https://www.youtube.com/watch?v=BdsFu- vl594

This song has no words - just pictures. As the students watch the video, pause it. Are they able to use the words "producers," "consumers," and "decomposers" appropriately? What other observations do they have? Are there other animals or plants that could be eaten?

## ASOL 3S-LPS 6:

The student will investigate and understand relationships among organisms in aquatic and terrestrial food chains. Key concepts include:
predator and prey

Extension Idea: Play a predator and prey game. You can choose to either play tag or a version of "Duck, Duck, Goose." You could play "Mouse, Mouse, Fox" where the fox chases the mouse or "Deer, Deer, Bear." You can choose what you would like to play. Studies show that movement makes the brain work better.

**ASOL 3S-SI:**
The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which:
observations and predictions are made and questions formed

Extension Idea: Students can read the following book on the SmartBoard screen. At the end of the book, can students identify relationships between plants and/or animals in the text? Food Chains, http://tarheelreader.org/2009/10/25/food-chains/

## ASOL 5S-SI 1:

The student will demonstrate an understanding of scientific logic, and the nature of science by planning and conducting investigations in which
Distinctions are made among observations, conclusions, inferences, and predictions.

## ASOL 5S-SI 2:

The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigations in which
i) Inferences are constructed and conclusions are drawn.

## ASOL 5S-LPS 2:

The student will investigate and understand how plants and animals, including humans, in an ecosystem interact with one another with the nonliving components in the ecosystem. Key components include flow of energy through food webs.

## ASOL 8S-ECO 2:

The student will investigate and understand that organisms within an ecosystem are dependent on one another and on nonliving components of the environment. Key concepts include
Energy flow in food webs and energy pyramids.

## ASOL 8S-ECO 4:
The student will investigate and understand interactions among populations in a biological community. Key concepts include the relationships among producers, consumers, and decomposers in food webs. the relationship between predators and prey.

## Related ASOLS

## ASOL 3E-RW 5:
The student will: recognize 10 or more written words

## ASOL 5E-CN 1:
The student will: make connections between two individuals or events/actions in a nonfiction text

Extension Idea: Read the book *Around the House: The Fox Chased the Mouse. A Prepositional Tale* by Rick Walton and Jim Bradshaw. Use the Web site below to print out a laminated book with Velcro pictures and words to reinforce prepositions from the book. http://chapelhillsnippets.blogspot.com/2014/02/around-house-fox-chased-mouse- free.html Can students use the appropriate preposition word for where the mouse is during the story? Can the students match words from the book with the Velcro words the teacher has made?

## Materials Needed:
PowerPoint, animal tracks and pictures of the animal to pair with the tracks, owl pellets and tweezers, cereal boxes painted with animals and plants glued on them, animal and plant pictures to color, laminated pictures of plants and animals to order in food chains, yarn, hole punch, *Around the House: The Fox Chased the Mouse. A Prepositional Tale* by Rick Walton and Jim Bradshaw.

## Instructional Setting:
General education or Special education classroom**.**

## Community Connections and/or Peer Interaction:
-Take a field trip and investigate the food chains in local parks or wooded areas around you.
-Plan a trip to a science museum.
-Partner with typically developing peers to complete activities.

## Functional Activity/Routine:

-When have pictures to be cut run on cardstock for ease in cutting.
-For the owl pellet activity, use a video of opening a pellet and show the class so that they can follow the steps.

## Strategies to Collect Evidence:

Can the students line up the cereal boxes to create an appropriate food chain? Take data.

Can the students make their own food chain from the pictures they colored? Do they label "producer," "consumer," and "decomposer" correctly?

Put plants and animals around students with yarn. Have another student line them up in order.

## Specific Options for Differentiating this Activity:

-Provide choice boards and/or voice output devices with vocabulary and content to allow students to ask and answer questions.
-Partner with typically developing peers to assist in dissecting the owl pellets.
-Contact local wildlife agency to conduct an in school field trip.
-Attach Velcro to pictures of animals to allow students to label them as producer, consumer, and decomposer.

# Food Chains

By: Mrs. Wright

What eats what?

# A Food Chain in a VA Forest

# Courtyard Pond Food Chain

# Ms. Wright's Farm Food Chain

# Aquatic Food Chain