## Wetland Connections Activity Packet



## Minnesota Valley National Wildlife Refuge

Grade Level: 3-5

#### Activities in this packet:

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- Video Links
  - Why Wetlands? A Wetland Experiment! <u>https://youtu.be/BSbLdOBXjEk</u>
  - Story-time: 'Squish! A Wetland Walk' by Nancy Luenn <u>https://youtu.be/</u> gKAprg0D6AA
- Want to visit a wetland? Check out our Bass Ponds Trailhead in Bloomington, MN:

Bass Ponds Trailhead, 2501 86th St E, Bloomington, MN 55425



## Wetland Connections How to Build a Wetland Model



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#### Gather these materials:

- A large tray or cake pan
- Clay (if you don't have clay you can make homemade play dough)
- Sponge(s)



- Soil (used in the second experiment)
- Tarp (optional)



#### Making your wetland model:

- 1. Begin by using clay to build a slope on one end of the tray, to represent land.
- 2. Use the clay to create features such as streams and hills.
- Place a large sponge(s) in the middle of the tray, to represent the wetland.
- Leave the remaining end of the tray open to represent a lake or ocean. Raise the 'land' end of the tray up slightly to create a slope.
- 5. The muddy water in the container will be used to simulate rain on the land.
- For the first experiment test how rain (muddy water) will move across the land with and without a wetland (sponges)
- For the second experiment test how runoff (the soil) will move into a body of water with and without a wetland (sponges).



Watch the video: https://youtu.be/BSbLdOBXjEk

## Wetland Connections Wetland Food Chains

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### Understanding food chains:

In a food chain, energy is transfered from the sun to plants (producers), to the creatures that eat those plants (consumers) and finally to the creatures that eat each other (consumers).

- Create your own food chain. For example, starting with the sun, algae grows in a pond. Minnows eat the algae. Small bass in the pond eat the minnows. Walleyes eat small bass. And, an eagle eats a walleye.
- 2. The arrows show how energy is transferred to the next plant or animal.

Sun  $\rightarrow$  Algae  $\rightarrow$  Minnow  $\rightarrow$  Small bass



Vocabulary to know: Producer: a living thing that can make it's own food

**Consumer:** a living thing that eats other living things for energy **Food chain:** a series of living things that are dependent on the next as a source of food

*List some wetland plants and animals in the box below:* 

Now list the words from above in the spaces below to make your own food chain:

Eagle ← Walleye ∠

#### Vocabulary to know:

**Food web:** A diagram of many interconnected food chains showing the flow of energy though different organisms in an ecosystem.

3. Food chains, like the one you created on the previous page, are not the only connections made in the natural world. Look at the figure below to see how many plants and creatures are connected in the transfer of energy. Many food chains together become a food web.



*List some wetland plants and animals in the box below. Then, draw arrows to connect them from producer to consumer to create a food web:* 

## Wetland Connections A Wetland Web



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#### Gather these materials:

- 2-3 people
- An assortment of wetland plant and animal pictures on page 6
- Yarn
- 1. Continuing from the "Wetland Food Chains Activity," randomly pass the pictures to all team members until all pictures are used.
- 2. Start with the lowest component of the food web, the sun. Pass the ball of yarn to team members to connect the components of the wetland food web, moving up from producers to consumers.
  - For example, the sun passes the yarn to the algae, algae passes the yarn to the diving beetle, the diving beetle passes the yarn to the minnow, the minnow passes the yarn to the walleye, the walleye passes the yarn to the eagle. You can then go back down the food chain passing from the eagle to the merganser, merganser to the minnow, minnow to the water strider and so on.
- 3. Continue until everyone is connected to several people in several ways. As you go along, discuss what each connection or relationship is. Also, discuss how these things might depend on each other.
- 4. Once everyone is connected, remove one component of the web (e.g. there are no insects to eat because of pollution). The insect person gently shakes his or her strings. All members who feel the shake then shake their strings as well. This continues until it is demonstrated that every component is affected. Discuss how the various components are affected when one component of the web is removed.
- 5. Discuss other things that might impact the wetland. For example, if water was drained from the wetland, what would happen to each component?
- 6. Now come up with other scenarios that might impact the wetland, such as too many fish are caught or weeds are removed so there are no plants in the water.
- 7. Finally, discuss some solutions for these problems. For example, biologists could plant different wetland vegetation or better habitat is created for fish.

# **Wetland Plants and Animals**

Cut out the pictures below to use with the activity on page 5













Diving Beetle by V. Kapu, Creative Commons

Minnow by USFWS













Leopard Frog by smastonlee05,

**Creative Commons** 



