



## About Earth Day

In 1970, the first Earth Day was celebrated by a gathering of Environmental Activist spearheaded by Senator Gaylord Nelson, the junior senator from Wisconsin, who had long been concerned about the deteriorating environment in the United States. Then in January 1969, there was a massive oil spill in Santa Barbara, California. Senator Nelson wanted to infuse energy into an emerging public consciousness about air and water pollution. Senator Nelson announced the idea for a teach-in on college campuses to the national media, and persuaded Pete McCloskey to serve as his co-chair. They recruited Denis

Hayes, a young activist, to organize the campus teach-ins and they choose April 22, a weekday falling between Spring Break and Final Exams, to maximize the greatest student participation.

Recognizing its potential to inspire *all Americans*, Hayes built a national staff of 85 to promote events across the United States and the effort soon broadened to include a wide range of organizations. They changed the name to Earth Day, which immediately sparked national media attention, and caught on across the country. Earth Day inspired Americans to demonstrate against the impacts of 150 years of industrial development which had left a growing legacy of serious human health impacts. Thousands of colleges and universities organized protests against the deterioration of the environment and there were massive coast-to-coast rallies in cities, towns, and communities.

Groups that had been fighting individually against oil spills, polluting factories and power plants, raw sewage, toxic dumps, pesticides, freeways, the loss of wilderness and the extinction of wildlife united on Earth Day around these shared common values. Earth Day 1970 achieved a rare political alignment, enlisting support from Republicans and Democrats, rich and poor, urban dwellers and farmers, business and labor leaders. By the end of 1970, the first Earth Day led to the creation of the United States Environmental Protection Agency and the passage of other first of their kind environmental laws, including the National Environmental Education Act, the Occupational Safety and Health Act, and the Clean Air Act. Two years later Congress passed the Clean Water Act. A year after that, Congress passed the Endangered Species Act and soon after the Federal Insecticide, Fungicide, and Rodenticide Act. These laws have protected millions of men, women and children from disease and death and have protected hundreds of species from extinction.

## Earth Day Became a Worldwide Celebration in 1990

In 1990, Earth Day went global, lifting environmental issues onto the world stage. Earth Day 1990 gave a huge boost to recycling efforts worldwide and helped pave the way for the 1992 United Nations Earth Summit in Rio de Janeiro. It also prompted President Bill Clinton to award Senator Nelson the Presidential Medal of Freedom for his role as Earth Day founder.

Today, Earth Day is observed by over a billion people in the world as a day of action to change human behavior and create global, national and local policy changes.

For a quick video primer visit: <https://youtu.be/6WA8FpGI5Sw> (***What is Earth Day? The History by Untamed Science***). To prepare your students for Earth Day, select a few lessons or activities from the list below.

# Earth Day Activities

## Concept: Habitat

When looking at different habitats, riparian, wetlands, woodlands, prairie and badlands, identify threats to each habitat and how they will affect the wildlife species that live there. Use the Habitats of North Dakota texts.

<https://gf.nd.gov/education/habitats-of-nd>.

Once different threats are identified, have students suggest solutions to the habitat threats.

What is a habitat? Habitat is made up of Food, Water, Shelter and space. Every living thing requires all of these elements to survive. Using the lesson from Project WILD, Habitat Lap Sit, explore how the habitat components affect wildlife.

[https://www.fws.gov/uploadedFiles/Region\\_1/NWRS/Zone\\_2/Inland Northwest Complex/Turnbull/Documents/EE/Field\\_Trip/Habitat%20Lap%20Sit.pdf](https://www.fws.gov/uploadedFiles/Region_1/NWRS/Zone_2/Inland_Northwest_Complex/Turnbull/Documents/EE/Field_Trip/Habitat%20Lap%20Sit.pdf)

## Concept: Habitat and Food Webs

### Food Web

**Objective:** Students will begin to understand the nature of biodiversity by building a food web. They will observe how all living things are connected within an ecosystem.

**Materials:** Large open area in which to build the web, animal and plant cards found on the next page (one card per student, pictures and facts included, glue these to index cards), one to two large balls of yarn or other string.

**Procedure:** Introduce the idea of ecosystem and biodiversity. All living things are connected within an ecosystem. Ask for examples of predator/prey relationships in an ecosystem (bird/spider, spider/ladybug, ladybug/aphid, and aphid/flower). Talk about how some things in the ecosystem eat the waste products of other things (worms and millipedes eat rotting vegetable matter, scavengers eat dead animals), which in turn ends up back in the soil in the form of nutrients for plants.

Give each student an animal or plant card. The card will say what the organism eats or needs to survive and what eats or preys upon the organism.

Review the rules of the game with the students.

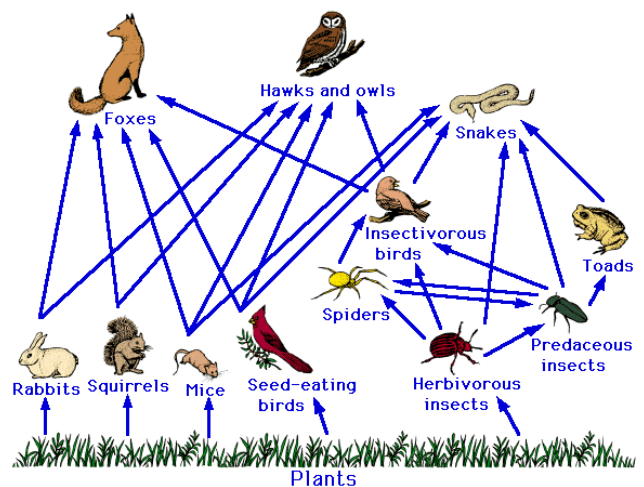
- Do not pull on the string.
- Do not let go of the string unless directed by the teacher.
- Hold onto your own card.
- Hold the card so everyone can see the organism.

Choose one student to start. She will read her card, saying what organism she is, and what she eats. Holding onto the end of the string, she will pass the remaining string to one of her "prey" (an organism she eats).

The next student (the "prey") will do the same: read their card, hold the string and pass the remaining string onto a "prey." There are now three students connected by the string.

Students will continue in this manner until all students are connected to at least three other students with string, creating the pollinator garden food web.



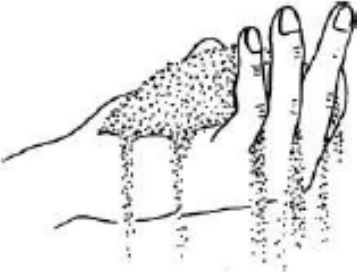
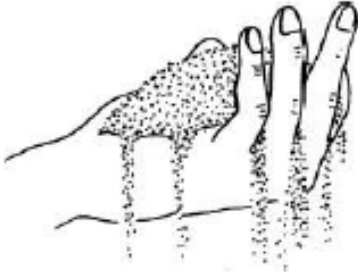
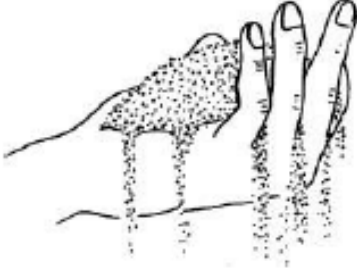
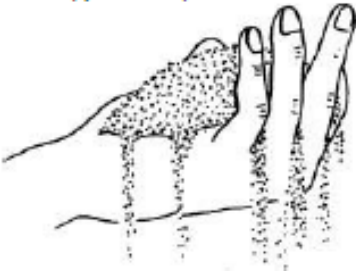
Continue to pass the string until all students are connected by the "food web," many will be connected more than once. Discuss what the students see as they look at the web.



**Extension 1:**

1. Demonstrate how all living things are connected in the ecosystem, and what happens if an organism is endangered or goes extinct. Give an ecosystem scenario about one organism that dies out (ex. grasshopper).
2. The “grasshopper” student will let go of the string at their point. Animals that eat the grass-hopper will lose a food source. If this is their only food, they will die. They drop the string. Continue with the chain of reactions.
3. What does the web look like without some of these organisms? Discuss how organisms are connected within the ecosystem.

**Animal/Plant Cards**

<p><b>Ladybug</b></p> <p><i>Eats:</i> Aphids</p> 	<p><b>Water</b></p> <p>All animals and plants require water for their survival:</p> <p>Insects: Monarch butterflies, grasshoppers, ladybugs, aphids, mosquitos</p> <p>Plants: Milkweed, juneberry, wild rose, native grass</p> <p>Animals: Earthworm, white-tailed deer, coyote, bobcat, raccoon, pheasant, cottontail rabbit</p> 
<p><b>Compost (Soil)</b></p> <p>When these die, they feed the soil:</p> <p>Insects: Monarch butterflies, grasshoppers, ladybugs, aphids, mosquitos</p> <p>Plants: Milkweed, juneberry, wild rose, native grass</p> <p>Animals: Earthworm, white-tailed deer, coyote, bobcat, raccoon, pheasant, cottontail rabbit</p> 	<p><b>Compost (Soil)</b></p> <p>When these die, they feed the soil:</p> <p>Insects: Monarch butterflies, grasshoppers, ladybugs, aphids, mosquitos</p> <p>Plants: Milkweed, juneberry, wild rose, native grass</p> <p>Animals: Earthworm, white-tailed deer, coyote, bobcat, raccoon, pheasant, cottontail rabbit</p> 
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## Bee

*Eats nectar from:*

Wild Rose

Juneberry bush

Milkweed

*Produces:*

Honey



## Raccoon

*Eats:*

Butterfly

Earthworm

Juneberries

Grasshopper

Native grass

Pheasant eggs



## Ring-necked Pheasant

*Eats:*

Juneberries

Wild rose

Grasshoppers

Native grass



## Cottontail Rabbit

*Eats:*

Native grass

Juneberries



## Juneberry

*Needs:*

Water

Compost

*Produces:*

Juneberries



## Bobcat

*Eats:*

Pheasant

Cottontail rabbit

Grasshoppers

Coyote



## Grasshopper

*Eats:*

Juneberry

Wild rose

Native grass



## Native Grass

*Needs:*

Compost

Water



### Monarch Butterfly

*Eats:*

Milkweed flower  
Juneberry nectar



### Milkweed

*Needs:*

Nutrients from the soil  
Water



### Earth Worm

*Eats:*

Native grass  
Fruit  
*Produces:*  
Compost



### Coyote

*Eats:*

Pheasants  
Juneberries  
Grasshoppers  
Cottontail rabbit



### Mosquito

*Feeds on blood from:*

Coyote  
Deer  
Raccoon  
Cottontail rabbit



### White-tailed Deer

*Eats:*

Grass  
Juneberries



### Wild Prairie Rose

*Needs:*

Nutrients from the soil  
Water



### Aphid

*Eats:*

Wild rose leaves  
Juneberry leaves  
Milkweed leaves



## **Concept: Reduce, Reuse and Recycle**

One of the great themes behind Earth Day is **Reduce, Reuse and Recycle**.

Examine, materials you use in your classroom or at home by looking at materials in your trash can.

How many items could be reused or recycled?

Can you reuse the supplies that are not disposable? If so, what?

Set up recycle bins throughout the school or home if not in use.

After 2 weeks, assess the change in the contents amount of trash versus Recycle bins. How have the contents changed?



## **Ways Celebrate Earth Day!!**

### **Enjoy Earth Day Olympics!**

Possible events include:

*Team trash pick-up.* Divide class into groups and set a time limit. Give each group a different section of the school grounds to pick up trash. The group with the most trash wins!

*Trowel Water Bucket Brigade.* Gather 2 buckets that are the same size. Fill one bucket full of water. Place about 50 yards away. Have the second bucket at the starting line. Divide students into teams, each team has 2 buckets. Using a trowel have student line up behind the starting line and run down to the full bucket. Scoop out water from the bucket into the trowel and carefully carry it back to the empty bucket at the starting line. Continue until the full bucket is empty. The team with the most water in their bucket, wins.

### **Earth Day Journaling**

Select an outdoor spot to observe nature and draw what you see. Have students write a description in paragraph form or write a poem.

### **Plant an Earth Day Garden**



Make plans to plant either a vegetable garden or native plant/pollinator garden. Be sure to plant after danger of frost in your area.

### **Enjoy a Nature Hike!**

Hike around the school neighborhood, visit a local park or plan a special field trip.



## Conduct an Earth Day Quest!

Using the Earth Day Quest Card below, see how many squares students find. (Have small prizes for winners!)

### Earth Day Quest

Find traces of an animal running



Find scat on a hard surface like a rock.



Find pellet like scat. What type of animal left it behind?

What animals leave tracks with claw marks?



Find evidence of an animal that is not a track or scat

Find a place where a plant eating animal ate.

Find bird tracks or droppings



Find evidence that a deer was in the area.



Locate a place where an animal rested. How can you tell?



Evidence that other people and animals share the same habitat.



## Fish Print!



Make some fish prints to remind you how important clean water is to the earth. A fish print kit can be checked out at the ND Game and Fish Headquarters.

**Gyotaku** (Japanese 魚拓, from gyo "fish" + taku "rubbing") is a traditional form of Japanese fish printing, dating from the mid-19th century, a form of nature printing used by fishermen to record their catches. Fish printing is a perfect way to combine science (fish diversity, anatomy, ecology) art (create colorful displays), reading (combine with fish stories) and writing (write fact or fiction about the fish) while practicing the ageless art of Gyotaku or fish printing.

**Procedure** - Apply any type of water based ink or paint to the fish with soft brush. Apply gently but in all directions. When applying paint or ink, work quickly so that it doesn't dry and apply only a thin layer. You may need to experiment to get just the right amount of paint on the fish. You can also color the scales with different colors of ink for dramatic effects.

Place the paper over the painted fish with one hand so it does not move and gently press the paper down over the entire fish making sure all areas of the fish are transferred to the paper. Gently lift your paper off the fish and place it on a clean surface to dry. Drying time varies depending on weather and room conditions.

When you look at the print a smudge means the paper or the fish slipped. A blank spot means that there was not enough paint or you did not press the paper down in that spot.

If paint remains on the fish, you can quickly press the same paper down on the fish in a different spot from the first print and make a "ghost print".

## Make Earth Friendly Art!

- Make art that is earth friendly. Re-use paper by a paper mache project or making handmade paper.
- Paint clay flower pots and plant flowers in them.
- Make bird feeders out of re-usable materials
- Tie die t-shirts made from natural die.





