



Food for All

Grade Level: 5-8

Subject Areas: science, math

Duration:

Preparation - 10-40 minutes depending on the feeder style chosen and the availability of materials.

Activity, Part 1 - 20-50 minutes depending on the feeder style chosen. Activity Part 2 - 3 weeks to several months.

Setting:

Classroom and Outdoors

Group Size:

1-30 students

Materials:

see specific feeder plans for exact materials needed.

Skills Used:

constructing, observation, data collection, analysis, graphing.

Vocabulary:

migration, habitat, predator

Project BEAK Links:

- [Birds and People - Conservation](#)
- [Birds and People - Recreation](#)
- [Birding Basics](#)

OBJECTIVES

- Students will begin to understand the preferences birds have for specific foods.
- Students will count and identify the visitors to their feeders and graph their results.
- Students will gain an appreciation for birds and their basic needs.

Nebraska State Science Standards

- 5.2.1, 8.2.1, 8.4.3, 8.4.4, 8.4.5

Nebraska State Math Standards

- 5.4.1, 6.4.1, 7.4.1, 7.4.2

BACKGROUND

Although birds typically do not need feeders to survive, the educational value and connection with nature that is made when you and your students hang a feeder and watch the visitors is immeasurable.

Most birds can, and do, find food naturally in the wild. When food becomes scarce in the fall, many birds migrate to warmer climates where more food is readily available. It is during these times that it can be important to feed birds which remain in the colder climates.

Winter bird feeding can be extremely enjoyable as many wildlife species easily seen in the spring, summer, and fall have become sparse. A bright red Cardinal feeding at your feeder with a backdrop of white snow is an amazing sight. Or, a Blue Jay squawking on a silent winter morning can be enthralling.

When should you feed birds? Most people believe winter is the most important time to feed birds. And, although this is a great time to feed birds, it is also good to feed birds in the spring when many insects have not emerged, seeds have not yet grown, and flowers are just beginning to bud. Additionally, at this time, many bird species have returned from their wintering grounds and are extremely active building nests,

courting a mate, mating, laying eggs, and even raising young. At this time, a steady supply of food is a must for birds.

The fall can also be a great time to feed birds. As many birds begin their migration they are looking for extra food to add pounds to help with the lengthy flight.

The truth is any time of the year is a good time to feed birds. If for no other reason that it helps you understand and appreciate nature in your own school yard, backyard, and neighborhood.

How should you feed birds? It depends on what type of bird you are trying to attract. A thistle feeder works great for finches, but not for cardinals. On the other hand, a ground feeder works great for doves, robins, and thrushes, but not for nuthatches. And, suet feeders are a must for woodpeckers, but will not attract juncos.

For specific feeders and seeds to use for specific birds, visit Project Feeder Watch's "About Birds and Bird Feeding" Webpage at www.birds.cornell.edu/pfw/AboutBirdsandFeeding/abtbirds_index.html.

Where should you place your feeders? If you plan to observe your feeders and analyze who visits it, it is important to place

the feeder near a window or location where you can observe the birds without being seen by the birds. If you place them by a window, place the feeders at least 30 feet from the window to help prevent birds from striking the windows.

You should also place the feeder away from any potential threats to the birds such as cats (keep them indoors) and power lines.

Additionally, locating your feeders near trees or shrubs is important. This allows the birds visiting the feeders to hide and escape predators. The trees and shrubs provide birds with a sense of security and will encourage them to return to your feeder often.

A note on cleaning and care: If you make the decision to have a bird feeder, you also make the decision to clean and care for your feeder on a regular basis. Cleaning bird feeders with water and a mild dish soap will help prevent the spread of disease to birds which visit the feeder. You may want to wear gloves when cleaning the feeder. Another consideration is making sure your feeder is full of food. Although birds can find food in other places and letting your feeder go empty for a couple of days is not a problem, you should take care to fill the feeder regularly.

ACTIVITY, PART 1

Provide students with materials and instructions to create the feeder of their choice. Additionally, you can provide students with the opportunity to create their own, unique feeder.

Have students fill their feeder with the proper seed and choose a place to hang their feeder outside the school. You may want students to choose a central location where all feeders are located, or you may wish to allow students to hang their feeder separate from other students.

ACTIVITY, PART 2

Once feeders have been in place and filled consistently for several weeks, explain to students that they are going to conduct an experiment to determine what species and how many birds are visiting the feeders. You can organize the investigation in many ways:

- Which birds prefer each different type of feeder;
- Which birds prefer each different type of seed;

- A simple investigation of how many birds come to all the feeders collectively;
- An investigation of what bird species come to the feeder at different times of the day (i.e. morning visitors vs. afternoon visitors).

Once data has been collected, have students graph the results using a graphing software program such as Excel.

EXTENSIONS

- Ask students to conduct the same experiment at home, compare results with the investigation done at school and with other students results.
- Become a Project Feeder Watch participating school. For more information, visit www.birds.cornell.edu/pfw.
- Have an open house where students can show their bird feeders to their parents and share the results of their investigation.

ASSESSMENT

- Have a classroom discussion about the results of your investigations. What effect would moving the location of the feeders have on the results? What effect would changing the design of the feeders or the type of seed used have on the results?
- Have students prepare a written reports explaining the methods and results of their investigation.

ADDITIONAL RESOURCES: WEBSITES

- Cornell Lab of Ornithology, Project Feeder Watch www.birds.cornell.edu/pfw/
- National Bird-Feeding Society www.birdfeeding.org
- Audubon at Home audubonathome.org/birdstohelp/
- Birding Around Your Yard and Around the World www.wildbirds.com
- Project Wild Bird www.projectwildbird.org

ADDITIONAL RESOURCES: BOOKS

- Wild About Birds: The DNR Feeding Guide by Carol L. Henderson
Publisher: Minnesota DNR (1995)
ISBN: 0-9647451-0-0
- National Wildlife Federation: Attracting Birds, Butterflies, and Other Backyard Wildlife by David Mizejewski
Publisher: Creative Homeowner
ISBN: 1-58011-150-5
- The Audubon Backyard Birdwatcher: Birdfeeders and Bird Gardens by Robert Burton and Stephen Kress
Publisher: Thunder Bay Press (2002)
ISBN-10: 1571451862
ISBN-13: 978-1571451866
- Attracting Birds to Your Backyard: 536 Ways to Create a Haven for Your Favorite Birds by Sally Roth
Publisher: Rodale Books (2003)
ISBN-10: 0875968929
ISBN-13: 978-0875968926
- The FeederWatcher's Guide to Bird Feeding by Jack Griggs and Margaret Barker
Publisher: Collins Reference (2000)
ISBN-10: 0062737449
ISBN-13: 978-0062737441

PERMISSIONS & CREDITS

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Bird Feeder Designs: Pinecone Feeder

Materials: pinecone, peanut butter or shortening, bird seed, string.

Instructions:

1. Begin with a large pinecone. Tie a string around the top.
2. While holding the sting, coat the pinecone in shortening or peanut butter. You can also use rendered animal fat.
3. Roll the coated pinecone in birdseed or corn meal.
4. Hang the pinecone from a tree branch. Enjoy!



Bird Feeder Designs: Milk Jug Feeder

Materials: 1-gallon milk jug with lid, utility knife or scissors, string, bird seed.

Instructions:

1. Begin with a clean 1-gallon milk jug. Make sure the lid is on the jug.
2. With the milk jug sitting flat on a surface, cut two large holes (approx. 3-4 inches) on two adjacent sides opposite the handle. Make sure the holes are at least 2 inches from the bottom of the jug so it will hold the bird seed.
3. Using a utility knife or nail, poke two holes in the top. Thread a strong string through the two holes and tie a knot at the top.
4. Place seed in the jug. Hang the feeder from a branch. Enjoy!



Bird Feeder Designs: String Feeder

Materials: large needle, thick thread, 1 or more of the following: cranberries, popcorn, small bread pieces, raisins.

Instructions:

1. String the thread through the needle, you may want to double up the thread to make it stronger. The string should be at least 2 feet long, but can be longer.
2. Thread the food (cranberries, popcorn, etc.) onto the string.
3. Hang the completed string on a branch or deck railing. Enjoy!



Bird Feeder Designs: Ground Feeder

Materials: metal pie pan or other shallow pan, bird seed, nails (optional).

Instructions:

1. Place a metal pie pan on the ground. You may want to place the feeder on an old tree stump or wooden deck railing where you can nail the pan to the stump/railing to prevent it from blowing away.
2. Fill with bird seed. Enjoy!



Bird Feeder Designs: Mesh Bag Feeder

Materials: small mesh bag, string, bird seed (larger seed for bags with larger holes, smaller seed like thistle for bags with small holes).

Instructions:

1. Fill a small mesh bag with bird seed. Make sure the size of the bird seed is compatible with the size of the holes in the mesh bag so birds can get the seed out.
2. Loop a string through the top of the bag. Hang it from a branch. Enjoy!



Bird Feeder Designs: String Feeder

Materials: 2-liter soda bottle with cap, wooden dowel or stick (approx. 9 inches long), string, bird seed, utility knife.

Instructions:

1. Begin by cutting a whole just big enough for the dowel/stick on opposite sides of the bottle about 3 inches from the bottom. Push the dowel/stick through the bottle so it sticks out about 1½ inches on either side.
2. About 1½ inches above each perch, cut a small hole large enough for the bird to get the seed out.
2. Punch two small holes on opposite sides of the top of the bottle. Thread the string through the holes; tie in a knot.
3. Unscrew the bottle lid and using a funnel fill the bottle with seed. Replace the cap. Hang from a branch. Enjoy!

