

BUILD A BIRD FEEDER



Did you know that there are about 10,000 different types of birds in the world? You don't have to go far to see some of them. Birds live outside in backyards and parks and can even be found in a busy city! Do you know what kinds of birds live in your neighborhood? Have you ever taken a close look at the birds you see in your backyard to identify them and observe their behavior? In this activity, you will build a bird feeder to attract birds, so you can study them.

GRADE LEVELS: K-8

VOCABULARY

Ornithology- *The scientific study of birds.*

Ecology- *the branch of biology that deals with the relations of organisms to one another and to their physical surroundings.*

Oxygen- *a colorless, odorless reactive gas, the chemical element of atomic number 8 and the life-supporting component of the air.*

MATERIALS

- Plastic milk/juice container with cap
- Scissors or craft knife
- Wooden dowel, twig, or wooden coffee stirrer
- Bird seeds
- Mini cup(s)
- Water
- Tape
- Optional: paper plate
- Possible decorations: tree bark, shells, stones, stickers, etc.
- Note: Make sure that any materials you use to decorate the bird feeders are safe for the birds. If possible, stick to as many natural materials as possible.
- Optional: paintbrushes, when using paint
- Glue or glue gun
- Twine, yarn, or thin rope
- Pen or pencil
- Binoculars (optional)
- Bird field guide (optional)
- Lab notebook

PROCEDURE

PREP WORK

1. Clean out the milk or juice container with warm water and soap. Let the container dry completely.

INSTRUCTIONS

1. Ask an adult to help you cut an opening into the flat side of the container. The opening should be at least one inch above the bottom of the container and at least three inches in diameter.
2. Use tape to cover the sharp edges of the opening so the birds don't get harmed when coming into your bird feeder.
3. Cut a small hole below the opening and insert a wooden dowel or stick to build a perch for the birds. Secure the stick in place with glue.
4. Glue one or more mini cups onto the floor of your bird feeder or onto the inside walls.
5. Prepare a place for your bird food. You can either put a paper plate into your bird feeder or plan to put the seeds directly in the container.
6. With the help of an adult, poke two holes on opposite sides next to the opening/cap of the container. Then thread the twine, yarn, or rope through the holes and tie the ends in a knot to create a handle.
7. Once you are done, start decorating or coloring your bird feeder. Make sure all the materials are safe for birds. Good choices are natural materials such as pebbles, shells, tree bark, etc.

What type of decoration would be best to attract the most birds?

8. Fill the bird feeder with bird seeds and add some water to the mini cup.
9. Set the bird feeder up outside. You can, for example, hang it in a tree or let it sit on a table. Observe the birds that come to your bird feeder.

What do the birds look like that visit your bird feeder? Which birds can you identify? Can you differentiate them by their appearance or their songs?

WHAT HAPPENED?

Once you set up your bird feeder, it may have taken a while before you saw birds visiting. This is because the birds first have to get used to the bird feeder that they haven't seen before, so they know it is safe. After a couple of days, you should have started seeing birds come to your bird feeder. They will come for the bird seeds and the water that you have provided for them. If you have binoculars and a field guide for birds, you might have been able to identify some of the birds you saw. Which birds live in your backyard depends on the area you live in. Different places on Earth have different birds living there.

If you tested different bird seeds in your bird feeder, you might have noticed that different birds prefer different seeds. This is because every animal has their own special diet and can only eat certain things. Some seeds that birds like to eat are millet or sunflower seeds. Depending on where you have set up your bird feeder, you may have also seen other animals besides birds come to your bird feeder, such as squirrels, mice, or rats. These animals also need to hunt for food and must find water in order to survive in the wild.

THE SCIENCE BEHIND IT

Every animal on our planet, including birds and humans, needs food, water, air, and shelter to survive. Animals need to eat regularly to get energy for their bodies to function. What kinds of foods an animal eats depends on the type of animal; some animals hunt or prey on other animals (carnivores), whereas others will search for foods like plants or fruits (herbivores) or eat both plants and fruits and other animals (omnivores). A wild bird's diet consists of plants such as grains or seeds and animals like insects, worms, or fish. Each animal chooses to live where they can find the food they need to survive.

Water is also important. An animal's body can consist of as much as 90% water. Most animals lose water when they sweat or exhale. In order to replenish their water supply, they have to drink on a regular basis. Some animals that live in the desert where there is not a lot of water get most of their water from the food they eat.

Almost every animal needs air, or a special gas called oxygen that is part of the air. Even fish that live under water need to take up oxygen with their gills. The oxygen is important to keep the processes in the body going. For example, oxygen is needed to make energy from the food an animal eats. Because birds need lots of energy and oxygen for flying, they have special air sacs in addition to their lungs for breathing.

Shelter, or a protected place to live, is important for all animals. Each animal can only live within a certain temperature range. When the temperature gets too high or too low, an animal will die. A shelter can help protect them from temperatures that are too high or too low. In addition, a shelter is a place where animals can raise their young and helps protect them from dangers such as predators. The type of shelter, or home, an animal builds or chooses can vary. Some animals build underground borrows, some build nests in trees, and others prefer to live in caves. In the wild, birds build nests made of twigs and other materials as their shelter. This is where they lay their eggs and raise their young. Some birds also live in hollow trees.

Building a place that provides birds with some of the things they need to survive, such as a **bird feeder**, is a great way to learn more about the birds in your area. A bird feeder will attract birds, allowing you to get a closer look without disturbing the birds. When bird watching, features such as the bird's size, plumage color, or beak shape help to identify a specific bird species.

People who study birds are called **ornithologists**. They try to learn as much as they can about each of the different types of birds. They study what each bird looks like, what they eat, where they fly, how they sound, and much more.

EXTENSIONS

- *In addition to using your bird feeder to find out what kinds of birds live in your neighborhood, you can also find out what kind of food these birds like best. Instead of a bird seed mix, put just one kind of bird seed into your bird feeder. Some seeds to try are sunflower seeds, millet, or corn. Then observe the bird feeder for about one week to see which birds visit the feeder. The next week, change the type of bird seed in the feeder and again observe the birds that are coming to your bird feeder. Test several different seeds this way. Which seeds are most popular? Do some types of birds prefer a specific seed?*
- *Build several bird feeders and decorate them each with different colors. Hang them up in a tree and observe how many birds come to each bird feeder. Is there a certain color that the birds are more attracted to compared to the others?*
- *Compare the types of birds that come to your feeder. Observe their size, shape, or behavior. How are they different or similar to each other?*
- *Find out more about the types of birds that come to your feeder. Where else in the world do they live? What do they usually eat? Where do they build their nests? Are they common birds or endangered? Create a report about one specific type of bird with all the information that you can find.*

RESOURCES

<https://www.sciencebuddies.org/stem-activities/build-bird-feeder#summary>

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