5

Animals, Birds, and Insects

Isn't it fun to spot a deer feeding quietly in the woods, or to spy an armadillo across a dusty road? Have you ever tried to catch a cricket or hold a ladybug in your hand and watch it crawl around? All animals, fish, reptiles, birds, and insects are wildlife that rely on the natural resources our earth provides. They need plants to eat and water to drink. They need mountains and trees and soil in which to build homes that will protect them from the heat or cold, and hide them from their enemies. Whether in the ocean, forest, desert, or the green grassy meadows, wildlife creatures need nature in order to survive. The area where they live that provides the things needed to survive is called a *habitat*. (See the Nature Note on habitats on page 94.)

Unfortunately, the natural resources and undeveloped land that once provided food and shelter to animals are beginning to disappear. In some cases wildlife creatures are forced to move into new regions to survive; in other cases they disappear altogether because of the loss of their habitat. Maybe you live in an area where you gradually see more and more deer and wild animals crossing streets and living in backyards and neighborhoods. This type of behavior often happens when animals' homes are destroyed for new construction and they

seek shelter elsewhere. Another example is when falcons and eagles can no longer nest high in the mountains, in trees, and on cliffs, and instead are forced to build their homes on top of skyscrapers and bridges.

Look around at all the new buildings, parking lots, schools, landfills, and shopping malls being built. Although the new places we build are important to people, we must be careful about how much of nature we destroy. But there is a brighter side. Many individuals and organizations, such as the World Wildlife Fund (www.worldwildlife.org), are taking steps to help protect wildlife and create safe places where wildlife can live and grow. Many companies are looking at ways to rebuild land that has been cleared for construction, or to turn old abandoned buildings into something new and exciting, such as creative living spaces or offices. Many communities are encouraging builders to restore old buildings instead of clearing land to build new ones. Communities are developing parks, nature trails, and other green spaces so that everyone can learn to appreciate our natural world.

You don't have to be an adult to help save wildlife. There are many ways you can protect wildlife, provide new sources of food and shelter, and teach others to respect animals, fish, birds, insects, and all living organisms. This chapter contains great ideas for helping wildlife. It also shows you how to make beautiful, earth-friendly art that will remind everyone that wildlife is an important part of our earth family.

Here are two wonderful books to learn more about protecting wildlife:

For Kids Who Love Animals: A Guide to Sharing the Planet by Linda Koebner. New York: Berkley Books, 1993. (Ages 4–8)

World Wildlife Fund by Jillian Powell. New York: Franklin Watts, 2001. (Ages 7–10)

Wildlife Seedling Tray

Ages 6 and under

A great way to watch animals, birds, and insects up close is to grow a wildlife garden. A wildlife garden is a special garden because it contains plants and trees that provide food and shelter for wildlife. A Wildlife Seedling Tray is the first place to start growing the plants and trees that will provide new homes and sources of food for animals, birds, and insects. You may also want to give a Wildlife Seedling Tray to someone as a gift. By doing so, you'll help to teach others that wildlife is an important part of our earth.

Materials

Cardboard egg carton
1 sheet plastic wrap, 16–20 inches long
Pen
Box of colorful markers
Gardening gloves
Spoon
Potting soil
12 packages assorted seeds
Scissors
Roll of clear tape
12 wooden craft sticks
1 cup water

1. Remove the lid from your egg carton by tearing or cutting it off. Or ask an adult to help you.
2. Cover the entire lid of your egg carton with the plastic wrap. This will be the tray for under your egg carton cups.
3. Use the pen point to gently poke one or two small holes in the bottom of each cup.
4. Use markers to decorate the sides of the egg carton. Be sure to color each cup on the outside. Use any design you choose.
5. Now turn the bottom portion of your decorated egg carton right side up.
6. Put on your gardening gloves. Add two spoonfuls of potting soil to each cup with your spoon.
7. Add your seeds. Carefully open each seed packet and put three or four seeds in each cup. Each cup should contain a different type of seed. Make sure to put the seed packet next to the cup so that you know what type of seed is in each cup.

Nature Notes

Habitats

One of the best ways to enjoy nature is by taking a walk in the woods or a meadow, and seeing animals, birds, and insects in their natural habitats. A *habitat* is a place in the environment where a creature naturally lives or grows. For example, the habitat of a polar bear is a very cold place with water nearby, such as in Alaska. The habitat for a crocodile is a warm, shady, water-filled area, such as the Florida Everglades. If you look out your window, you'll see the habitat of many animals in your neighborhood. Thick shrubs and bushes provide a natural habitat for rabbits to burrow underneath. Oak trees provide food and shelter for many types of squirrels.

8. Put two more spoonfuls of potting soil on top of each seed.
9. Gently press the potting soil down in each cup.
10. Carefully fold the top of the seed packets over so that they're sealed and no seeds will spill out. Secure with tape.
11. Tape each packet of seeds to the top of a craft stick, making sure the name of the plant seed can still be seen. It should look like a seed packet lollipop!
12. Take each seed packet lollipop and put it in the dirt near the end of each cup that contains its seeds. Fasten in place with tape. This will help you remember what type of plant is in each cup. You'll also have more seeds handy to grow another Wildlife Seedling Tray once you have planted yours in a garden outside.
13. Put your Wildlife Seedling Tray on top of the plastic-covered egg carton top. This tray will catch any water that drains from your seedling cups.
14. Finally, add a little bit of water to each cup, making sure that it does not overflow. You won't over water if you dip your finger in the water and let 5 to 10 droplets fall into each cup. You are now ready to put your Wildlife Seedling Tray in a sunny spot where it can grow. Be sure to add a

little water each week. When your seedlings begin to sprout and grow several inches high, they are ready to plant outside. Remember to add other things to your garden to make it a great place for wildlife to live. Rocks and a low-lying water dish will provide shelter and a water source for lizards, toads, and turtles. In addition, letting the grass grow tall in a patch of your garden will provide shelter and food for rabbits, chipmunks, butterflies, and dragonflies. Watch how birds, insects, and animals eat from or use your plants to make a new home.

Your Wildlife Garden

The best way to choose plants to grow in your wildlife garden is to think about the types of things wildlife needs to survive. Birds eat berries and seeds, so choose plants like sunflowers or winterberries to grow in your garden. Amphibians and water-loving creatures need moist places to live, so choose plants like ferns or hostas that need a lot of moisture, and provide shady areas for toads and turtles to hide. Here's a guide to help you get started with planting your wildlife garden.

Some plants will not grow in every climate, so ask an adult to help you to pick the best plants for the region where you live. Remember that these are only a few examples of plants that attract wildlife. A great way to learn about plants to grow, wildlife diets, and habitats where you live is to contact your local gardening club, which is often registered with your local library. (Or go to http://gardenweb.com to find a listing of gardening clubs.)

To Attract	Plant
Baltimore oriole	Apple trees
Blue jay	Oak trees, sunflowers, cornstalks
Butterflies	Grass and butterfly bush
Cardinals	Sunflowers
Dragonflies	Tall grasses, such as cattails and ribbon grass
Evening Grosbeak	Pine trees
Hummingbird	Heliconia flowers, lupine bluebonnets, and snapdragons
Goldfinch	Thistle
Ladybugs	Fennel, dill, tansy, and yarrow
Woodpeckers	Saguaro cacti, oak trees

Toad Home

Ages 7 and up

Toads are amphibians—smooth-skinned animals that are born in water and transform in shape and size as they grow into adults. They're in between fish and reptiles. A tadpole is an amphibian. When it grows to an adult it becomes a frog or a toad. Although they like living near water, toads actually prefer to be on land. They like moist and shady places, such as gardens, where they can stay cool and hidden away from enemies. They are often found hopping around at night on a summer's evening, looking for worms, beetles, and crickets to eat. This Toad Home will give them shady shelter on a sunny day.

Adult supervision required

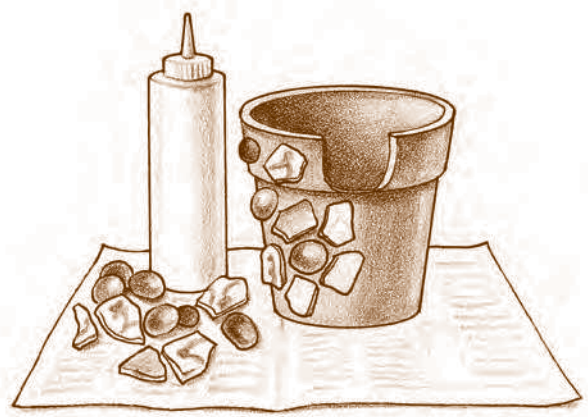
Materials

Thick rubber-palmed gardening gloves or construction gloves
Lab safety glasses or work goggles
Old or unwanted terracotta flowerpot with a drainage hole in the bottom
Old bath towel
Wooden-handled hammer
Old piece pottery or china that has been broken or discarded
3 sheets old newspaper
20 small stones or pebbles, assorted colors
Mosaic tile adhesive
Potting soil
1 rock, size of your palm

1. Ask an adult to assist you. Put on the gloves and the safety glasses to protect your hands and eyes. The adult should do so, too.
2. With the bottom opening of the terracotta pot facing up, cover it with the old bath towel.
3. Holding the towel-covered pot with one hand, ask an adult to use the hammer to gently tap away at one section of the rim of the pot. Continue tapping until a U-shaped hole about the size of your fist has been removed from the rim of the pot.
4. Uncover the pot. Hold the head of the hammer and lay the handle flat on top of the rim of the pot. Run it slowly around the rim, back and forth a few times, to smooth out any rough edges. You

may also need to move the handle like a saw, moving it forward and back, over any rough edges within the entryway you've created.

5. Put the three sheets of newspaper on a sidewalk, patio, or workbench.
6. Put the old pottery or china on top of the newspaper.
7. Cover the pottery with the bath towel.
8. Using your hammer or letting an adult do it, gently break up the pottery into 1-inch pieces.
9. Now it's time to decorate your terracotta pot. Using the mosaic tile adhesive, stick pieces of your broken pottery, stones, and pebbles all over the outside of your pot. Take care not to cover the hole on the bottom. Be sure to wear your gloves so that you're not cut by the broken pottery.
10. Let the terracotta pot dry well in the sun.
11. Find a place to set up your Toad Home that's cool and shady, where it will not be disturbed. A corner of a garden or an edge of a patio is good. Place a handful of potting soil in the center of the spot where you plan to build your Toad Home. This potting soil will be covered by the pot, but will provide a soft, moist place for the toad to sit and sleep or wait for food. Now turn the pot upside down over the handful of potting soil.
12. Loosely place more potting soil around the outside of the pot, but make sure to leave the U-shaped doorway open. Build the potting soil up around the pot so that about 2 inches of the outside of the pot is covered. Place a rock on top of the pot to cover the hole in what used to be the bottom of the pot. The weight of the decorative stones and china will help to hold your Toad Home firmly in place during summer rainstorms. On a summer's night, remove the rock on top to peek inside. With the help of a flashlight you can see how many toads have made this cool, shady hideaway their home.



Porcupine

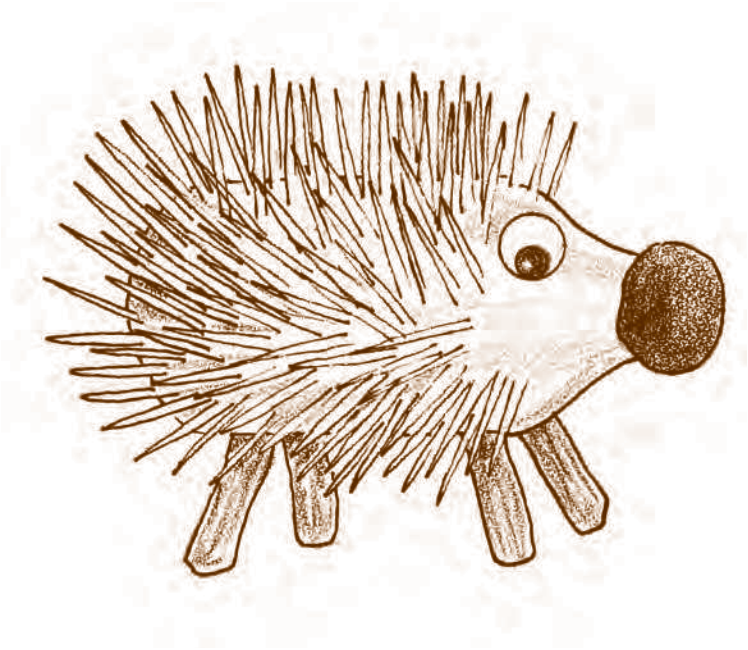
Ages 6 and under

Another way that animals protect themselves in nature is to have a defense system. Skunks use a smelly spray as a defense against enemies. Cheetahs run fast and far. Porcupines wiggle and poke potential predators with their long, prickly quills. This artistic Porcupine has prickly quills, too!

Materials

1 cup air-dry modeling clay or Homemade Salt Clay*
1 small plastic juice jug
2 wiggle eyes or 2 buttons
1 rock that will cover opening of juice bottle
4 twigs, each 1 inch long
Bag pine needles

1. Cover the plastic juice jug with modeling clay. Smooth it out all over.
2. Stick two wiggle eyes or buttons above the bottle opening and use the rock to close the opening. The rock should be larger than the opening and should stick when pressed into the modeling clay.
3. The Porcupine needs some legs. Poke the four twigs into the modeling clay on the underside of the juice bottle, two in front and two in back. (It's up to you to decide which side of the bottle will be the underside and which the top.)
4. Gently cover the entire back of the Porcupine with the pine needles.
5. If you are using dried pine needles, be very gentle. They break more easily than fresh ones. Fresh pine needles often fall off trees when seasons change or when wind, animals, or birds knock them away. After pine needles fall to the ground, they will be used by animals for nests. They decompose and are absorbed by the soil to help make it healthy for new plants to grow. We can also use pine needles for crafts, but remember to only use pine needles that you find on the ground. Pulling living leaves and needles from a tree can damage it.
6. Put the Porcupine in a sunny spot to dry, but be careful. Just like a real one, this Porcupine has very prickly quills!



*Homemade Salt Clay Recipe

Measuring cups
2 cups flour
1 cup salt
Mixing bowl
Spoon
1 cup water
1½ tablespoons vegetable oil
Measuring spoons

1. Pour flour and salt into the mixing bowl. Mix well with a spoon.
2. Slowly add all of the water and vegetable oil to the flour-and-salt mixture. Stir until it comes together in a lump.
3. Using your hands, roll and slide the lump between your palms to form a smooth ball.
4. Your Homemade Salt Clay is ready to use and shape. When you finish shaping the clay, let it dry well in a warm and sunny spot for at least one day.
5. Homemade Salt Clay can also be baked in an oven at 250° F (121° C) for 1 hour if it is used only to make shapes. But do *not* bake it when combined with plastic, twigs, stones, or any other ingredient. Remember, never use an oven or stove alone. Always ask an adult for help.

Textured Turkey

Ages 6 and under

Turkeys are a breed of bird with all types of crazy colors and textures. Baby turkeys, called *poults*, have a soft and fluffy feel from their soft *downy* feathers, or baby feathers. When these fall off, colorful new ones grow in their place. These feathers can be yellow,

Nature Notes

Feather Facts

Did you know that the average bird has from 1,000 to 4,000 feathers? In general, the larger the bird, the more feathers it has. Some larger birds, such as the turkey, have only 3,000 feathers. The duck, a smaller bird, has as many as 13,000 feathers. Each bird's feathers form a unique pattern, making the bird easy to identify and beautiful to look at. Male and female birds have different feather patterns and colors. The male birds are more colorful. But feathers also are used for protection. The millions of colors found in feathers *camouflage* (CAM-oo-flazh), or hide, a bird from its enemies. Female birds often have plain, earth-colored feathers so that they blend in well with trees or the ground as they sit on their eggs or as they protect and feed their young. Amazingly, the feathers of some birds change throughout the year. A goldfinch grows new feathers that blend in with the plants that grow during different seasons. The colors of birds' feathers come from their parents, just like our hair and eye color. The colored feathers help the birds to blend in with their environment. Feathers also protect a bird's skin, keep it warm and dry, gain the attention of other birds, and help it to fly. Birds shed their feathers during a process called *molting*, which occurs up to three times a year. Most birds molt in the spring and again at the end of the summer during nesting season. At this time birds that fly stay close to the ground while their new flying feathers grow. Feathers may be found everywhere during molting, but the feathers of many birds, such as those of songbirds, hawks, owls, and eagles, should never be picked up or taken from the spot where they were found. Instead let them be, because certain birds and their feathers are protected by the United States Fish and Wildlife Services. Check out www.fws.gov/educators/students.html for more information about birds and their protection.

brown, green, blue, black, or snowy white. Turkeys come in all colors and shapes. Some are thinner and have long tail feathers. Some are round and too fat to fly. But all turkeys have one thing in common: feathers don't grow on their heads. Instead they have bumpy, hairy skin, sometimes colored red and sometimes blue. They also have a piece of skin, called a *wattle*, which hangs from the throat and wiggles when they gobble.

This craft is called Textured Turkey because it isn't just something to look at but something for you to feel. When you are all done with your turkey, gently rub your hands over the art and you'll feel the soft, prickly textures of nature.

Materials

Scissors
2 pieces construction paper, $8\frac{1}{2} \times 11$ inches, one brown or tan, one red, gold, yellow, or orange
Pencil
Scissors
3 pinecones, dry
Old washcloth, damp

Gardening gloves
Tacky glue
20–30 leaves shaped like feathers, blades of dried grass or thin twigs, at least 4 inches in length
1 small piece red construction paper, 1 × 1 inch
1 ¼-inch wiggle eye or small button

1. Trace your hand with a pencil on the sheet of darker construction paper.
2. Using your scissors, carefully cut out your hand pattern. This hand pattern is the base of your turkey.
3. Carefully pull as many scales off your pinecones as you can and set them in a pile. The scales of a pinecone are the petal parts that make up the whole seed or cone. An easy way to remove the scales from a pinecone is to first soak the pinecone in water for 2–3 hours. Next, cover the pinecone with a washcloth and gently roll it back and forth between your hands to loosen the scales. Some pinecones have prickly scales, so you may want to put on a pair of gardening gloves before you begin.
4. Take the second sheet of construction paper and shred it into tiny pieces about the same size as your pinecone scales. Put them in a pile next to your pinecone scales.
5. Along the fingers of your hand pattern, glue down your leaves, grass, or twigs with the tacky glue to make pretend feathers.
6. You can overlap the leaves, grass, or twigs if you want to give the turkey thick tail feathers.
7. Using your scissors, cut a teardrop shape from your piece of red construction paper.
8. Glue the tip of the teardrop on to the tip of the thumb of your hand pattern. Make sure that the big base of the teardrop is hanging down. This will be the turkey's wattle, the little red fleshy piece that hangs from a turkey's beak.
9. Spread a layer of glue all over the remaining portion of your hand pattern from the tip of your thumb to the tip of the pretend feathers.

10. Stick a mixture of pinecone scales and shredded construction paper all over. Cover the entire turkey body.
11. Put a drop of tacky glue on the back of the wiggle eye or button. Glue the eye onto the middle of the thumb part of your hand pattern. Now your Textured Turkey is complete. Make sure to let it dry well before you hang it up. Everyone will enjoy looking at and touching the texture of your turkey.

Gourd Birdhouse

Ages 7 and up

For many years gourds have been used as pottery, bird houses, and decorations. The shell of a gourd is hard, and when dried from the inside out can be a very useful tool. Birds like gourds because they are warm inside and the small holes keep away unwanted intruders. Watch for the cave dweller birds and birds that like dark, quiet places. They are the ones that would want to make your birdhouse their home. The birds that like dark, quiet places include wrens, sparrows, starlings, nuthatches, chickadees, purple martins, and woodpeckers.

The best time to build the Gourd Birdhouse is in the spring. This is the time when small birds look for places to nest in and build a home for their young.

Adult supervision required

Materials

Thick rubber-palmed gardening gloves or construction gloves
3 sheets old newspaper
1 medium-sized hard-shell gourd, such as a bottle, lady, kettle, or basket gourd (These gourds have big bottoms and smaller tops and are shaped like peanuts.)
2–3 metal cookie cutters in various shapes, including a round one
Power drill
Large metal spoon
1 piece nylon cord, 10 inches

1. Put on your gloves to protect your hands.
2. Spread the newspapers down to protect your workspace.

3. Using the round cookie cutter, press a circle shape in the center of the gourd.
4. Ask an adult to drill a hole in the gourd using the circle shape as a pattern with the drill. You might want to help by using a marker to indicate the spot.
5. Now have the adult drill a small hole through the neck of the gourd and two or three smaller holes in the bottom of the gourd for drainage.
6. Insert the metal spoon in the hole in the center of the gourd and pull out the pulp and seeds.
7. Weave the nylon cord through the neck of the gourd. Tie it securely in a knot on top. This will be used to hang your gourd from a tree or hook.
8. Use the remaining cookie cutters to lightly press shapes into the exterior of the gourd for decoration.
9. Place your gourd on newspapers. Let it dry in the sun for at least 24 hours, or in a cool, dry place throughout the winter season. When the gourd dries, the cookie cutter shapes will turn brown, giving the Gourd Birdhouse a pretty pattern.
10. Hang up your Gourd Birdhouse in a quiet spot where you can watch the action without disturbing the birds.

Birdbath

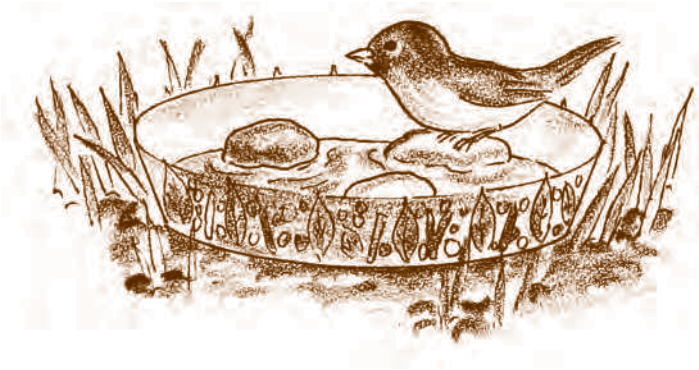
Ages 6 and under

This is an easy craft that uses just about anything and everything you find in the wild. Birds love to drink and splash in small water sources. Put a birdbath in your garden or on your doorstep. As you watch the fun, you will learn more about the types of birds that live in your neighborhood. You may also want to keep a camera handy. Some of the best nature pictures are of birds splashing in a backyard Birdbath!

Materials

Bag for collecting all types of small things found in nature, such as twigs, stones, leaves, grasses, nuts, or bark
3 rocks, size of your fist
1 throwaway pie pan
Craft glue or homemade Natural Glue, p. xiv
Water source

1. Go on a nature walk and collect all types of small things to decorate your birdbath. Items such as twigs, stones, leaves, grasses, nuts, and bark will work nicely.
2. Place your three rocks on the table or workspace. Set your pie pan on top upside down. Move your pie pan so that it is tilted, with one side resting on the rocks and the other on the table. The first side you'll be working with is the one tilted upward.
3. Squirt some glue on the outside edge of the pan and stick your nature collection to it. Fasten the things you found on your nature walk to the *rim* of the pan, not the bottom.
4. Twigs, leaves—whatever you like. Just cover the outside edge of your pan completely with natural things.
5. When the glue dries, you are ready to put your Birdbath outside.
6. Place the three large rocks inside the pan before you add the water. The rocks will hold your pan in place on windy days and give birds something to perch on.
7. Fill your pan with water. Be sure it to refill it regularly to keep the water fresh and clean. Now watch the birds appear in your Birdbath.



Dandelion Chicks

Ages 7 and up

Some people think of the dandelion plant as a weed. Others understand that the leaves are nutritious and make great salads. One thing we all know is that dandelions are

everywhere. Because of their strong roots and bright colors, they are often unwanted in the lawn. Instead of spraying them with poisons, save the environment and turn these weeds into nature-made animals, such as Dandelion Chicks.

Materials

2 small pieces orange construction paper
Scissors
Craft glue or homemade Natural Glue, p. xiv
2 Styrofoam eggs or two sheets old newspaper crumpled into 2 balls
30 or more yellow dandelion heads
4 wiggle eyes or small black buttons
1 small basket or bowl
Bunch of green or dried grasses

1. Cut out two triangle-shaped pieces from the construction paper for the chick's beak. Fold the flat part of the triangle over one fold. Glue this flat piece to the end of each Styrofoam egg or newspaper ball. Hold in place until it dries.
2. Using the glue, cover the eggs with dandelion heads and let dry.
3. Glue two wiggle eyes or buttons above the beaks.

Nature Notes

Bird Watcher

Now that you have built your very own birdhouse and birdbath, you can become a bird watcher. Pick a spot where you can sit and watch your birdhouse or birdbath. Be very quiet so that you do not scare the birds away. A pair of binoculars will help you to see the birds more closely. This activity will make a great science project, so don't forget to get out your nature journal and write down what you observe. The following questions will help you learn about the bird family living in your birdhouse.

- What do the birds look like (color, size, shape)?
- What type of nesting materials and food do the birds take into the birdhouse?
- Are there baby birds in the house? Do you know when they were hatched?
- Do the birds change how often they leave the house during different seasons?

Finding answers to these questions will help you to identify the type of birds that live in your house.

4. Fill the bowl with the green or dried grasses. Set your two chicks inside.

If you'd like to save your Dandelion Chicks, or any flowers you may collect, you can dry the flower heads. You'll need a large plastic container with a lid, rubber gloves, and a package of silica gel (available at a craft store or you can collect small packets of silica gel that come with store-bought products, such as leather shoes and purses). Put on your rubber gloves. If you are using small packets of silica gel, be sure that you have 2 cups. Place 1 cup of the silica gel crystals in the plastic container. Carefully place the dandelion heads on top of the gel. Cover them with the remaining silica gel and close the container tightly.

Let the container sit for 2 weeks. By then your dandelion heads will be permanently dried, and your Dandelion Chicks will last a long time. Another way to dry flowers is to hang them upside down in your closet, basement, or garage. Leave them hanging for at least a week. Experiment with different types of flowers, and try different art and crafts projects with them. Many flowers wilt when dried, and their colors become dull. Some flowers, such as strawflowers and purple statice, remain bright and colorful.

Caterpillar Critter

Ages 6 and under

This is a great craft to make in the fall, when many flowers are dying or drying. Using the flowers at the end of their blooming cycle will extend the time you can enjoy their beauty. This cool critter will get many second looks. Just when you think it's a growing garden, take a closer look and you'll find a soft little Caterpillar Critter resting in the grass.

Materials

3 sheets old newspaper
Package plastic wrap

1 ready-made plastic picture frame, clear acrylic box frame with the cardboard insert removed, or old picture frame with glass or plastic still inside, or even old serving tray. (Any picture frame or tray that has a flat bottom and sides at least 1 inch high will work for this project.)
Potting soil
Spoon
Grass seed
Water
4 florist's foam balls or crumpled-up newspaper balls, 2–3 inches in size.
3 bunches dried yarrow or any yellow-colored flower that will dry, such as strawflowers
Scissors
Craft glue or homemade Natural Glue, p. xiv
30 or more black-eyed Susans, asters, or any other flowers with dark-colored centers
2 small twigs, each 2 inches long
2 wiggle eyes or small white buttons

1. Spread several sheets of newspaper on the table or workspace.
2. Cover the entire picture frame or serving tray with clear plastic wrap. Be sure to wrap it completely, including the back, so that none of the soil or water will leak.

Nature Notes

It's a Small World

There are more than 1 million different known *species* of insects. A *species* is a group of living creatures of the same kind that can breed together. Some experts estimate that there may be as many as 10 million—most yet to be discovered! Some insects are so small that we can barely see them with our eyes. Some insects are fun to pick up and look at, like a ladybug with spotted wings, or a firefly that glows in the dark. Other insects are dangerous and should not be touched. Tarantulas, wasps, and fire ants can be poisonous and harmful to humans and animals. But even these insects are important to our world. They are part of the *food chain*, the link of food that starts with very small plants and organisms and works its way up to humans. If these insects were to disappear, so would the creatures that eat them for food. This would set our natural world and ecosystem off balance. Big or small, friendly or dangerous, all the insects that make up this small world are important to us.

Entomologists (ent-o-MALL-o-gists) are people who study insects. These scientists have a very important job. They study insects and discover new ones. They teach us about where insects live, what they eat, what things they do, and whether they are friendly to us. Entomologists also write books and create museum exhibits so that we can learn all about this very small world.

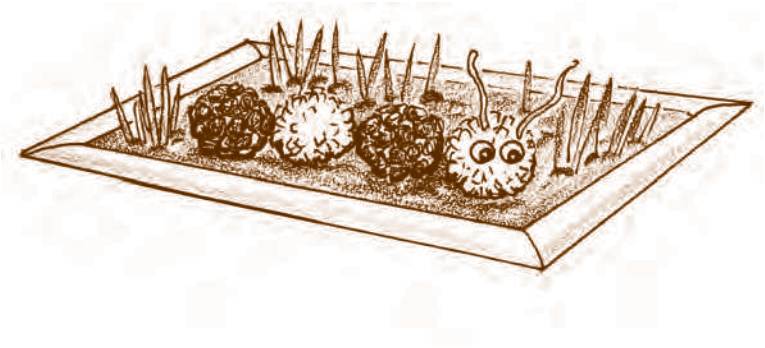
See this Web page for more insect fun: www.earthlife.net/insects.

Nature Notes

Honeycombs

Honeybees are a type of insect that lives in hives. Hives are big colonies where bees live and work, make honey, and build a home for new bees to be born. Worker bees build the new home, or honeycomb, where the queen honeybee lays her eggs. Worker bees produce a waxy substance that allows them to create hundreds of six-sided cells. When put together, these cells make a giant honeycomb. New bees are born in the honeycomb. Nectar from flowers is turned into honey and stored in the honeycomb. Honey made in honeycombs is sweet to taste and smell.

3. Inside the frame or tray, spoon out a thin layer of potting soil.
4. Spread grass seed all over the top of the soil. Water lightly by dipping your fingers into a cup of water and then letting the water drip down over the soil. You should do this dipping and dripping about three times a week. If the soil is very dry, then dip and drip everyday until it becomes moist. It will take several weeks for your grassy ground to grow, so keep your frame in a sunny spot and lightly watered.
5. Now make your little caterpillar. Cover two of the foam balls with the heads of the dried yarrow or other dried gold flower. The tops of these flowers should just poke into the foam balls, but you may need to add a little glue to the stems to secure them. If you live in an area where yarrow doesn't grow, then you can use other things, such as golden leaves or yellow goldenrod.
6. The other two foam balls should be dark-colored. Cover them with the spongy centers of black-eyed Susans or dark leaves.
7. When the balls are covered, let them dry.
8. Stick the two twigs in the top of one of the balls for antennae. Glue the two wiggle eyes or buttons on the front of the ball.
9. Put your four covered foam balls in the center of the frame. Be sure to put the head in the front. Soon your Caterpillar Critter will be surrounded by a cocoon of grass.



Honey Hive

Ages 6 and under

If you have ever seen a beehive, you know that it usually looks like a giant dome made of a papery substance. Inside there are hundreds of golden combs, each with six sides, and the rich smell of pure honey. This Honey Hive celebrates all the hard work the honeybee does by looking and smelling like the outside and inside of a beehive.

Materials

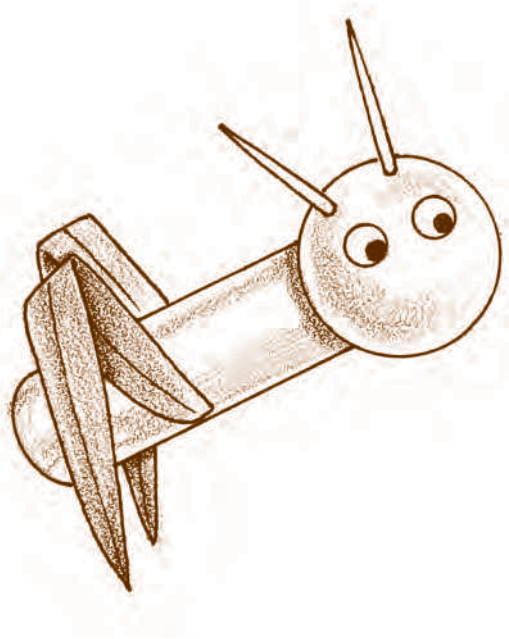
1 empty Yoplait yogurt container, washed and cleaned, or any other container that is shaped like a triangle and has an opening smaller than the wider bottom
Craft glue or homemade Natural Glue, p. xiv
1 spool of twine
Scissors
Clothespin
3–4 honeycomb-shaped pieces of cereal
1 small piece yellow-colored plastic wrap
1/4 cup of water
Small bunch of honeysuckle flowers

1. Squirt some glue around the outside of the yogurt container.
2. Holding the end of the twine with your finger at the bottom of the container, wrap the twine around the outside of the container until it is completely covered. Wrap the twine carefully, one row on top of the next, so that you cannot see the plastic container underneath.
3. Snip the end of the twine at the top. Secure it with a clothespin for about an hour or until it dries completely.
4. You may need to squirt some more glue onto the twine so that it will hold firmly when dry. Let the twine dry completely before continuing.
5. When completely dry, glue the honeycombs on top of the twine around the container anywhere you like.
6. Taking the plastic wrap, tear off two or three pieces at least 4 inches long. Roll each piece between your fingers or on your worktable until it becomes a crinkly little strip, much like a rolled-up piece of twine.
7. Glue the strips on top of the twine so that they hang from the opening in the top. This will look like golden honey dripping from your hive.
8. Carefully fill your hive halfway with water. Inside it put a bunch of honeysuckle flowers or any other flowers that are available. Set your Honey Hive outdoors. It will attract people as well as bees!

Caution: Bees are fun to watch and learn from, but if they feel threatened by something or someone, they may sting. If you see a bee visit your honeycomb or a garden of flowers, stay away and stand very still. Bees are busy at work collecting pollen and should never be touched. Instead watch from a window, from a distance, or with an adult to guide you.

Mosshopper

Ages 7 and up



Late in the summer, when you run through the tall grass, little green grasshoppers pop up everywhere. In some areas where the weather is warmer and dry, you may see many buzzing locusts flying by. A *locust* is a type of grasshopper. Grasshoppers can jump and sing. They make music by rubbing their legs against their wings. This little grasshopper is green like the grass, but instead of wings he has moss on his back. You can learn more about grasshoppers and locusts at www.kidcyber.com.au/topics/grasshops.htm.

Materials

3 sheets old newspaper
Craft glue or homemade Natural Glue, p. xiv
Toilet tissue tube
Large chunks of moss, about 4 inches long. (Moss can be found on forest floors or in moist grassy areas. If you live in a region where there's no moss, such as the desert Southwest, you can use green paper instead.)
Styrofoam or newspaper ball, 2–3 inches in size.
5 × 7 inch piece green tissue or construction paper
Scissors
2 wiggle eyes or small buttons
2 toothpicks
2 pieces wide green grass, 8 inches long

1. Spread your newspaper on your workspace or table.
2. Put some glue on the paper tube. Gently cover the tube completely with the green moss. Set aside to dry.
3. Put glue on the Styrofoam or newspaper ball. Cover it with the green tissue.
4. Glue on the two wiggle eyes or buttons.
5. Stick the two toothpicks above the eyes. Your Mosshopper's head is now complete with eyes and antennae.
6. Put plenty of glue around one end of the moss-covered tube. Stick your Mosshopper's head to its body.
7. Hold firmly until it begins to dry. Then, set it on the paper. Let it dry completely.
8. Bend each grass blade in half and glue on the sides of the moss-covered tube. The leg should be in the shape of a triangle. Let everything dry completely. Then, show off your Mosshopper art from the earth.

Winter Garland

Ages 7 and up

During the cold months of the year, many animals, birds, and insects *hibernate*, or go underground or inside caves to sleep away the cold months. Others fly to warmer climates in search of comfortable temperatures. Some animals, such as the moose, cardinal, and arctic fox, stay in one area throughout the year, even when temperatures turn colder. Nature provides for these animals by giving them thicker coats and food such as wild berries, evergreens, and bark. You can help feed creatures, too, by making a Winter Garland that decorates your home and provides food for winter wildlife. This is a fun craft to make on a cold winter's day with your friends and family.

Materials

Large sewing needle
1 spool string or thin yarn
Mixing bowl
1 cup birdseed
1 cup crushed nuts
1 cup oatmeal
Spoon
1 cup peanut butter
1 bag mini-bagels
1 bowl popped popcorn
1 bowl dried fruit, such as raisins, oranges, apricots
Camera

1. Thread your needle with a very long piece of string or yarn. Tie a big knot at one end and set aside.
2. Pour the birdseed, crushed nuts, and oatmeal into the bowl. Mix with the spoon.
3. Using the spoon, spread a thin layer of peanut butter on all of the bagels.
4. Dip the peanut butter–covered bagels in the mixture of nuts and seed and set aside. You are now ready to string your Winter Garland.
5. Push your threaded needle through several pieces of popcorn, some dried fruit, and the seeded mini-bagels. Continue to do this until you have a long garland of food. If you are working as a group, you can each make shorter garlands and tie them together.

6. When complete, hang your Winter Garland on a tree outside. Keep the camera nearby. You will snap the best wildlife pictures ever as creatures come to feast on your welcome winter treat.

Earth Action

Animal Rescue

Sometimes animals are hurt in the wild. A bird with a broken wing may be unable to fly. A raccoon could be stuck in a trap. A baby squirrel may lose its mother. Sometimes hurt or injured animals can be dangerous because they are scared and may try to bite. Never try to touch an animal in the wild, especially if it's hurt. You can help it by contacting an animal rescuer. The Humane Society of the United States is a great place to start. This Web page will help you find your local Humane Society office where you can call to find a rescuer in your area: www.hsus.org. You can also try Wildlife International at www.wildlife-international.org for a listing of rehabilitators and rescuers nationwide. Click the "Emergency" link for information. Check out these great sites to locate a rescuer near you. Keep their number by your phone, or inside your earth art kit, so you can call them quickly if you encounter an injured animal in the wild. You can also write to Orphaned and Injured Wildlife, Inc., Rural Route Box 5650, Spirit Lake, IA 51360 for more information about protecting wildlife and how you can help.