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## How to Build Your Birdhouse

*Endless Ideas and Easy to Follow Birdhouse Construction Plans*

By Peter Wodehouse

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## **About the Author**

Peter Wodehouse is passionate about birds because of the pleasure they freely give us, and other contributions they make to our well-being and the world around us.

He feels that, if he can do it, then building a few bird-houses and setting them up is not beyond the most ham-fisted tool user. We can all help redress in a small way the damage to birds' habitat that humans are causing at a rapidly increasing rate.

This hobby is one that all members of our family can share, just as they will share the rewards as the variety and number of birds around us increase when they take advantage of the newly available accommodation.

Gardeners will notice another benefit because more birds will mean fewer insects and other problems too. That means a better environment for us all.

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## Part-I: Introduction

### 1. Building a Birdhouse – An Overview

**B**uilding birdhouses is an excellent hobby that combines your ornithological interests with your skills in woodcrafts. You can make wooden birdhouses that help many different species of wild and domestic birds to nest and breed.

Many birdhouses are wooden but some are a mixture of wood and concrete.

Most birdhouses are cuboids with a sloping roof. Some have a special hinged top to make it easier to clean them when the occupants fly away. Some breeders also find those openings convenient to feed the young ones.



Boxes with open fronts or a hole at the front are very popular. Often, bird lovers create fancy birdhouses, some of them even resembling a human house or multi-storey apartments.

You can make birdhouses with gourds. Milk cartons are a simple and recyclable object that you could use for building your birdhouse. Some bird-watchers love to design highly detailed birdhouses and they make them from of the best possible materials.

It's up to you. You're the builder of this birdhouse!

#### ***History of Birdhouses***

Building birdhouses has been a popular activity since the days of tribal settlements in Europe and North America. Native American tribes used to hang hollow gourds for purple martins to come and nest in. These tribes

reared purple martins to keep away turkey vultures, which would otherwise plunder the tribes' meat racks.

Since then, making birdhouses to provide birds with shelter has been a hobby with many bird-watchers for years.

## **Building Your Ideal Birdhouse**

A Birdhouse needs to provide sufficient opening and ventilation for to give the birds' easy access while keeping them protected from predators and also providing you adequate access to clean after the young birds leave.

Sometimes, bird-watchers and breeders monitor movements of the birds they house. They need suitable openings to observe the birds in their house. The interior dimensions should also allow easy movements for the birds.

Birds vary greatly in sizes and the house(s) that you build should fit the needs of the type of birds you want to attract and help.

Wood is the best material for making birdhouses. The best types of wood are redwood and rough-cut cedar, which do not deteriorate when exposed to sun and rain.

The natural insulating properties of wood are far superior to other materials like metal and plastic that overheats and makes it stifling hot for the birds.

Many builders use pressure-treated lumber, but this is not very safe. The copper-arsenate chemical that is routinely applied to it could be toxic to the birds if not properly applied.

Your birdhouses should blend with the surrounding habitat to make the birds feel at home. You may mount the birdhouses on fence posts, tall trees or on poles that were specifically set up for the purpose. Whatever type of birdhouse you choose, you must provide adequate protection from predators. Sheet metal and aluminum plates can help to keep predators away from your birdhouse.

Although most birds nest in cavities in rock or trees in their natural habitats, they also love to nest in birdhouses. Birds that will use birdhouses include Buffleheads, American Kestrels, Common Barn Owls, Wood Ducks, Northern Saw-whet Owls, Eastern and Western Screech Owls, Northern Flickers, Red-headed Woodpeckers, Barred Owls, Red-bellied Woodpeckers, Golden-fronted Woodpeckers, Purple Martins, House Sparrows, Bluebirds, Red-breasted Nuthatches, Mountain Chickadees, Black-capped Chickadees, Oat Titmice, House Wrens, Great Crested Flycatchers and many others.

You can build a birdhouse even within a limited space. You can build a birdhouse in a garage or shop, too.

## 2. Why Build a Birdhouse



Man is destroying increasing amounts of our planet's birds' natural habitat and building more concrete jungles.

Birdhouses are the best alternatives to natural features for providing nesting spaces for birds. There are many hundreds of bird species in America. Only a small percentage of these birds can now nest in natural cavities. So, many will welcome the opportunity of nesting in your birdhouses - especially

birds like wrens, bluebirds, chickadees, titmice and even wood ducks.

Industries pour out ever-greater amounts of various air pollutants. The use of pesticides in agricultural areas is affecting many different bird species. Many people want to do their bit by building birdhouses and inviting these winged guests to make their homes in birdhouses. The chirping and songs of birds help you wake up in a good mood, too.

Building birdhouses does not have to make a major dent in your pocket either. You can get great enjoyment from building them for your feathered friends.

Birdhouses should have adequate provision for easy cleaning. Cleaning the interiors of the houses regularly can help you provide safe habitation for the birds.

Making small holes in the roof and floor can allow smooth drainage. It also provides natural ventilation to birds. Use your imagination and creativity to make the birdhouses look more attractive. Iron poles and sheets can provide protection to birds from their enemies. You can suspend birdhouses from

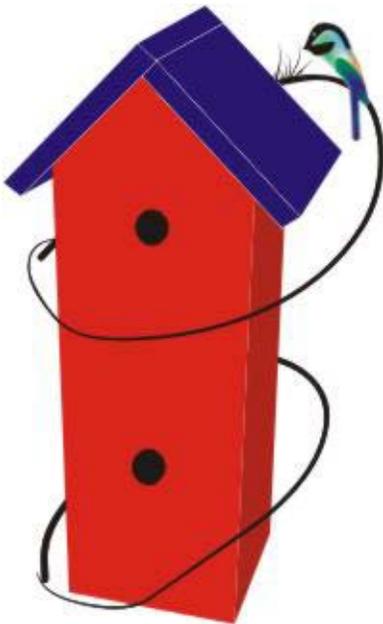
wires but you must use some method to keep them out of the jumping range of squirrels and cats.

## Part-II: Birdhouses Types

### 3. Types of Birdhouses

There are many different types of birdhouses. You can get many birdhouses at the local shops or make them yourself with easily obtained materials.

However, the factor that will decide on which birdhouse you buy or build is the type of bird that you want to attract.



Every species of bird has special preferences about the type of nest or birdhouse that it will use. Tree swallows, wrens, and bluebirds prefer single unit, enclosed birdhouses. Bluebirds and tree swallows prefer open areas with fewer shrubs and trees while wrens prefer nesting in boxes close to shrubs. Phoebes and robins like a sheltered platform, rather than closed nest boxes.

#### Common Birdhouses

You can find the following birdhouses suit the typical nesting habits of different species of birds.

**Single-unit nesting boxes** are the most common type of birdhouse. Woodpeckers and great crested flycatchers are common birds that prefer such nesting places. Red-bellied woodpeckers require an entrance hole of more than two inches in diameter to accommodate their size. Woodpeckers

do not normally add any nesting materials to a box. Therefore, place a few inches of wood chips to provide a cushion for the eggs. The great crested flycatcher, however, will bring its own nesting material into the box.

**Purple Martin houses** are available in many different styles and sizes. Purple martins love nesting in colonies and mostly prefer such birdhouses to nesting in the wild. They also nest in artificial, or real, gourds where an entrance hole has been cut in them. You can put up plastic gourds, which are easier to clean than real ones, to attract purple martins. These houses also offer a cool interior for the birds.

Bluebirds and tree-swallows prefer birdhouses on poles in an open area. Bluebirds bring in pine needles or fine grasses for their nests. Tree swallows live in similar habitat with entrance holes of around one and half inch in diameter. This size prevents starlings from entering.

Place birdhouses along the edge of wooded areas to attract small birds like the tufted titmouse and black-capped chickadee.

Place your birdhouses under the roof eaves and on a deck to attract house wrens. They build nests in birdhouses that are placed within your house too.

## 4. Birdhouses for Different Species

Every bird species prefers a different type of birdhouse for nesting and breeding. You can attract specific species of birds by offering the type of environment and birdhouse that they prefer.

While attracting any specific species, you have to safeguard your birdhouses from being taken over by starlings and sparrows. A simple tactic is to place birdhouses within ten feet of the ground, as sparrows and starlings do not inhabit such houses.



Different categories of birds like Chickadees, Bluebirds, Titmice, Purple Martin, Swallows, Owls, Woodpeckers, Flycatchers, and many others love nesting in birdhouses. Additionally, you can provide them with food and water as major incentives. Hanging a wire cage with nesting materials like twigs, fiber scraps, wool, and feathers, can also attract these birds to your birdhouses.

Particular features in your birdhouses can attract particular species of birds. Some birds'

preferences include:

### ***Robins***

The common robin prefers the crotch of a tree. Place a nesting platform at a height of at least six feet under the shade of a porch or a tree trunk. A small mud puddle is a definite incentive as robins use mud to line their nests.

### ***Chickadees, Nuthatches, and Titmice***

These species share the same food habits and habitat. Chickadee houses should, ideally, be at eye level with an entrance of about one inch in diameter. Hang the houses from tree trunks. Sometimes, these birds stay in the courtyard all through the summer months if they are able to get sufficient peanuts.

[See Milk Carton Birdhouse Plans](#)

### ***Bluebirds***

Bluebirds prefer birdhouses on wooden fence posts or tree stumps at about three to five feet off the ground. These birds require an entrance hole with a diameter of an inch and a half. This can keep away starlings and house sparrows, which prey on all baby bluebirds and, sometimes, also on the adults. A metal predator guard can help keep away other predators like snakes and cats.

### ***Wrens***

Male wrens make many houses for their females to choose the most suitable one. So, you attract wrens by hanging many birdhouses on partly or dimly-lit tree branches. These birdhouses should have a horizontal slot of a minimum of one by two inches instead of a circular hole. This allows easy movement for the wrens. These birds prefer to stay close to your home. [See Milk Carton Plans.](#)

### ***Barn Swallows and Phoebes***

These birds prefer nesting in uncommon places such as above your front door or on the eaves of rooftops. Place your birdhouses in such places to attract these birds.

### ***Tree and Violet-green Swallows***

These swallows prefer birdhouses on dead trees. These birds are insect eaters, so it is best to place their birdhouses near a pond, river, or lake. Violet green swallows abound in forested and semi-woodland regions.

### ***Purple Martins***

These birds prefer to nest in colonies. Their birdhouses need to have around four big rooms of about six inches on all sides. The entrance hole should be around two inches in diameter and about an inch and half from the floor of the house. Purple martins require around forty feet of open flying space around their houses. These birds need to be able to perch safely on railings and even on the wire used for hanging their houses.

Birdhouses for Purple martins should have adequate ventilation and drainage. Gourds with entrance holes cut into them can serve as birdhouses for these birds. Their houses should be at a height of ten to twenty feet above the ground. [See purple Martin birdhouse design.](#)

### ***Woodpeckers***

Red-bellied woodpeckers and flickers prefer birdhouses with rough interiors and with around two inches of sawdust or wood chips on the floor. Put their houses on tree trunks and exposed to direct sunlight.

### ***Flycatchers***

These birds prefer abandoned woodpecker holes. Put their birdhouses about ten feet from the ground on trees in orchards or near the edges of streams and fields.

## Part-III: Building a Birdhouse

### 5. Materials Used for Building a Birdhouse

Wood is the best choice of material for making birdhouses. It has natural insulation properties that are ideal for birdhouses. Plywood is a cheap material for making birdhouses but you can also use fir, pine and cedar.

The most durable woods to use are three-quarter-inch thick bald cypress or red cedar. Pine and plywood are not that durable. A coat of water-based latex paint on the exterior can increase the life of pine and plywood birdhouses. Local lumber stores could provide you the necessary scrap.



Do not treat the insides of the birdhouses with any chemicals or preservatives, as these fumes are harmful for the birds. You also should use brass or galvanized nails, screws and hinges to join all the parts. These help to secure keep the birdhouse tightly. Galvanized screws do not rust. Gluing the joints before nailing them can increase the life-span of your birdhouse.

You'll see plans for birdhouses that suggest you use nails but many experts say that nails are dangerous. You should use screws but, if you decide to use nails anyway, be very careful to ensure that the nails are firmly embedded so that they cannot hurt the birds.

Aluminum and plastic houses may suit purple martins. Some also use old pottery or natural gourds for nesting. All birdhouses should have proper drainage, adequate ventilation and be easy to access for regular cleaning and monitoring of the health of the young birds.

Birdhouses that are made out of plastic and aluminum are something you might consider but we do not give you any information on how to make them. We would rather see you make your birdhouses from wood.

Wooden houses are normally heavy and may weigh more than thirty pounds.

## 6. Tools Used to Build Your Birdhouse

The tools that you may need to make a birdhouse depend on the type of birdhouse you want to make. But, all the tools and accessories that are necessary for the birdhouse plans in the later chapters of this book are readily available at your local hardware store.

### ***The Tools You Need***

**Screwdriver:** The choice of screwdriver depends on the type of screws you are using to build your birdhouse. The screw bit of a power drill or an automatic screwdriver can help you to use less force when inserting the screws.

**Hammer:** A strong hammer, ideally with a claw on the back, is useful for making a birdhouse. The claw can be handy if any old or bent nails need to be removed.

**Saw:** Powered circular saws are useful for cutting the wood pieces to the necessary lengths. Handsaws require more energy and time. Otherwise, your local lumber store could pre-cut the wood pieces to the sizes you require for a small fee.

**Drill with bits:** A drill helps you to make the necessary entrance holes of your birdhouses for the particular breeds of birds that you want to attract. Additionally, you may have to drill many holes of different sizes for ventilation and drainage.

**Screws, Nails, Hinges and Fasteners:** Use galvanized screws and nails with small heads to make a strong and long-lasting birdhouse.

**T-square:** These large rulers help you to measure the wood accurately and in minimum time.

## 7. General Specifications for Your Birdhouses

Each species of birds have their own preferences for the birdhouses they choose. Here is a helpful table to use when building your birdhouses.

You need to double check the birdhouse plans you are using to ensure that all the measurements are close to the recommended specifications.



## Specifications for Birdhouses in Inches

<b>Species</b>	<b>Floor of Cavity</b>	<b>Depth of Cavity above Floor</b>	<b>Entrance above Floor</b>	<b>Diameter of Entrance</b>	<b>Height above ground</b>
<b>Bluebird</b>	5 x 5	8	6	1 <sup>1/2</sup>	60-120
<b>Chickadee</b>	4 x 4	8-10	6-8	1 <sup>1/8</sup>	72-180
<b>Titmouse</b>	4 x 4	8-10	6-8	1 <sup>1/4</sup>	72-180
<b>Nuthatch</b>	4 x 4	8-10	6-8	1 <sup>1/4</sup>	144-240
<b>Bewick's Wren</b>	4 x 4	6-8	4-6	1 - 1 <sup>1/4</sup>	72-120
<b>Carolina Wren</b>	4 x 4	6-8	4-6	1 - 1 <sup>1/2</sup>	72-120
<b>Purple Martin</b>	6 x 6	6	2	2 <sup>1/2</sup>	120-180
<b>Crested Flycatcher</b>	6 x 6	8-10	6-8	2	96-240
<b>Flicker</b>	7 x 7	16-18	14-16	2 <sup>1/2</sup>	72-240
<b>Red-Headed Woodpecker</b>	6 x 6	12-15	9-12	2	144-240
<b>Downy Woodpecker</b>	4 x 4	9-12	6-8	1 <sup>1/4</sup>	72-240
<b>Robin</b>	6 x 8	8	(one or more sides open)		72-180
<b>Barn Swallow</b>	6 x 6	6	(one or more sides open)		96-180
<b>Phoebe</b>	6 x 6	6	(one or more sides open)		96-180
<b>Screech Owl</b>	8 x 8	12-15	9-12	3	120-360

Wood Duck	10 x18	10-24	12-16	4	120-240
House Wren	4 x 4	6-8	1-1 <sup>¼</sup>	4-6	120-240
Tree Swallow	5 x 5	6	1 <sup>½</sup>	1-5	96-180

## 8. How to Build a Birdhouse

Building a birdhouse can be an excellent way of spending family time together. You and your family can make a birdhouse to put in your backyard. Soon, you will all hear happy and excited chirpings throughout the day. It can be also be a good way to spend a quiet Sunday at home. Although you may love to paint birdhouses in bright colors, birds prefer unpainted, roughly finished birdhouses that are more like their natural nests.

You can add any number of innovations and styles into your birdhouse. However, birds do not care for any particular style. Each species of birds have specific requirements for their houses. Therefore, you should make birdhouses for the particular species of birds that you want to attract to your birdhouse.



### ***Preferences of Your Winged Friends***

The best choice for building a birdhouse is wood, especially cypress and cedar. You can also use pine, although it is more expensive. Birds prefer wooden houses to aluminum or plastic as it resembles their natural homes.

Do not paint or treat the insides of the birdhouses with any chemicals. They may let out harmful fumes, which may be especially dangerous to your feathered friends and their young. Similarly, unfinished interiors help the young birds to clamber out more easily.

Provide sufficient protection from predators like squirrels and cats. Mount the birdhouse at the top of a pole about six feet off the ground so that cats cannot leap on to it. Also, apply slippery substances like petroleum jelly or hot pepper spray to prevent cats from scampering up the pole.

If you keep many birdhouses, keep them at safe distances from each other. Birds have specific territorial rights and do not like to have others of their kind too close by.

Keep the entrance hole away from the direction of the prevailing wind, to provide protection for the birds from strong winds.

Make a few holes small in the back wall and the top to allow good ventilation. Similarly, make sloped roofs to allow rainwater to drain off. Make some small holes in the floor to let waste water to flow out.

Consider using a baffle to protect your birds. A baffle is a guard to keep predators away. Some are cone-shaped so that a raccoon cannot get their little paws into the nest and snatch a baby bird or an egg.

### **Necessary Precautions When Building Birdhouses**

Building birdhouses can be a fun and an enjoyable way to spend time with all your family members who can take part in building a birdhouse. However, these few precautions will help to ensure a safe and happy time together.

**Wear safety glasses** while working on your birdhouse. Sawdust that might be spat from wood or nails that fly while you are fixing parts of the birdhouse can cause serious damage to your eyes.

**Wear earplugs** while using power tools for cutting the wood for the birdhouse.

**Use a respirator**, or at least a mask over your nose and mouth, to prevent any inhalation of poisonous fumes or vapors - or even small wood particles - while building your birdhouse.

**Be very careful while handling tools** that have sharp edges and points. Any slight lack of concentration can cause serious injury to your hands.

**Check all tools are in proper, safe condition** before using them.

**Check for any nails** that may protrude from the joints. These could scratch you or your birds. The holes for nails should be a little wider than the nails. This helps in easy removal of nails during cleaning.

**Do not wear loose clothing** while working on your birdhouse. Loose clothing can easily get caught in tools, rotating blades and bits. The outcome could be dangerous.

**Adults must do all the cutting work** when making birdhouses.

## 9. Tips for Building a Birdhouse



**C**ypress and redwood are the best for long-lasting birdhouses. Use  $\frac{3}{4}$ " thick wood to provide sufficient insulation against heat and cold. You may also use white cedar, fir, and pine.

Do not bother to give a thorough finished look to your birdhouse. Birds often prefer weathered, rough look

that resembles their natural nests.

Rust-resistant, round and oval screws and water-resistant glues can improve the life and durability of your birdhouse. Galvanized screws are best.

The roof and floor of birdhouses should be easily removable to help thorough cleaning every winter. Clean with a solution of a  $\frac{1}{2}$ -cup of chlorine bleach and two cups of water. Remove old nests at the end of the season, as they could contain parasites and bacteria.

Drill  $\frac{3}{8}$  inch holes along the back of your birdhouses to allow sufficient ventilation. Similarly, a few holes on the rooftop also help heat to escape in summer and keep the inside cool for the birds. At least one hole at every corner of the floor of the birdhouse can allow easy flow away of any rainwater that gets inside.

Entrance holes should be according to the size of the bird. Rough or grooved interiors can help the young ones to climb in and out through the opening.

Do not place many houses in a cluster. Some birds are fierce about their territorial rights. Resultant conflicts could lead to you having many empty birdhouses.

Birdhouses should be safe from natural predators like cats, snakes etc. Also, shield the houses from direct sunlight and strong winds. The roofs should have sufficient pitch and around three inches of overhang to drain away rainwater. A little seepage into the house can be drawn away through a few holes in the corners of the floor.

Do not put a perch near the entrance hole of the birdhouse. Nesting birds do not require perches and such perches could prove helpful for predators to attack the young ones and their parents too.

A thin layer of petroleum jelly on the insides of the roof prevents bees and wasps from nesting in the birdhouse.

Do not use any toxic materials to treat the wood for your birdhouses. These chemicals let out poisonous fumes that endangering the lives of your birds. You can, however, paint the outside the birdhouse. Use subtle colors of certified non-toxic paint so that it blends into the surroundings and gives added protection from predators to your birds.

## 10. Build a Birdhouse from Scraps in Less Than an Hour

It is a simple job to make a birdhouse from scraps within an hour. Birdhouses can be of different sizes and shapes to suit the type of birds that you want to attract to them.

Making a birdhouse for a house wren is very easy. These birds prefer urban locations and do not mind nesting in a hanging birdhouse.



### How to Build

Collect 1" standard lumber scraps from the lumber shops. A basic birdhouse is a standard box with a roof. Front and back walls should be of the same shape, around eight inches wide and ten inches in height. Each wall should have 45-degree angle cuts meeting at a point at the top.

Drill the entrance hole with a diameter of 1<sup>1/2</sup>". The entrance hole should be around four to six inches above the floor of the birdhouse on the front wall only.

The height of the side walls is the distance between the start of the sloping 45-degree angles of the roof pieces and the bottom of birdhouse.

Use waterproof wood glue to glue the sides together. Then, nail the front wall of the birdhouse to the sides. Ideally, the floor of the birdhouse should be bigger in each dimension than the birdhouse. Add an extra inch to the width and depth beyond the joint walls and cut out the floor to that size. Again, use

waterproof glue to glue the birdhouse to the floor and then nail it where needed.

Make two roof pieces. The first one should be at a 45-degree angle. The second roof should be an inch bigger in each direction than the first roof. Fix the bigger roof on the smaller one and then fix it to the birdhouse using glue and nails.

If you really want to, make a perch but I advise against using them. Use a good outdoor varnish for the outside of your birdhouse.

Now, your birdhouse is ready within an hour, depending on the drying time of the varnish. Make sure that the varnish is totally dry.

You can hang it with a rope from any tree branch, or place it at the top of a tree. Your feathered friends could soon take up residence in your birdhouse.

## Part-IV: Birdhouse Decoration

### 11. Painting or Staining Your New Birdhouses

You build birdhouses for housing specific species of birds. The painting of your birdhouses needs to be in accord with the preferences of those birds. Different birds prefer different colors. Purple martins prefer white while some others prefer beige colors. Research the color choices of the species you want to attract to your birdhouses.



Overall, birds find birdhouses with subtle colors more attractive. This is because, in nature, female birds are of a lighter and duller shade than the males. The dull colors protect the birds from predators. They can easily mingle into the foliage. So, bright colored birdhouses do not attract as many inhabitants.

#### How to Paint Birdhouses

##### ***Materials You Need***

- Painting palette
- Sandpaper
- White Gesso or Primer
- Water-based varnish
- Tack cloth (cloth that contains a sticky substance, used for removing dust from a surface before painting)
- Paintbrushes
- Sponge

➤ Weathered Wood® Crackling Medium Acrylic paint

Sand your birdhouse and remove all sand particles with your tack cloth. Apply primer and, then, allow it to dry. Apply a coating of slate blue paint.

Next, use square brushes and apply a thick coat of paint. Work in rows. Do not apply paint, but use short, dabbing strokes to push the paint to the front. Allow all the paint to dry.

Apply an even coating of Weathered Wood Crackling Medium over the base paint and let it dry for half an hour. This medium separates applied paint and gives a roughened and crackled look to your birdhouse.

You can use a sponge to bring out finer cracks in the applied paint. You can use foliage colors on your sponge. Use light or dark green paint and apply with light, jumping strokes. This is similar to the natural foliage and may help the birds feel more at home.

Sponge brushes are the best for painting birdhouses as they do not hold much paint and make its application easier.

Use two or three coats of external latex paint on the outside for finishing it. Three coats of water-based polyurethane provide the finish to your painting. Such finishes are environment friendly, and it is easy to clean them too. They protect your birdhouse.

### ***Cautions When Painting Your Birdhouse***

**Do not paint the inside the birdhouse.** Birds do not nest in painted houses or houses that smell of paint or of humans.

**Do not use any strong chemicals in your painting** like lead or creosote. Birds often peck at their houses and could ingest some paint in the process. This could be fatal or, at least, cause serious injury to them. Creosote is a recognized wood preservative, but is toxic for birds.

Similarly, wood in feeders should also not contain any such preservative. Do not paint feeders in any bright colors nor use high-gloss finishes.

Each species of birds are very choosy about their houses. They will not go anywhere near a highly decorated birdhouse. Therefore, do not decorate your birdhouse extensively. Give it a basic, natural look and watch the birds nesting and living in your birdhouse.

Do not paint near the entrance holes, as birds use this hole often for coming in and out of the birdhouse.

Do not use dark shades for birdhouses as dark colors absorb and retain heat. You can paint roosting houses for roosters in dark colors only for winter months.

### **How to Attract Birds to Birdhouses**

Often, you have to wait for some time before birds choose to nest in your birdhouses. Birds are wary of new objects in their familiar surroundings and do not immediately accept your birdhouses.

You can try to entice them by adding a few birdbaths, feeders with grains and nuts, and some swings too. Hanging the birdhouse in your backyard garden helps to provide a definite supply of insects for your birds.

Birdhouses should be durable, waterproof and built for easy accessibility to birds. Wooden birdhouses have natural insulation properties; cool in summer and warm in winter.

Although you might prefer dark or bright colors for your birdhouses, it is best to stay away from bright colors. These colors bring the birdhouses to the notice of the many natural predators of birds. Neutral colors like soft green, brown or tan offer the natural ambience to your birdhouses and birds feel more at home.

## Part-V: Birdhouses Selection and Placement

### 12. Birdhouse Basics - What to Look for in a Birdhouse



**B**irds look for specific size of the entrance hole and the height from the ground before choosing your birdhouse as their home. The preferences of a few bird species are:

**Nuthatches** prefer an entrance hole of  $1\frac{1}{4}$ " to  $1\frac{3}{8}$ " and like their house at a height of five to twenty feet from the ground.

**Chickadees** prefer an entrance hole of  $1\frac{1}{8}$ " and at five to fifteen feet from the

ground.

**Bluebirds** prefer an entrance hole of  $1\frac{1}{2}$ " and at distance of three to six feet above the ground.

**Purple Martins** prefer a  $2\frac{1}{8}$ " entrance hole and for their house to be at a height of ten to fifteen feet from the ground.

**House Wrens** prefer an entrance hole of  $1\frac{1}{4}$ " and at five to ten feet off the ground.

Get your birdhouses ready just before Spring to attract birds in their breeding season.

**Do not use external perches.**

## 13. Choosing the Right Birdhouse

There is no single, definite choice of a birdhouse suitable for housing your birds. There are many factors in deciding the features of an ideal birdhouse for hanging in your backyard garden.

### **Deciding factors include:**

**Material Used:** Birdhouses should, ideally, be of wood, especially unpainted and untreated wood. This provides the natural habitat to the birds. Wood should be around  $\frac{3}{4}$ " thick. An exception is, however, that used for purple martins, which also accept aluminum birdhouses.



**Ventilation:** Adequate ventilation holes on the walls and sides are essential in a birdhouse. These holes help keep the birdhouse cool in summer and warm in winter.

**Size:** Birds require birdhouses to suit their size. The birdhouse should be large enough to house them. At the same time, the houses should also be compact to accommodate their nesting needs.

Therefore, before building your birdhouse, decide what birds you want in the birdhouse.

**Entrance:** The entrance hole should also be according to the size and preference of the birds. It should have a shaded roof extension to prevent strong winds and rain from entering the birdhouses.

Different birds have different preferences for the height of the entrance hole too.

**Perches:** There should not be any perches in the birdhouse. This can prove dangerous for the birds as their predators could use such perches to harm the birds.

**Access:** The birdhouse should allow easy access to the bird. You also need to have one of the doors with hinges to allow easy cleaning and monitoring by you. Some birdhouses have the top in hinges to facilitate cleaning.

Some species will come back every year if they are able to get the same type of nesting environment.

## 14. Useful Tips for Placing Your Birdhouse



Proper placing of birdhouses is as essential as its design and the care in its construction. Birds that nest in cavities are very particular about choosing a specific birdhouse as their home. Some birds survey the location for many days before finally choosing any particular birdhouse. The surrounding

area should be conducive for birds to settle in your birdhouse. Sometimes birds return to the same birdhouse every year.

### Tips for Placing your Birdhouse

Place your birdhouses just at the start of spring, around late February and mid March. Birds may not immediately start living in the birdhouses.

Different birds prefer different nesting habitats. Bluebirds prefer an open habitat and nest closely with tree swallows too. Purple martins and screech owls have specific preferences about their habitats. This is not so evident with robins, wrens, chickadees and titmice.

Pairing boxes can allow two or more species of birds to nest closely. You can place birdhouses in pairs on poles. Place them around fifteen to twenty-five feet apart from one another. This brings in a variety of species of birds in your backyard.

Place birdhouses in gardens, large trees, and open areas. However, refrain from placing them in places where pesticides and herbicides are in use.

These are harmful to birds and reduce their primary food supply of insects and worms. Also, keep the birdhouses away from industrial pollutants.

If required, mount your birdhouses on PVC pipes or metal poles.

Place small nest boxes on trees and fence posts. Use baffles to prevent any predators from crawling into birdhouses. Greasing the pole with slippery substances like vegetable oil or hot-pepper spray can also help to keep predators at bay.

Again, place birdhouses at strategic locations so that you can always have an eye on them. At the same time, teach your kids and pets to not disturb the birds. Hang your birdhouse at a sheltered place.

Fix metal plates across the entrance hole to prevent other big birds, and squirrels from enlarging the holes. Entrance hole should be perfect for the type of bird you intend attracting to your birdhouse.

Certain species of birds do not like any of other birds within a perimeter of forty feet around their birdhouse. If you want to place many birdhouses, spread them over a huge area. Otherwise, territorial fights could leave all your birdhouses empty.

Keep your birdhouses with their back to the most common wind in that area.

Use non-toxic methods to treat ant beds if they are close to birdhouses. Put a thin layer of petroleum jelly to the inside the roof to prevent wasps and other insects from making birdhouses their home.

Although feeders are essential for attracting birds, keep them at a distance to maintain a calm and quiet surrounding for the young birds to grow in.

## 15. How Many Birdhouses Should You Have?

If you are an enthusiastic bird-watcher, you will love to hang many birdhouses in your backyard and garden. However, birds may not share your enthusiasm. Specific species of birds have their own preferences when choosing their birdhouses.

**Bluebirds, Purple martins, and Tree swallows** love the company of other birds near their birdhouses. **Purple martins** love nesting near your home. They also love having birdbaths, streams or ponds close by. These birds usually nest in colonies and therefore require many birdhouses to accommodate their huge families.

**Chickadees** and **bluebirds** prefer open spaces with fields and trees spread over an area of two to five acres. **Flycatchers** and **American kestrels** love nesting in birdhouses on the edge of forested areas. **Finches**, however, love nesting near your home.

**Nuthatches** accept birdhouses in forested or open areas but spread across twenty to fifty acres. **Titmice** require around two to five acres of open or forested land around their birdhouses.

So, the number of birdhouses you should put on your backyard or garden depends more on the type of habitat surrounding your home. Open areas attract some species of birds while dense forested areas in the vicinity attract different species. If you have a mixture of habitats surrounding your house, you can expect a wide variety of birds to take up a home in the many birdhouses you could spread across the landscape.

## 16. How to Help Birds Make Their Own Nests

A lot of hard work goes in to building a nest. Birds have to select a suitable nesting site, collect all materials for their nest, and then carry them to their nesting place. Thereafter, they have to build their nests all the while looking after their regular job of scouting for food and water.



You can help them by placing suitable nesting material in a pile on the ground or more safely in string bags and suet cages to prevent the wind from blowing it off. Hang such bags at strategic locations so that birds can gather necessary materials. (Suet bags are a way to feed birds so they will come to your area to eat. You can purchase them from any bird-feeding store.)

### ***Useful Nesting Materials***

- Thin strips of cloth around six inches long, or pieces of yarn about four inches long
- Twigs
- Human or pets' hair
- Long strips of dried grass or leaves
- Feathers
- Cotton pieces
- Pine needles

- Strips off plastic sacks or cellophane

Some birds, like **Barn swallows**, use mud to give a lining to their nests. Place a muddy pool close by to help these birds. Birds also collect flower petals, snakeskin, spider webs, butterfly wings, horsehair and, sometimes, their own feathers to provide a comfortable lining for their nests.

Do not keep any fishing line or dryer fabric softener sheets around for the birds to find.

Additionally, keep your feeders full to help such birds. Later, these feeders are useful for feeding the nesting parents or their young ones.

## **Part-VI: Nesting Behavior and Habitat Requirements**

### **17. Nesting Behavior of Different Birds**

#### ***American Kestrel (Falco sparverius)***

The American Kestrels nest in deserted holes of the woodpecker, snags or natural cavities in trees. They prefer to set up in cliffs, under building roofs or in dirt banks. Both the male and the female look for good nesting sites.

#### ***Ash-throated Flycatcher (Myiarchus cinerascens)***

The Ash-throated Flycatchers have quite arbitrary needs for their nesting site. Their nests are 3 to 20 feet above the ground in hollow stumps, deserted woodpecker holes, behind the loose barks or in tree cavities. They nest in yucca plants, metal posts, drain cans or tin cans. The female fill their nests with rootlets, weeds, grasses and dried animal dung. Then, they cup them with fur, hair, or tender grasses. The male quietly follows the female and protects her from advances from other males.

#### ***Barn Owl (Tyto alba)***

The Barn Owls do not build a nest. The female of this species make a bed of pellets and different breeding pairs often use good sites again in future years. The cavity area can be just big enough for the incubating female to recline or large enough to accommodate several birds. The nests are mostly located in tree cavities or caves. They occasionally dig burrows in the areas where they can find abundant prey.

#### ***Tufted Titmouse (Baeolophus bicolor)***

The Tufted Titmouse use natural cavities for breeding. Abandoned woodpecker holes are sought after. The nest building begins during late March and takes six to eleven days. The nest is constructed of leaves, dry grasses, moss, cotton, hair and, at times, snakeskin. The male feeds the female during the nest building and until the time that the eggs hatch.

***Violet-green Swallow (Tachycineta thalassina)***

The Violet-green Swallows build their nests in the crevices of cliffs, cavities of trees, woodpecker holes and in old nests of other birds. The female build the nest with twigs, grasses, fur, horsehair and stems. The nest building takes six days to three weeks. The male brings feathers and uses them to line the nest during the egg laying and incubation period.

***Western Bluebird (Sialia mexicana)***

The female Western Bluebirds build their nests in decaying trees, in tree cavities or snags or even woodpecker holes. The nest is made of grasses, weeds and, at times, feathers and hair, about 4 to 40 feet above the ground.

***White-breasted Nuthatch (Sitta carolinensis)***

The White-breasted Nuthatch's nest is usually 3 to 20 feet from the ground in woodpecker holes, tree cavities and nest boxes. They use bark strips and lumps in their nest. They cup the nest with fine grass, hair, fur, wool and feathers. The female builds the nest and the male stays close to her, giving her contact calls and feeding her throughout the incubation period.

***Wood Duck (Aix sponsa)***

The Wood Duck builds its nest 3 to 60 feet off the ground in a hole of a tree trunk. Their nests are not necessarily near the water body, but never too far for the young ones to go to the water. They prefer woodpecker holes. They also use nest boxes for their nests. The female of this species does not use any foreign objects to build the nest. Instead, she uses the grayish-white feathers off her body.

[See wood duck plans.](#)

***Purple Martin (Progne subis)***

The Purple Martin depends on a nest that is provided by humans. If they do build one, it will be in natural wood cavities or abandoned woodpecker holes. The breeding season begins late May or June. The pair initially starts building in many cavities but eventually settle for one. These birds use straw, leaves,

stems, twigs and mud in their nest. The nest cup consists of fine grasses and fresh green leaves, which they bring in everyday until the eggs hatch. The Purple Martin rims their nest with mud to prevent the eggs from rolling and predators from getting in.

### ***Black-capped Chickadee (Poecile atricapillus)***

Black-capped Chickadees usually excavate or build their nests in woodpecker holes and nest boxes. The females take three to five days, or sometimes as long as two weeks to build the nest. The nest inside is made of moss, fur, feathers and cobwebs. The nests may be located at different heights, but most commonly at one and a half to seven meters away from the ground. The males of this species feed their mates throughout the nest building and incubation period.

### ***Chestnut-backed Chickadee (Poecile rufescens)***

The Chestnut-backed Chickadees build their nests in existing tree cavities and nest boxes, but mostly they excavate their own nest sites. Their breeding season begins from the middle of March to early April. Their nests are usually at low heights and are made of moss, grass, ferns etc. It is not yet known whether it is the male, female or both that build their nests.

### ***Eastern Bluebird (Sialia sialis)***

The Eastern Bluebirds build their nests in woodpecker's holes or dead, or decaying, trees with dry grasses or pine needles. The nest cup is made of fine grasses. The female selects one of the various sites shown to her by the male to build a nest, which takes about four to six days. The males guard their mates from other males. [See an Eastern Bluebird House.](#)

### ***Brown-headed Nuthatch (Sitta pusilla)***

The Brown-headed Nuthatches build their nests in decaying pine snags, deserted woodpecker holes and hollow branches or nest boxes. Their nest building involves excavation and takes one to six weeks. Both sexes work on

it. The nest cup is made of wool, hair, or fur. They even caulk their cavities by stuffing the cracks with cotton or plant down.

### ***Carolina Chickadee (Poecile carolinensis)***

The Carolina Chickadee excavates cavities in rotting tree trunks or snags for nesting. They occasionally nest in nest boxes. Both sexes work together to excavate the nest cavity, which takes around two weeks. The female lines the nest cup with fine grass, feathers, furs, and hair.

### ***Carolina Wren (Thryothorus ludovicianus)***

The Carolina Wrens build their nests in enclosed areas such as vine tangles or upturned trees and even, at times, in the glove compartments of old cars and discarded shoes. The breeding begins as early as March. The females select the nest's site. Both the sexes build the nest. Their nest is dome shaped with a side entrance. It is made of dead leaves, pine needles, shed snakeskin etc., and lined with hair and fur. The nests are rarely more than 12 feet above the ground level.

### ***Common Goldeneye (Bucephala clangula)***

The common Golden eye prefers cavities of mature trees and cavities close to the water. They use all kinds of cavities. They line their nest with material from the cavity or the feathers of the female's chest. The limiting factor of the Golden eye breeding is the availability of cavities. The Golden eyes rarely perch on the limbs of a tree but, instead, they sit at nest cavity entrance.

### ***East and West Screech-Owls; Eastern - (Otus asio); Western - (Otus kennicottii)***

Female Screech Owls generally prefer cavities in which they have earlier successfully raised their young. The female select the cavity from their male's territory, which has an abundant food supply. They build their nest in natural cavities or at abandoned woodpecker holes. They form a depression in whatever materials are there in the cavity.

***Prothonotary Warbler (Protonotaria citrea)***

The only wood warbler that nests in cavities is the Prothonotary Warbler. They make their nest over or near a water body. The males make dummy nests, but the nest that a female builds is used. Moss, lichens and dry leaves make their nests and fine grasses line it.

***Red-breasted Nuthatch (Sitta canadensis)***

The Red-breasted Nuthatches excavate a nest cavity in a rotted branch or a dead tree about 15 feet above the ground. The nest is made of rootlets, grass, moss, furs and hair. Their breeding season begins late April to early May. The adults typically smudge the pitch of the tree at the entrance region to dissuade enemies.

***Tree Swallow (Tachycineta bicolor)***

Tree Swallows build their nest in natural cavities, woodpecker holes, or bird boxes. Their nest building is governed by the prevailing weather. Their nests are 1 to 10 meters off the ground and comprised of dry grass or pine needles. The nest cup has mostly feathers and the male keeps on adding them over the entire incubation period.

*(Meter – The fundamental unit of length in the metric system, equivalent to 39.37 U.S. inches.)*

***European Starling (Sturnus vulgaris)***

European Starlings build their nests in rock crevices, building structures, parks and open fields. The male starts building the nest but it is the female that does most of the work. It takes two or three days to complete the nest. The males closely guard their females during this period and prevent other males from mating with them.

***Mountain Chickadee (Poecile gambeli)***

The Mountain Chickadees excavate nests if they do not find other sites. They prefer snags, natural cavities, deserted woodpecker holes and places under

rocks. Their nests are at low heights and are made of moss, bark, fur and feathers. Which of the sexes build the nest is not known.

### ***House Wren (Troglodytes aedon)***

The House Wrens build their nest in natural cavities, woodpecker holes, crannies and in nest boxes. They even build their nests in unique places such as cow skulls, flowerpots, etc. Males start building the nest with small sticks. The female make the nest cup with soft materials feathers, hair and wool, etc.

### ***Mountain Bluebird (Sialia currucoides)***

Mountain Bluebirds are private nesters. The female chooses the site for the nest and also builds it. It could be a natural cavity, deserted woodpecker hole or cliff crevice. The nest is made of grass, pine needles, rootlets, wool, hair, or feathers. The males pay all their attention to their mates during this period.

### ***Northern Flicker (Colaptes auratus)***

With the Northern Flickers, the males do most of the excavating. They make their nest on weak trees. They build their nests on poles and fencepost, too. They also nest in boxes. [See Northern Flicker Birdhouse design.](#)

### ***Great Crested Flycatcher (Myiarchus crinitus)***

The Great Crested Flycatchers build their nest in natural, deep tree cavities, woodpecker holes and nest boxes. At times, they nest in unique locations such as tin cans and pipes. Their nests are bulky and 3 to 70 feet above the ground. Both sexes build the nest. They fill the cavity with pine needles, twigs and mosses and then line them with hair and other soft material.

### ***Hooded Merganser (Lophodytes cucullatus)***

Hooded Mergansers nests are 10 to 20 ft (3 to 6 m) off the ground in hollow trees, other natural cavities and nest boxes. Nests near the water are

suitable for them. The female chooses the nest site. No nesting material is used except the nest line that comprise down feathers off the female's belly.

***House Sparrow (Passer domesticus)***

House Sparrows prefer their nests in natural tree cavities or tree branches. The males select and build the nest. The nest is dome shaped with a side entrance. The nest is an untidy collection of grass, paper, hair and feathers.

## 18. Habitat Requirements for Cavity-Nesting Birds

Different cavity nesting birds have specific preferences for nesting and habitats. This is an insight into their preferences:

### ***American kestrel***

These birds prefer nesting at a height of ten to thirty feet from the ground on farm buildings. Place their birdhouses on trees along the edge of woods or on single trees in the middle of fields. These birds also prefer nesting in meadows, pastures or orchards with grazed and mowed vegetation. The entrance hole should have a diameter of 3 inches.

### ***Ash-throated Flycatcher and Great Crested Flycatcher***

These birds prefer nesting at a height of three to twenty feet from the ground. The entrance should be a round hole of  $1\frac{3}{4}$  inches diameter. Place birdhouses in deserts, oak scrubs, mesquite thickets and dry plains with few trees or cacti, or in open, deciduous woodlands.

### ***Barn Owl***

This owl species prefer nesting at a height of twenty to twenty-five feet from the ground. They prefer open places like deserts, fields or marshes. Their nest boxes should be close to riverbanks, cliffs, hollow trees, barns and bridges - ensuring good rodent supply. Make birdhouses with round entrance holes of 6" diameter for housing barn owls.

### ***Black-capped chickadee and Carolina chickadees***

These birds have similar nesting and habitat preferences. These birds prefer nesting at a height of five to fifteen feet from the ground. Put an inch of wood shavings in the birdhouses and make an entrance hole of  $1\frac{1}{8}$  inches diameter away from the direction of the wind. Place them in meadows, forest edges and in woodlots with many mature hardwood trees so that they receive sufficient, but not direct, sunlight. Place one box for every ten acres.

***Chestnut-backed chickadees and Mountain chickadees***

These birds prefer nesting in mixed forests of deciduous and coniferous or coniferous-only forests in close proximity to streams.

***Eastern Screech Owl and Western Screech owls***

These owls prefer nesting in forest edges, woodland clearings, parks, or in trees with streams in the vicinity. Put a layer of two to three inches of wood shavings in their birdhouses and place them at a height of ten to thirty feet from the ground. Make round entrance holes of 3" diameter, facing north.

***House Wrens***

These birds prefer habitats like open forests, farmlands, parks, backyards in shrubs or tall trees. Place their birdhouses at a height of five to ten feet above the ground and make round entrance holes of 1¼ inches diameter.

**Carolina wrens** additionally prefer nesting in forests with thick undergrowth.

***Brown-headed Nuthatch***

These birds prefer clearings or burned areas with dead trees, open stretches of pine-hardwood forests, forests edges or cypress swamps. Make round entrance holes of 1¼" diameter and facing away from the prevailing wind. Place such birdhouses at a height of five to twenty feet. The **Red-breasted Nuthatch** prefers mixed deciduous and coniferous forests, farmlands and suburban parks.

***Eastern Bluebird***

These birds prefer nesting in orchards, open fields, lawns and open country with sparse tree coverage at a height of three to six feet from the ground.

***Mountain Bluebird and Western Bluebird***

These varieties prefer the edges of coniferous and deciduous forest. You need to make entrance holes of 1 ½" diameter, facing open areas.

### ***Tree Swallow***

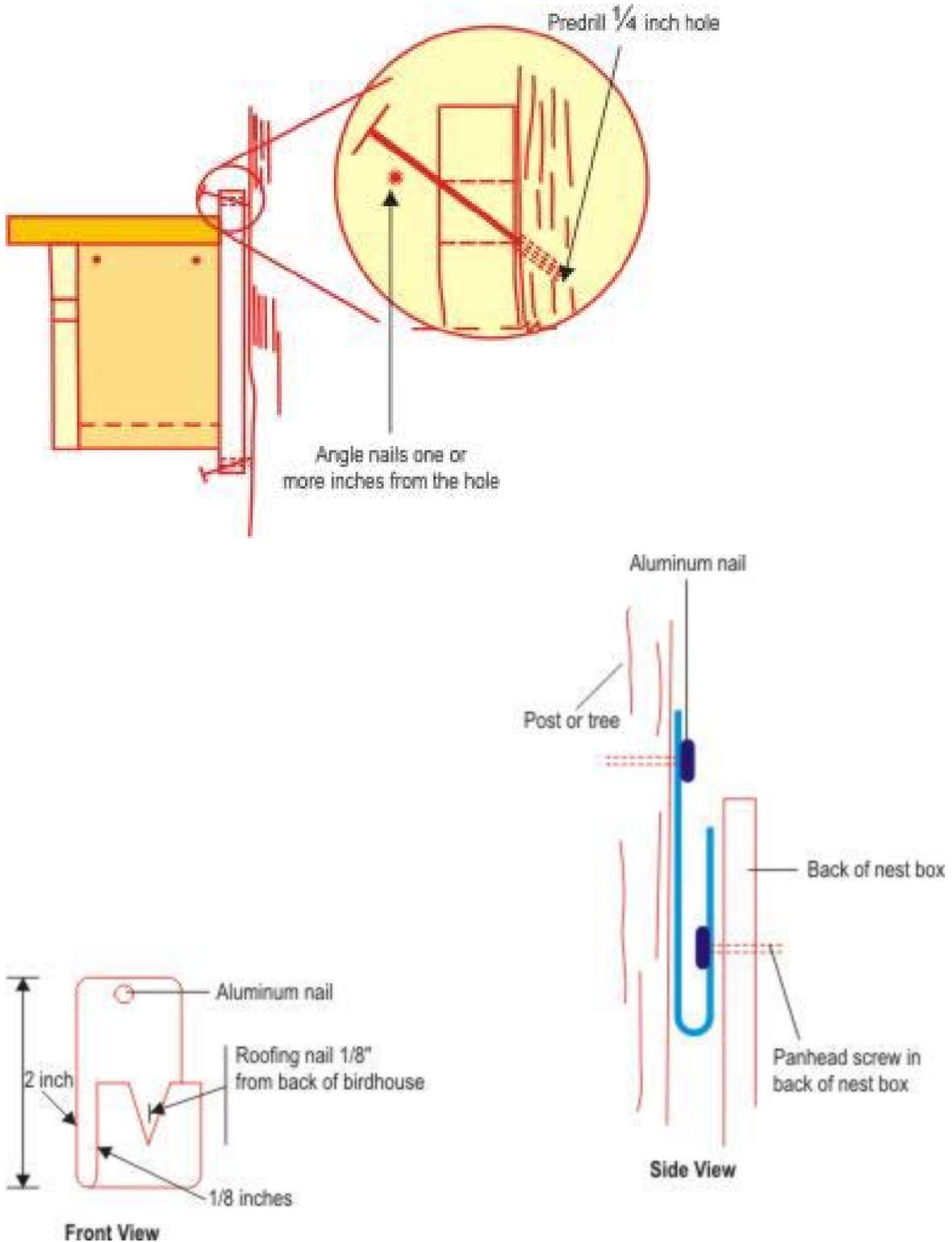
These birds prefer open fields with a wide expanse of water, marshy lands or swamps. You can place many birdhouses at a height of five to fifteen feet about thirty to a hundred feet apart in open areas near trees or fences. Entrance holes should be round with a diameter of 1 3/8" facing the East.

### ***Violet-green Swallows***

These birds prefer open or mixed deciduous and coniferous forests, wooded canyons and the edges of wooded forests.

## Part-VII: Caring for Birdhouses

### 19. How to Hang a Birdhouse

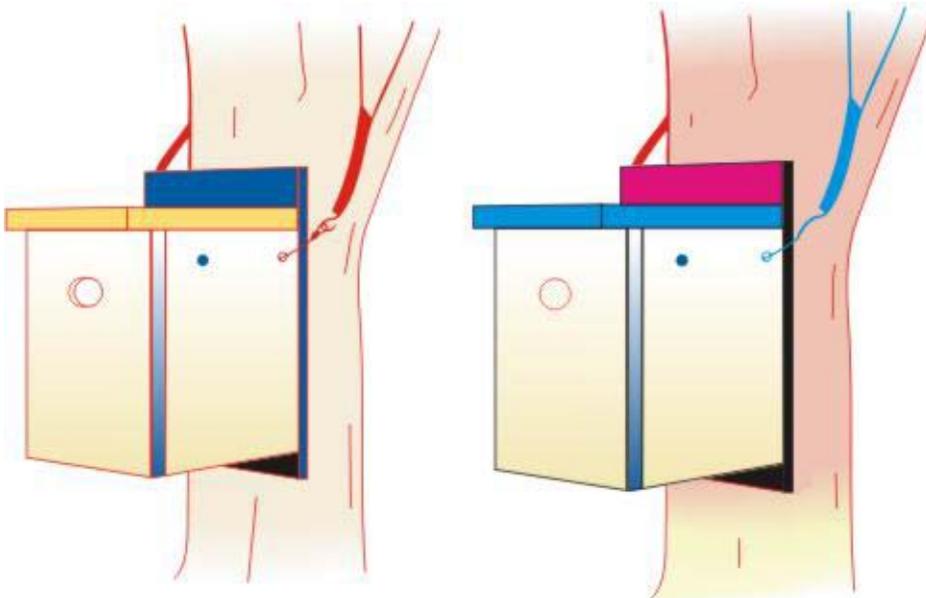


**Bungee Cord** - After drawing galvanized wire through vent holes, fasten the bungee cords. Extend cord around tree as shown.

**Metal Clip** - This clip, made from rust-proofed heavy-gauge metal, permits the easy removal of boxes from trees or posts.

**Aluminum Nails** - Drill ¼-inch holes into the bottom and top of the back board of the box. Drive aluminum nails in at an angle, as described here.

**Wire Through Hose** - Galvanized wire through vent holes. Fasten a rubber-coated wire slackly around or over the limb as illustrated here.



## **20. Tips for Monitoring and Cleaning Nest Boxes**

Placing or hanging your birdhouses in your backyard does not absolve you from responsibilities of looking after your bird friends and their young ones. You have to monitor their activities right from the time the birds choose your birdhouse as their home.

If you find any invasive species making your birdhouses their home, keep removing their nests. These species will soon move away. You can then keep the birdhouse free for occupation by the regular and native bird species that you prefer to help.

Monitoring helps to keep track on the progress of the birds and protect them from undesirable weather and their enemies.

## **Monitoring and Cleaning Birdhouses**

### ***Monitoring before the start of the season***

Clean your birdhouses before putting them out ready to be occupied. Regular monitoring of the birdhouses ensures nesting only by the specific species of birds that you want and helps to keep them safe. Put a layer of three to four inches of sawdust in the bottom of the birdhouses.

### ***Seasonal Monitoring***

The best time for monitoring the birdhouse is early in the morning when the mother is often away feeding with her partner. Otherwise, you can knock gently on the birdhouse to allow time for the mother to fly away.

However, do not force yourself to monitor it too often or disturb the birds as it could then lead to nest abandonment by the birds.

This monitoring helps you to gather information about the number of eggs and invasion of any parasites like ants or insects. You can then take steps to curb the parasitism. Bluebirds require weekly monitoring. These birds have a very weak sense of smell and therefore, do not abandon their young because of any human smells.

Once the female lays eggs and incubation starts, it is best to stay away from the birdhouse. Nevertheless, keep monitoring the movements of the birds from a distance to reduce any problems with predators.

### ***Monitoring after the Fledglings fly-off***

This post-season monitoring helps you to understand the level of success with that year's breeding. You can look for the two main parts of the hatched eggs; cap and membrane. The number of membranes indicates the number of young ones. You might come across a dead fledgling or an unhatched egg. It's sad, but an egg that was not hatched is generally too old to eat and much too old to try to hatch on your own.

## **Cleaning the Birdhouses**

Once the bird family flies off from the birdhouse, you have to clean the birdhouse to prevent parasites and other insects from taking over. Sometimes mice get in and make the birdhouse unusable for the future.

Throw away the old nest and put in clean wood shavings in place of the old ones. You can then leave the birdhouse through the winter months, as screech owls could use it for their roost.

The birds do not usually use the wood shavings to build their nest. It is just a sign that that the area is clean. They will use your house to build their nest with what they bring in to it.

If you intend to keep other animals from nesting in your birdhouse during the winter months, it is best to dismantle the birdhouse and clean it with a mild chlorine solution. This kills all germs and bacteria. You can dry the birdhouse and tuck it away for use in the next breeding season.

Use rubber gloves and face protection masks for cleaning old nests to protect yourself from dust and other organisms like viruses.

## **Part-VIII: Birdhouse Designs**

### **21. Different Birdhouse Designs**

There are many different designs of birdhouses. These birdhouses suit different species of birds.

#### **Common Birdhouse Designs**

##### ***Purple Martin House***

Purple martins are among the most popular nesting birds. These birds naturally nest in cavities and woodpecker holes. They are colonial birds and prefer staying in groups. They move out only if the group becomes too big. Hence, birdhouses also need to be big and apartment-type, consisting of as many as four big rooms.

Purple Martin homes should be easy to clean without dismantling. Sparrows find such houses very attractive and easy to nest. However, you have to clear sparrow nests regularly to entice purple martins to nest in such apartment birdhouses. Place such birdhouses near springs, lakes, and ponds as purple martins love being near water.

[See Purple Martin Birdhouse Design](#)

##### ***Passerine Nest Box***

These birdhouses are most suitable for small birds like black-capped chickadee, eastern bluebird, tree swallow, great-crested flycatcher, house wren, nuthatches and others of similar size. These birdhouses have an entrance hole of  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inch diameter at a height of six to seven inches from the floor. You can make small changes in the interiors and entrance holes of these birdhouses to accommodate a few other species of birds, too.

##### ***Wood Duck Nest box***

Wood ducks are cavity-nesting ducks. These ducks need huge nesting holes and cavities and cannot increase the size of available ones. They prefer nests

close to the water although some also nest within a range of one mile from it. These ducks also habitually dump their eggs in other bird's nests.

Ideally, birdhouses for wood ducks should have galvanized mesh of ¼ inch below the entrance hole. Such nesting ducks use the nest houses for only a day after hatching of eggs. So, such galvanized mesh can help the baby ducklings to climb in and out and jump into the water too. The bottom of the box should have about three inches of wood shavings. The best place to keep these birdhouses is on poles in water or near open areas so the ducks can fly into them through the entrance hole.

[See Wood Duck Plans](#)

### ***Wren Houses***

Wren houses are the most common and simplest birdhouses. Lightweight materials are all that is needed to make these birdhouses with compact rooms of 6 x 6 x 12", hinged doors, special attics and individual porches. Hinged doors help you to monitor the nests, eggs and young ones. It also makes it easier for you when cleaning the interior once the birds fly away. The compact rooms are ideal for birds like wrens. The attics provide the necessary warmth to the birds.

## **Essential Features of Your Birdhouses**

Whatever the design, there are certain essentials for any birdhouse. These are:

- A slanted roof over the entrance hole allows rainwater to run off and shades the birdhouse from the sun.
- Adequate ventilation holes in the back and sidewalls of the birdhouse help keep the interiors cool. There should not be any holes on the top.
- Drain holes are necessary at the floor of the birdhouse to prevent any stagnation of rainwater that gets inside. Baby birds could drown in such stagnated water.

- The interior should have rough patches with grooves for young birds to grip and climb in and out of the birdhouse.
- Nesting birds do not need any perches on the outside of their house, which are more of a hindrance. Predators and other bigger birds often use these perches to disturb and take away the young ones.

## 22. Birdhouse Design Tips

There are certain points that you have to keep in mind while making a birdhouse. A well-built birdhouse is one that protects the adults and the young birds from rain and heat, while it is also easy to clean, durable and, most importantly, safe.

- 1.** You need to research what kinds of birds you prefer in your location. After that, find out which of those birds might use a birdhouse. Some birds like their nests in trees and some others prefer to raise their young on the ground or in burrows.
- 2.** Determine the right configuration of the birdhouse. Different birds require different-sized birdhouses with varied entrance holes.
- 3.** Use natural wood to build the birdhouse. Do not use treated woods, as the chemicals used in their construction may harm the birds. Do not use plastics and metals, as they tend to overheat in the sun.
- 4.** Ventilation holes are essential for a birdhouse; make slots near the roof but not on the roof or they may let rainwater drip in. Drainage holes are also essential for preventing the babies from drowning.
- 5.** The roof should be slanted and extend over the entrance hole. This prevents rainwater from accumulating and protects the house from sun and rain.
- 6.** Avoid a perch under the entrance hole, as this is an open invitation to the predators.
- 7.** Dirty nests attract mites and parasites. To be able to easily clean the nests, make a door or removable sidewall or roof.
- 8.** Place some grooves on the inside or roughen up the interior of the walls, just beneath the entrance hole to make it easier for the chicks to get in and out.

**9.** Do not paint inside any birdhouse. If you paint the outside, use a paint that does not contain lead. Apply light colors, which will reflect light in summer and keep the house cool. Use natural woods like cedar or redwood to avoid painting where possible.

**10.** While you are setting the locations of your birdhouses, attach them to wood or metal posts or trees. Have the entrance face away from the prevailing winds.

**11.** If you choose to mount the birdhouse to a post, see that the house is protected from predators like snakes and cats by attaching a metal collar or baffle.

**12.** Maintain adequate distance between the houses as the birds become very territorial during the nesting periods.

**13.** Place the birdhouse at a proper height.

## 23. Directions for Building a Birdhouse

Birdhouses should ideally be of lumber of thickness of  $\frac{3}{4}$  inches. The most common wood includes cedar, cypress, and pine. Wood has self-insulating properties that help to keep the interiors cool in summer and warm in winter for the birds.

Different birds have different preferences for birdhouses. Some birds, like cardinals, doves and mockingbirds nest in bushes and trees. Some others make their homes in burrows or along the ground. Only cavity-nesting birds will use birdhouses for nesting. Such birds include flickers, chickadees, bluebirds, purple martins, woodpeckers and others.

### Steps for Making a Birdhouse

Cut wood according to the preferred dimensions for the particular type of bird species that you want to nest in your birdhouse. Apply waterproof glue across the joints and then fix the bottom to the sides. Glue and nail the back to the bottom sides and place the inside supports in their positions.

Make the entrance hole about two inches from the bottom of the birdhouse. Place the roof pieces and glue them together. Thereafter nail them across the railing edges. Put the birdhouse upside down and fix the floor of the birdhouse in place. Use hinges to help with easy dismantling for cleaning after the breeding season. A hinged roof allow for regular monitoring of the health and activities of the birds and their chicks.

Make an adequate number of small holes in the back and sidewalls to allow free ventilation. Make some drainage holes on the floor to allow any seepage of water to drain out.

### ***Essential Tips***

- Always place feeders at a distance from the birdhouses. Similarly, do not put any food into the birdhouses, as this attracts predators and insects too.

- Do not paint the inside the birdhouse. The smell of paint is harmful to birds. Birds might accidentally peck at the peeling paint, thinking it to be food. Ingesting such paint is dangerous for birds. Paints often contain lead or creosote, both of which are harmful.
- If you want to paint, you can paint the exterior of your birdhouse with a non-toxic paint. Use light shades that reflect the sunlight and keep the inside of the birdhouse cool. Using shades that blend into the environment makes things more safe for your winged friends. It can shield them from the eyes of predators like cats, raccoons, and snakes. Allow the paint to dry thoroughly before you set up the birdhouse ready for the birds.
- Always remove old nests and clean the birdhouse with a chlorine solution. Old nests contain parasites and bacteria that can cause infection to the new birds. Normally, most birds do not nest in birdhouses that have old nests still in them.
- Do not keep any perches near the birdhouse as this attracts and helps predators. Nesting birds do not require any perches.
- A thin layer of petroleum jelly on the roof keeps wasps, bees and other insects from living in the birdhouses.
- Plain, untreated lumber is best for making birdhouses. Exterior grade plywood contains formaldehyde and pressure treated lumber contains toxic preservatives. These chemicals are deadly to birds. Metal and plastic constructions may become like heated ovens for the birds.
- Use metal baffles on poles and fence posts when placing your birdhouse on such places. A metal baffle can prevent cats and snakes from climbing up the posts.
- Maintain adequate distances between birdhouses. Otherwise, territorial fights can keep all your birdhouses empty.

- There should be adequate distance between birdhouse and your house, too. The young ones could find the noise and din of your house too disturbing.

## 24. A Birdhouse for Beginners

Beginners can try their skills at making this simple birdhouse with the minimum of materials and tools.

You need a pine board measuring 5'1" x 6", 1 5/8" galvanized screws and few two inch galvanized finishing nails. A handsaw, power drill, and a spade bit can help you to shape your birdhouse.

Cut out two equal 10" pieces from the width of the board for the front and top of the birdhouse. Next, cut a 7 3/4" piece for the back and a 4" piece for the floor. Cut out the two sides that are 8" on one side and 10" on the other.

Make a small entrance hole at about 2 1/2" from the top of the front piece. The diameter of the hole might range from 1 1/2" for eastern and western bluebirds, 1 9/16" for mountain bluebirds, 1 1/4" for tufted titmice and 1 1/8" for chickadees.

Attach the front to the sides with appropriate screws. You can remove these screws to clean the birdhouse thoroughly at the end of the season. Attach the back to the sides with appropriate nails.

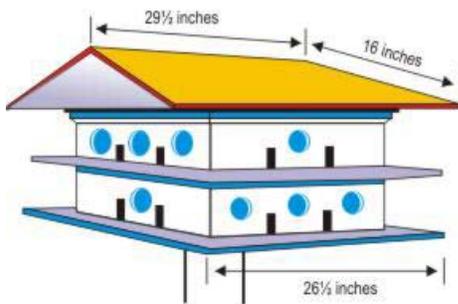
Cut off 1/2" from each corner of the floor for easy drainage. Attach the floor to the back and sides with nails. Do not attach from the front, as that would pose difficulties when cleaning the birdhouse. Then, attach the roof to the sides with appropriate screws.

Your birdhouse is ready for occupation.

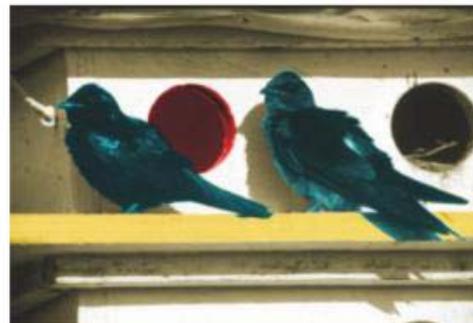
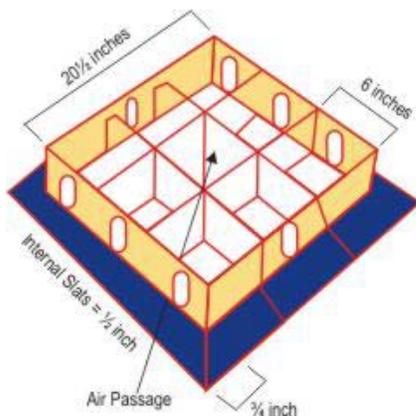
## 25. Purple Martin Birdhouse

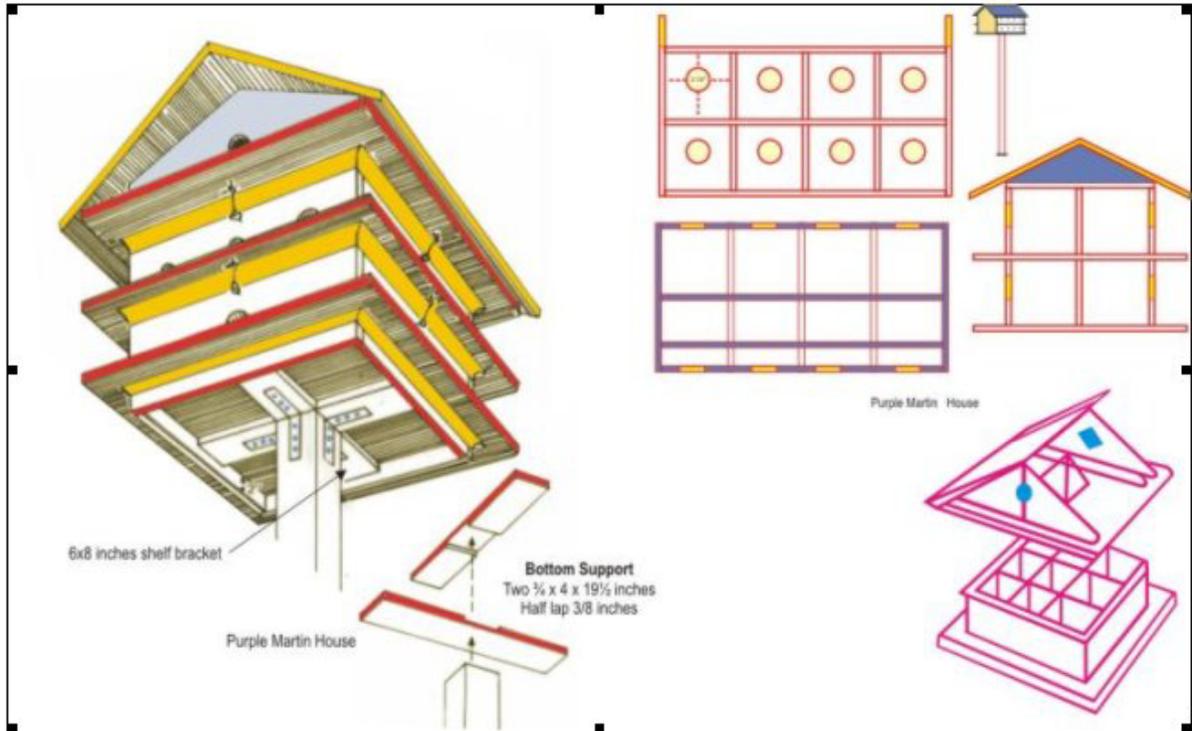
Purple martins nest in colonies. These birdhouses should, ideally, be close to bodies of water and in open spaces. The males come to search of nesting places around April.

Build a six-room, double storied apartment for the purple martins. Make slanted roofs and cover with asphalt shingles or tarpaper to give adequate protection for the birdhouse. Paint the rest of the birdhouse in white to reflect the heat and keep the interiors cool.



Make a bottom support with two crosspieces of 3/4" x 4" x 19 1/2". Place it on top of a 4" x 4" post at a good height from the ground. Fix it with 6" x 8" shelf bracket or heavy angle iron brackets.





## 26. Milk Carton Birdhouse

Different species of birds have specific preferences for the size of their birdhouses, the height of the birdhouse from the ground, size of the entrance hole and the width of the floor.

A milk carton birdhouse suits common birds like nuthatches, chickadees, tree swallows, house wrens and titmice.

### ***How to make a Milk Carton Birdhouse***

You only need two empty half-gallon milk cartons, a sharp pencil or compass, ruler, scissors, stapler and wire.

### ***Directions***

Open the top of one milk carton and make two holes on each sidewall. Pass wire through these two side holes for strapping the box to a tree.

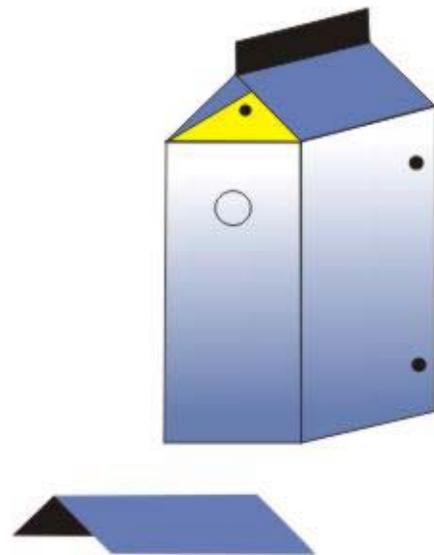
Make a roof 3  $\frac{3}{4}$ " wide with two sides of a carton. Fold the carton to form a slanting roof with a ridge.

Staple the roof along the ridge. Give a greater overhang on the side of the entrance hole. This will prevent rainwater from seeping in through the entrance hole. Bend over and flatten the ends of any wires or staples to prevent injury to the birds. Staple the top of the milk carton to close the gap.

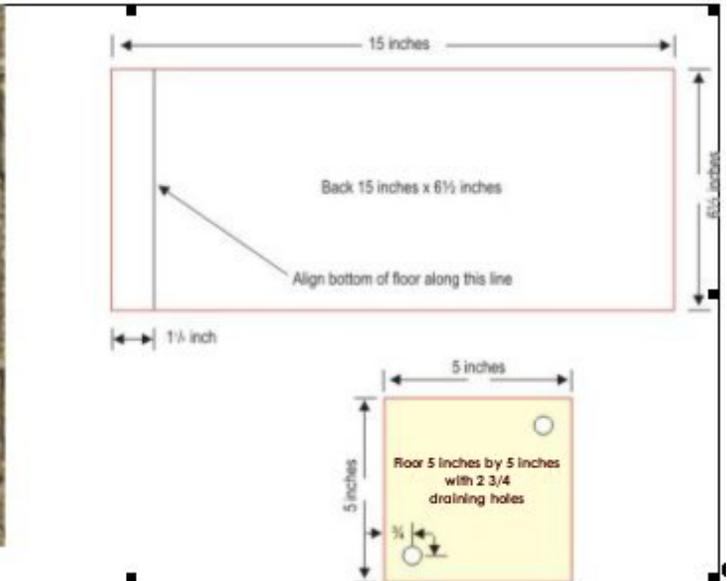
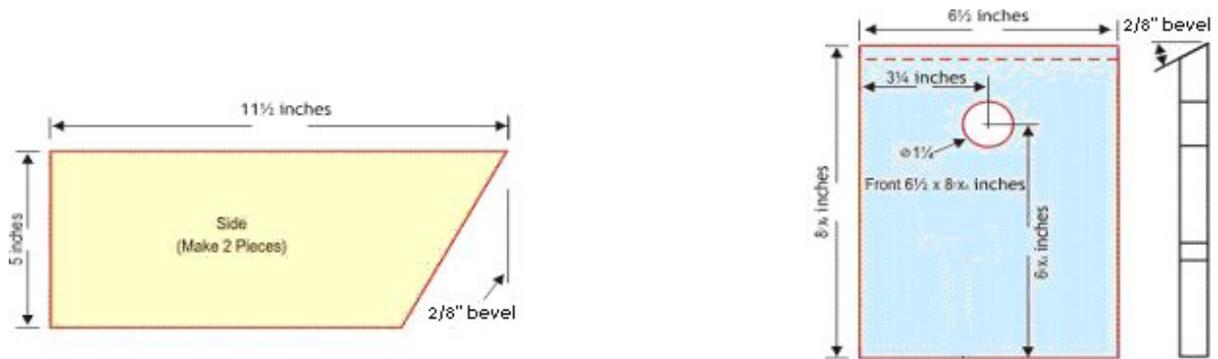
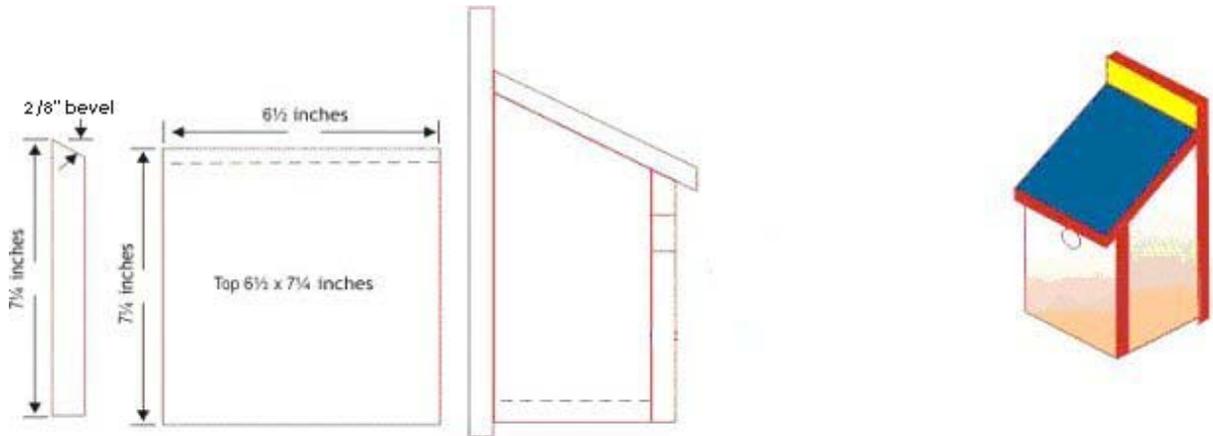
Make a 1  $\frac{2}{3}$  inch entrance hole at a height of 6 inches from the bottom of the carton. Poke a few ventilation holes and drainage holes.

Paint with waterproof paint and strap the house to tree with wire straps.

Fix the birdhouse to a tree at a height of five to eight feet from the ground.



## 27. Free Woodworking Birdhouse



## 28. Bluebird Birdhouse

You can make a bluebird birdhouse using simple materials and tools. This can be a good project for beginners in woodworking, Scouts, or Youth groups.

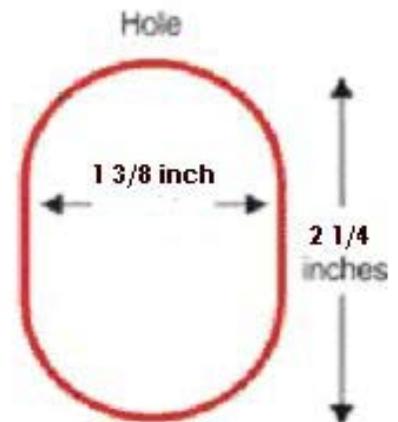
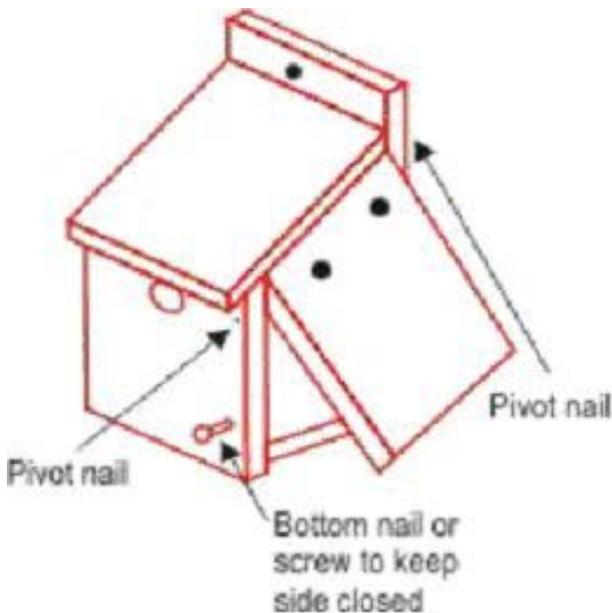
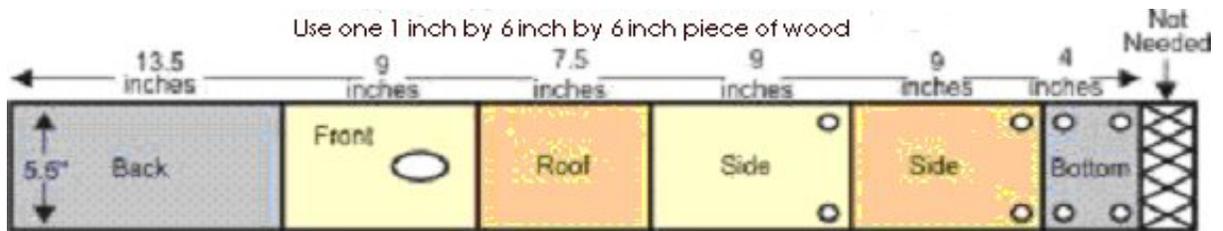
### Materials Required

A piece of six-foot long 1" x 6" lumber

A few wood screws

An eye screw

Finishing nails



**Directions**

Cut out;

1. one back piece of 5.5" x 13.5",
2. one front piece of 5.5" x 9",
3. one roof of 5.5" x 7.5",
4. two sides of 5.5" x 9", and
5. a bottom piece of 5.5" x 4".

Cut all these pieces from the six-foot lumber.

Make an oval shaped entrance hole, 1 <sup>3</sup>/<sub>8</sub>" in width and 2 <sup>1</sup>/<sub>4</sub>" length. Mark and drill out this hole on the topside of the front piece.

Make two small holes in the top of the two side-pieces. These are ventilation holes. Make four small holes on the bottom piece for drainage.

Use wood screws to fix one of the sides to the bottom piece. Fix the front and back-sides to the same piece.

Complete the house by placing the second side into place and fix it with two nails; one close to the top of each side. These nails should be across from each other to function as a hinge.

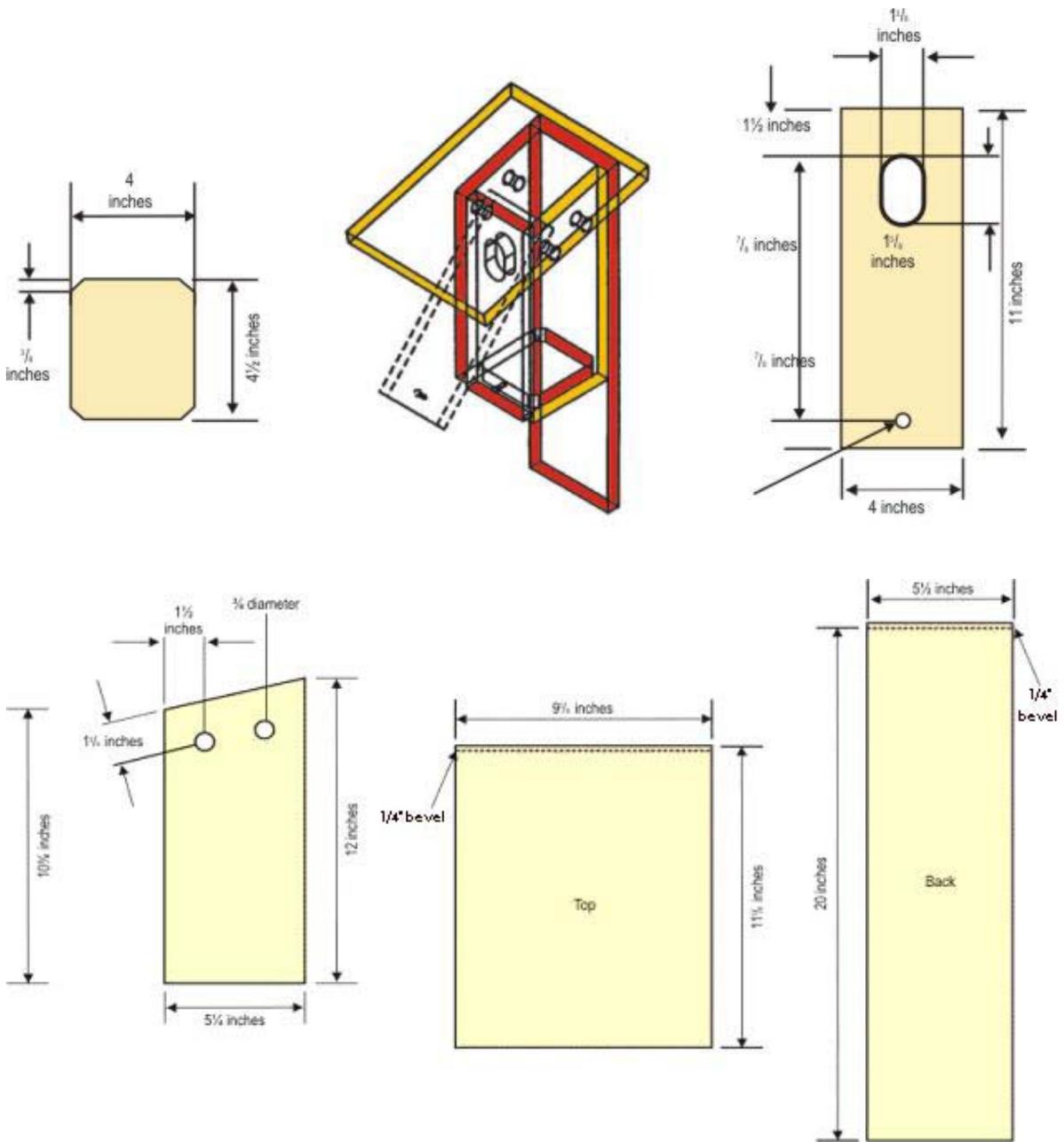
Put your hand into the box and push the bottom of the second side to open out like a hinged roof. Check if the opening is very tight. In that case, reopen the nails and sand the edges of the side. This would make the side a little smaller and help in the smooth opening of the side after fixing like a pivot.

Fix the eye screw near the bottom of the second side. This screw helps you open the box for monitoring the activity and health of the birds. Further, it will be useful when you clean the birdhouse at the end of the season.

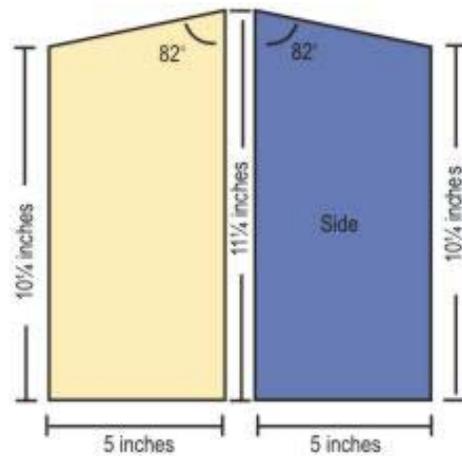
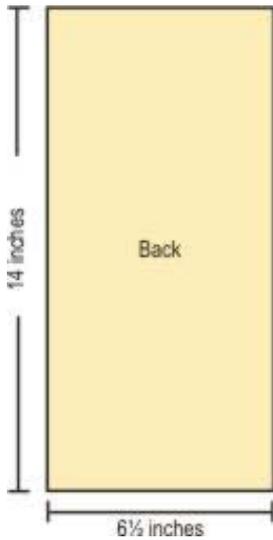
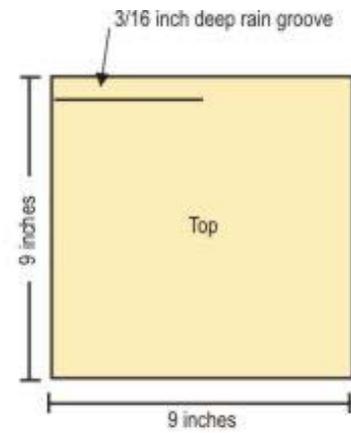
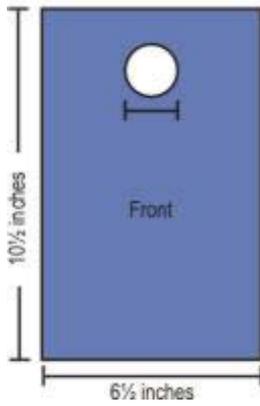
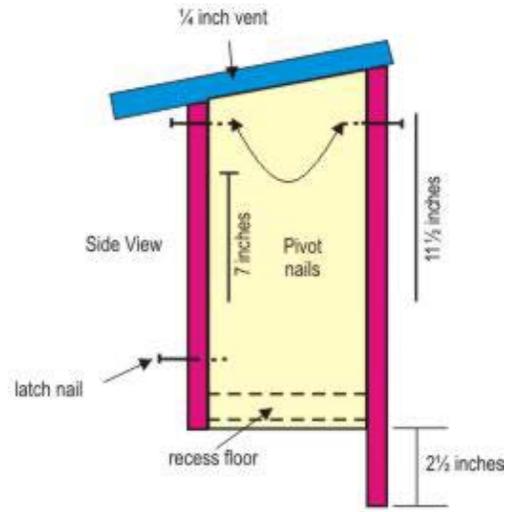
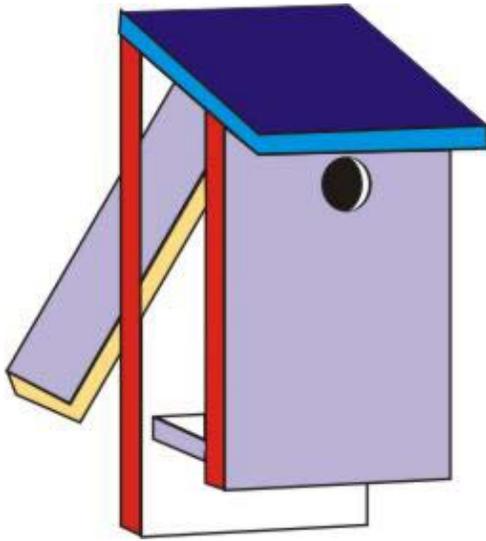
Make a small hole near the bottom, close to the second side. Push a bent nail or a small wood screw into the hole to keep it closed.

Place the bluebird birdhouse on a tree, fencepost or pole. Use some reliable type of predator guard to keep away snakes, cats and squirrels.

## 29. Eastern Bluebird Birdhouse



### 30. Western and Mountain Bluebird Birdhouse



### 31. Traditional Cedar Birdhouse

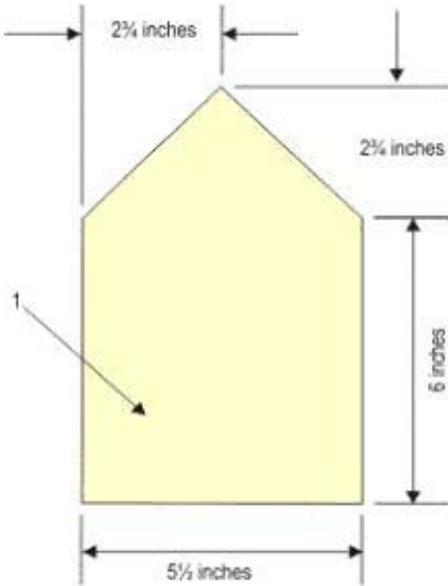


Fig.: 03

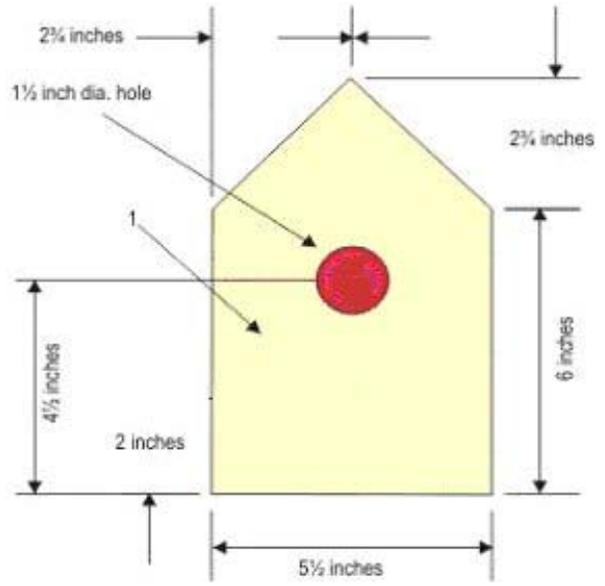


Fig.: 02

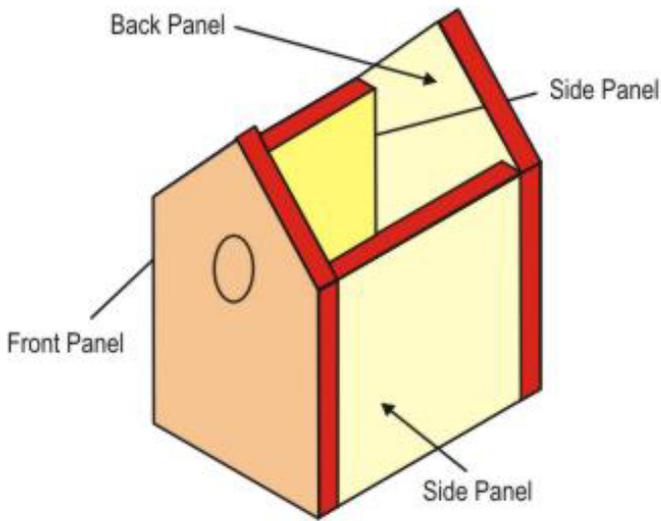


Fig.: 04

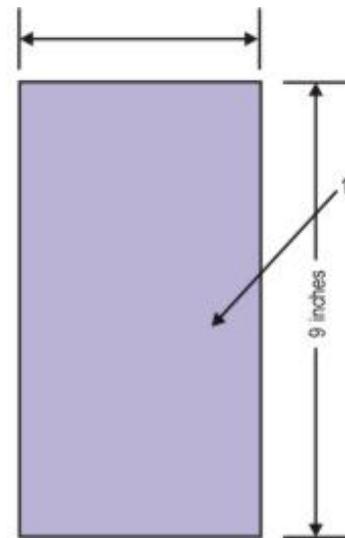


Fig.: 06(b)  
Left Roof Panel

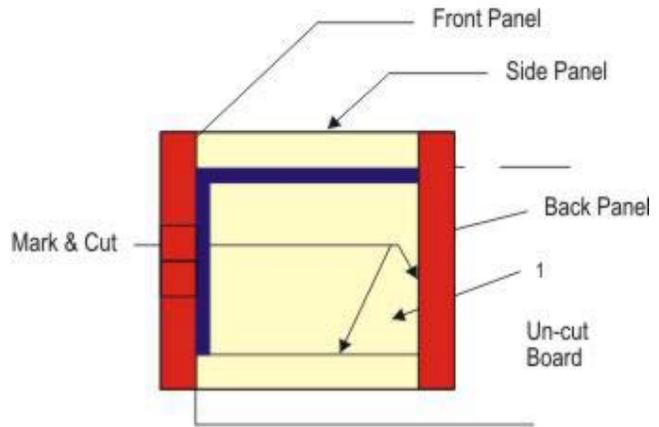
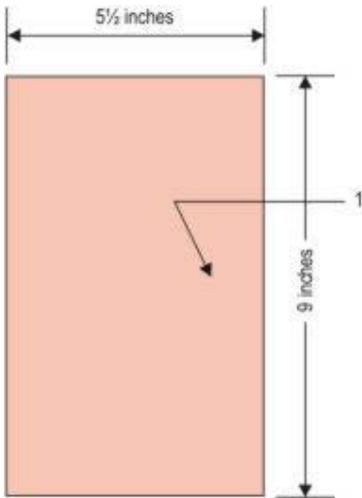


Fig.: 05

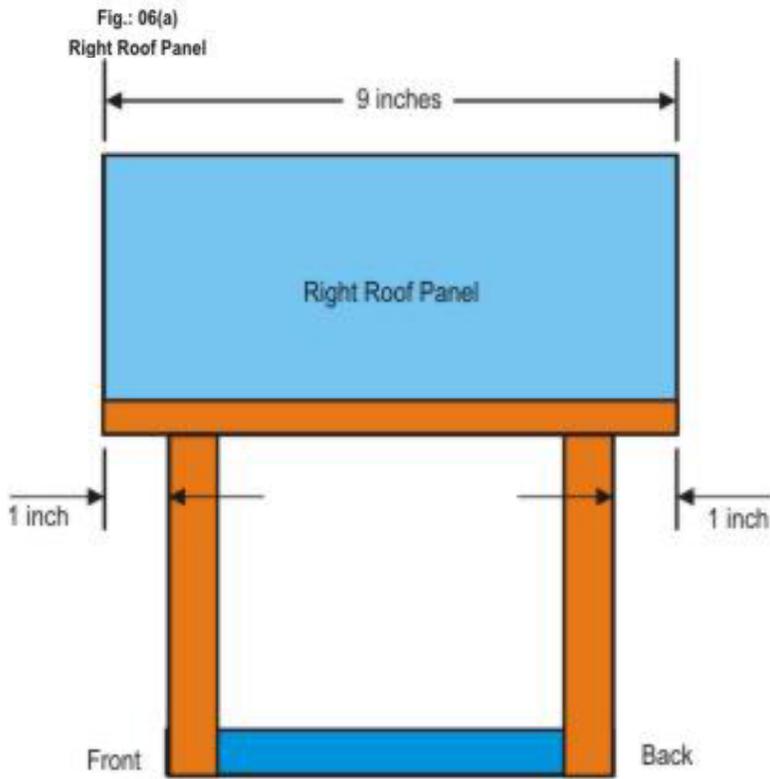


Fig.: 07(b)  
Side View

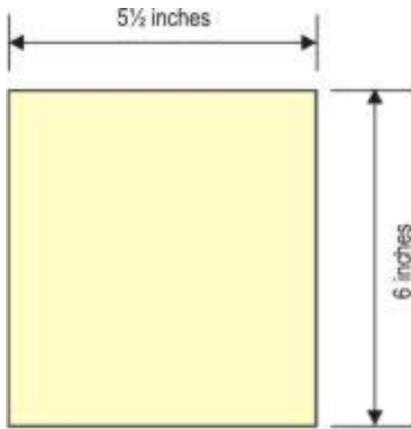


Fig.: 01

**Items Required:**

- One 1 inch x 6 inches x 5 feet long cedar fence board
- Thirty-five 1- 1/2 long finish nails
- One tube outdoor wood glue
- Four inch 3/8 diameter round wood dowel

All parts to be made from 1 inch x6 inches (5-1/2" wide by 3/4" thick) cedar fence board.

Therefore, not all dimensions shown five and half inches will need cutting. If a board other than five and half inches wide is used, more cuts will be required.

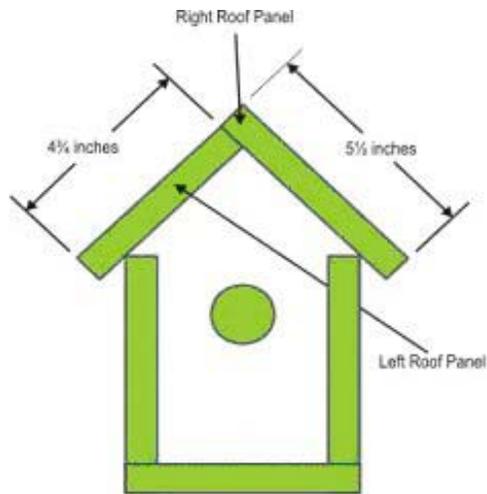


Fig.: 07 (a)  
Front view

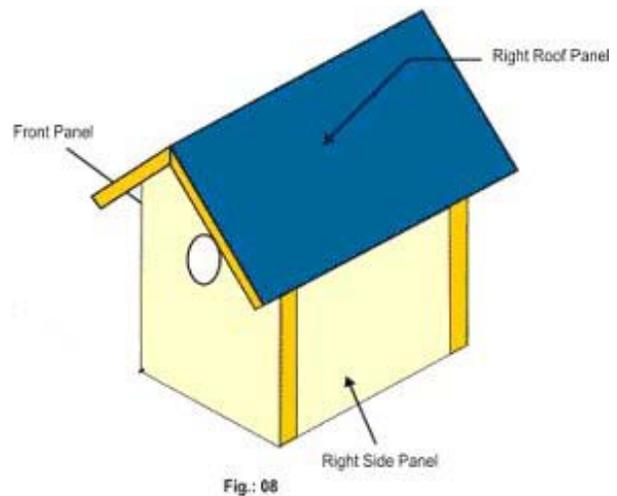


Fig.: 08

**Step-One** – Make two sidewall panels as illustrated in fig: 01.

**Step-Two** – Make one-front wall panel as illustrated in fig: 02.

**Step-Three** – Make one back wall as illustrated in fig: 03.

**Step-Four** – Assemble two sides - front and back panels as illustrated in fig: 04.

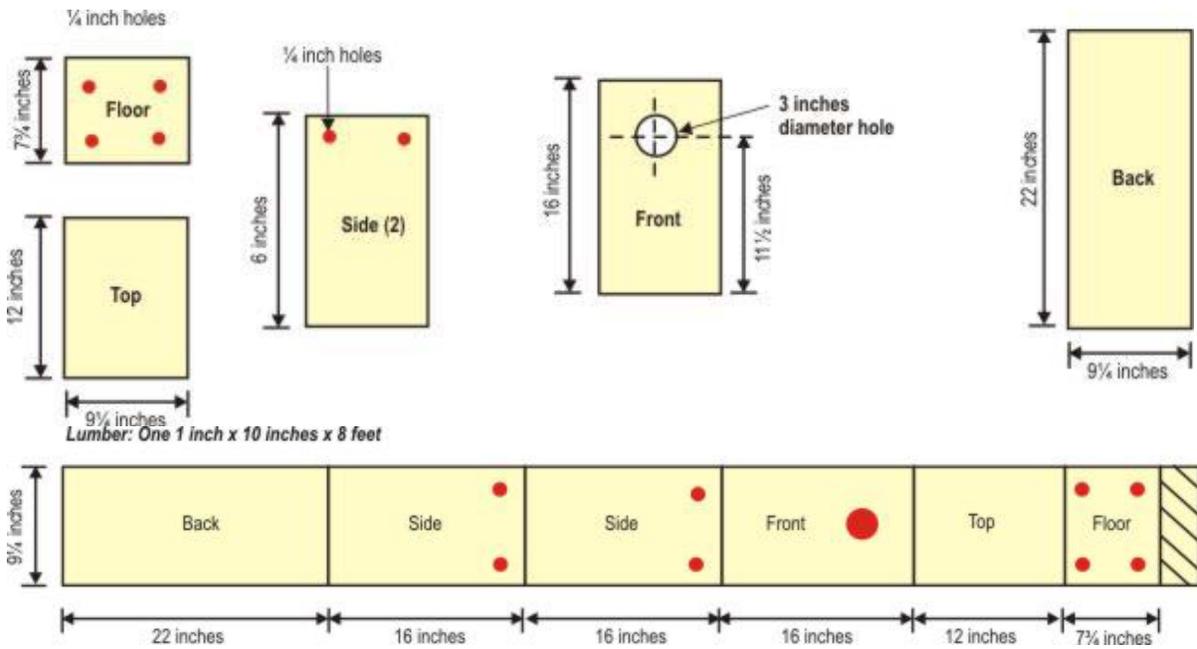
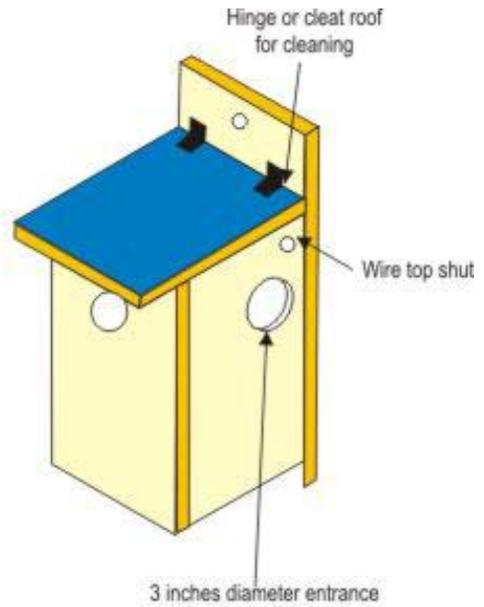
**Step-Five** – Make one bottom panel by placing assembled walls on top of the extra large, future bottom panel, board as illustrated in fig: 05.

**Step-Six** – Make one right roof panel and one left roof panel as illustrated in fig: 06 (a) and fig: 06 (b).

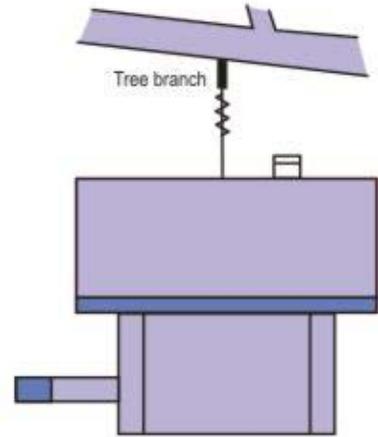
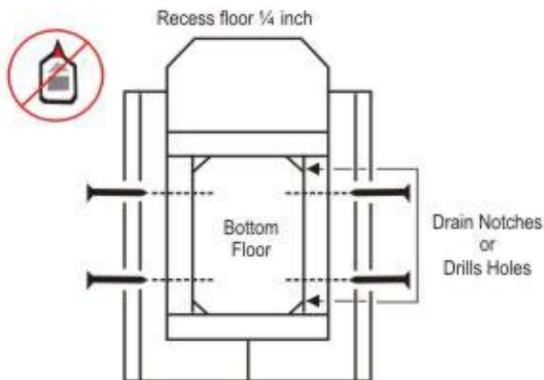
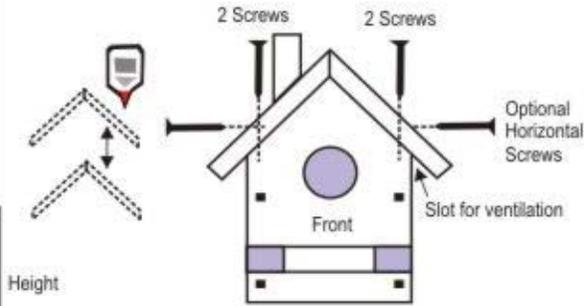
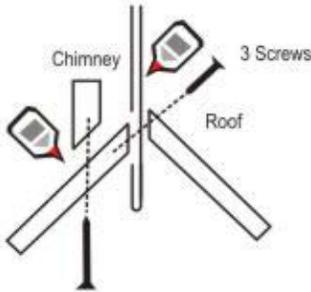
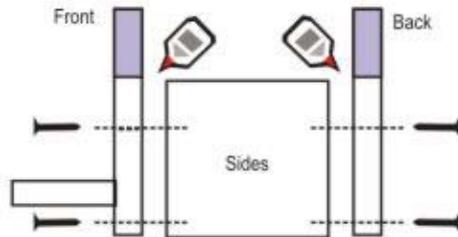
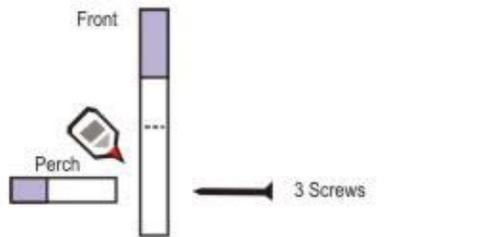
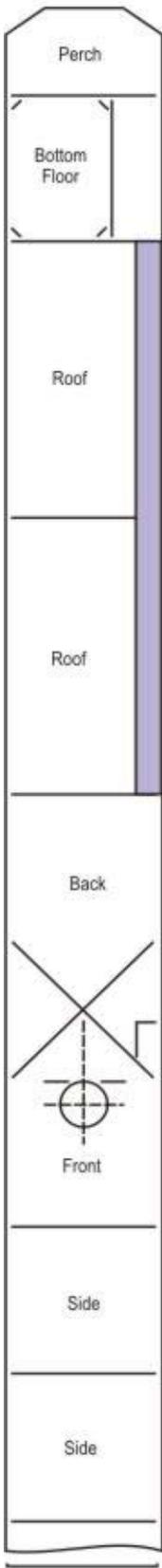
**Step-Seven** – Set up roof panels on house walls as illustrated in fig: 07 (a) and fig: 07 (b).

**Step-Eight** – Cut a four-inch long piece of 3/8 inch diameter wood dowel and join the pieces as illustrated in fig: 08.

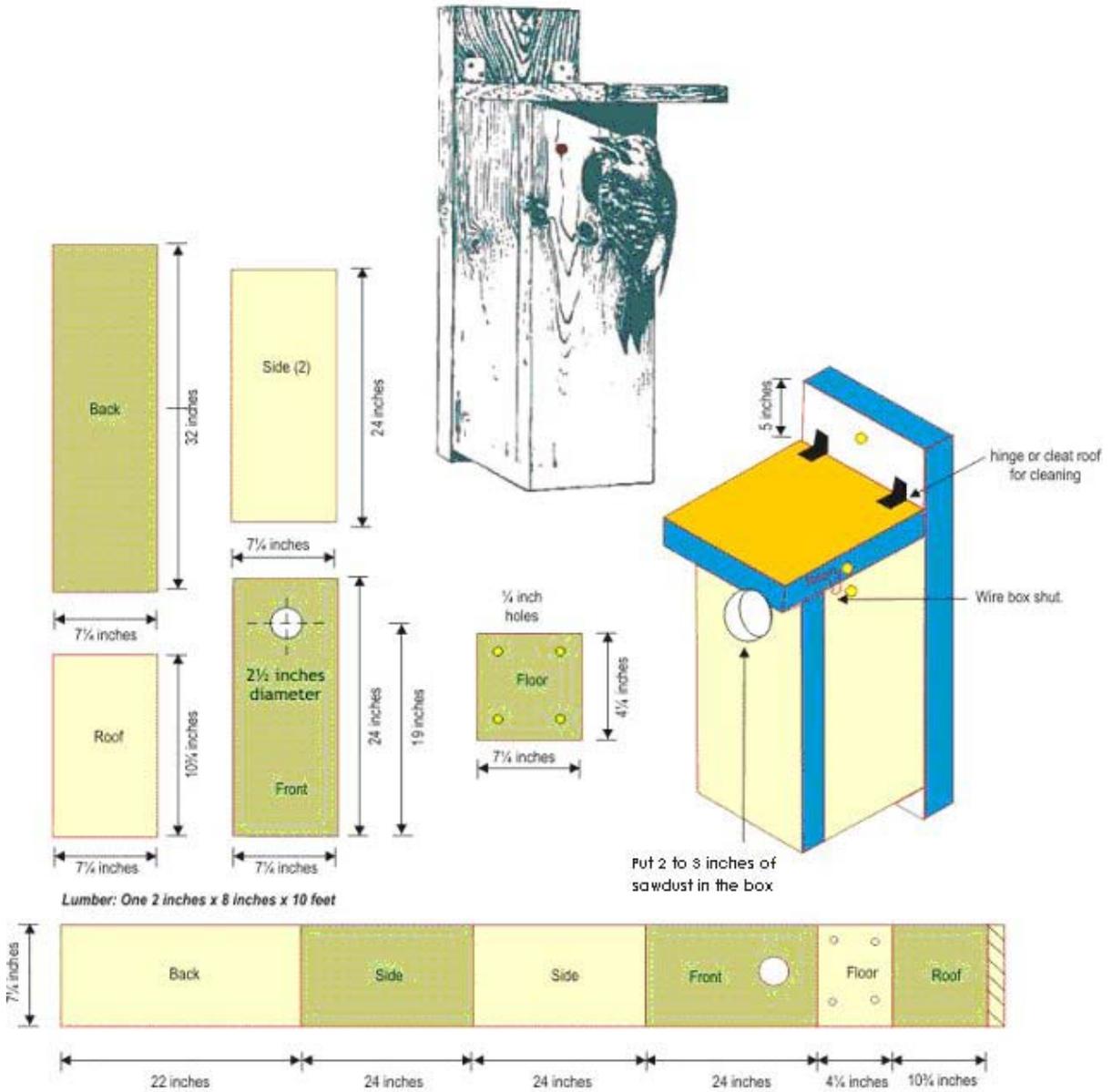
## 32. Cedar Fence Picket Birdhouse



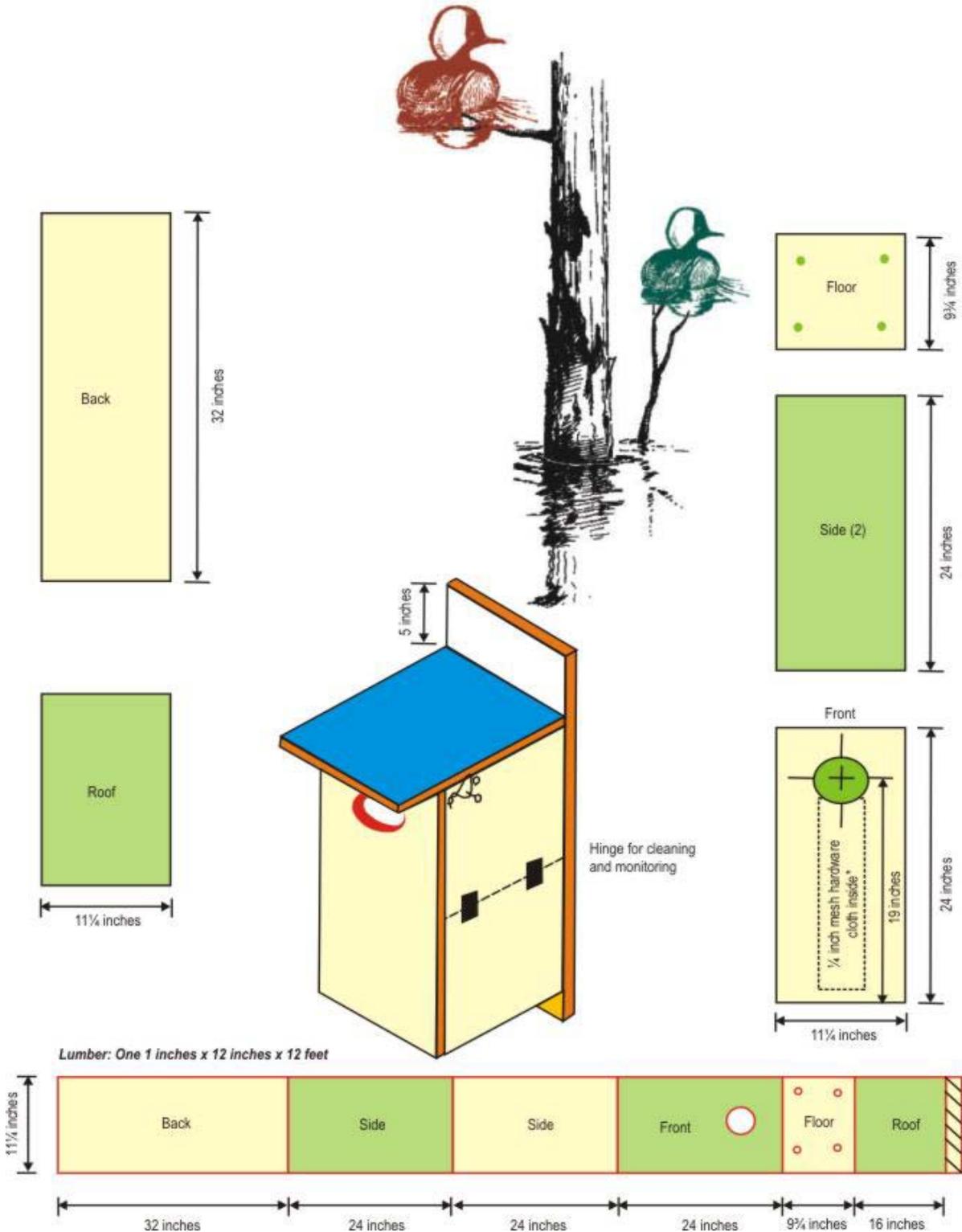
Cedar Fence Picket



### 33. Northern Flicker Birdhouse



## 34. Wood Ducks and Hooded Mergansers Birdhouse



## 35. Free Birdhouse Plan

**M**ake a simple gift of a birdhouse from cheap plywood scraps of ½" and ¼" for your family members and friends. You can do this very cheaply. With minimum materials, you can complete your gift in no time.

### ***Materials Required***

- ½" plywood for a pair of bottom sides and inside supports
- ¼" plywood for front and back cut into 5 7/8" squares
- ¼" plywood for roof sections of 7" x 5"
- Hammer, sandpaper, waterproof glue and nontoxic paint, if needed
- ½" finishing nails, 1 3/8" hole saw and a bit of ¼"
- 5" length of dowel for the top

Apply waterproof glue across the sides of each joint and then insert the nails while keeping them in position. Glue the two bottom sides in a diagonal shape. Then, glue and nail the back side to the bottom sides. Similarly, glue and then nail the inside supports.

Drill the entrance hole in the front piece about two inches from the top with the hole saw.

Smooth all the edges and the inner parts of the birdhouses with sandpaper before finally nailing the front piece. Apply glue and then nail the front to the bottom sides with the inside supports too.

Align the roof parts so that they make a pointed tip at the top without any overlapping. Glue and nail all the parts of the roof perfectly. The roof overhangs the sides to provide adequate cover from rain and predators too.

Glue the 5" dowel between the roof sections to give a complete look. Use sandpaper on all surfaces to make it smooth without any rough edges.

Your birdhouse is now ready for you to paint if you want. However, use nontoxic paint and on the exteriors only. Birds do not like the smell of paint in the inside their home.

## 36. Gourd Birdhouse

If you fancy the company of birds and want them in your location, try the Gourd Birdhouse. This is very old-fashioned, but still a favorite with many people.

You can easily grow a gourd at your home or buy one from your local farmer's market. The classic bottlenecked shaped gourds make very good Birdhouses. They have a natural place to tie the string.

You can carve two tiny holes on the neck of the gourd to put a cord through it.

You can paint or stain the gourds but they will be just fine if you just let them stay natural. A properly preserved home gourd lasts for years. Some have been reported to last 30 years.

### ***Materials Required To Build a Gourd House.***

- One bottle gourd of your choice.
- Some disinfectant. You can use bleach.
- Steel wool for cleaning.
- Some wood preservative.
- Primer, preferably oil based.
- White enamel paint again oil based.
- plastic-coated copper wire, 24 inches long.
- A facemask.
- A power drill
- 2<sup>1/8</sup> inch keyhole saw.

### ***Things to know when making a gourd nest -***

Gourd dust is a caustic substance! You must protect yourself from it. Always wear a mask while working on it.

Do not detach the stem from the gourd. Rinse it in a solution of 1 part disinfectant and 10 parts water. Then, wipe it dry.

Let the gourd hang in a sunny spot or wrap it in a newspaper and keep in a warm place for 3 to 6 months. If it is lying flat, remember to turn it once a while.

If the seed rattles when you shake the gourd, it means the gourd is dry. You can now start building your birdhouse.

After soaking the gourd for 15 minutes in hot detergent water, scrape the outer skin with a blunt knife. Then scrub the gourd with steel wool. Allow it to dry after you have rinsed it well.

Make the entrance hole measuring  $2\frac{1}{8}$  inch, along the outermost part of the curve, facing straight out and not towards the sky or the ground.

Use a keyhole saw to carve the entrance. It is advisable to cut the hole immediately after washing.

Make proper drainage holes in the bottom of the gourd.

Drill two more holes at the top, one for ventilation and the other for hanging.

Scrape the seeds and membranes from the entrance hole with a spoon.

You can use non-toxic wood preservatives for this gourd.

Use only exterior enamel paint and only nylon brushes. Check that you do not clog the drainage holes while painting the gourd.

Hang the gourd in an open space at the height of 10 to 15 feet to attract birds.

After one species departs, clean the house thoroughly, ready for the next arrival.

## **Part-IX: Birdhouses - Frequently Asked Questions**

### **37. Birdhouses Frequently Asked Questions**

#### ***What is the ideal size of the Birdhouse entrance hole?***

Different birds are different sizes. Keep in mind the type of birds you want in your birdhouse. You must learn about the birds you want to attract. The Internet is a great place to search for information on different birds.

#### ***Where can I find Cedar Fence Pickets?***

You can buy one from the lumberyard. Their standard size is usually 5 ½ inches to 5 ¾ inches and about ½ to ¾ inches thick.

#### ***I want to paint my Birdhouse. Is it safe to do that?***

Paint with unleaded paint and keep the colors natural.

#### ***What can I use to hang my Birdhouse, apart from clothes hanger wire?***

You can also use rope, if you wish to. However, you have to check that it is sturdy enough to last long and endure the change of weather. I prefer clothes hanger wire as they are more durable. You need to change rope every year if you use one.

#### ***Can I nail the Birdhouse in place instead of using screws?***

Nails can be used, but screws are better. Nails tend to pull out of the wood after several seasons and this may be dangerous to the little babies. You can easily remove screws and cleaning becomes much easier.

#### ***Why do advertisements read, 'Perch optional' only for display, do not use?'***

Perches are an open invitation to the predators. The nesting birds do not need perches. The more people have studied birds, the more they learn. Having a perch is for looks, not for practical purposes.

***What is a 'Rubber Hose'? Is it similar to garden hose?***

A Rubber Hose is a hose something like a fuel line. You can see one at you mechanic's garage. You could use an old garden hose to pass the wire but I think it will wear out quickly with the wire passing through it.

***At what height should I build Purple Martin's Birdhouse?***

A birdhouse for Purple Martins can be 20 feet off the ground as a minimum, but it may be better if you can place it a little higher; say 40 or 60 feet.

***What kind of roof should I make for the Purple Martin?***

The roof needs to be slanted. It is better if you shingle the roof. This will prevent rainwater from accumulating and will keep the house dry.

***I used no wire when I hung the Birdhouse.  
Can I do it now? And, if so - how?***

It is not a problem; you can run the clothes hanger wire through the peak of the roof, fold the ends, and twist a little to look like a typical clothes hanger. However, it is best to use screws when putting the roof together.

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