

CHAPTER

6

THE ART OF BROODING: PREPARING THE NURSERY FOR YOUR NEW ARRIVALS

IF CHICKS ARE IN YOUR FUTURE, YOU WILL NEED A BROODER FOR YOUR NEW ARRIVALS.

A brooder, your new chicks' home for their first few weeks of life, is a box that provides them with a warm and dry place to live and a fresh and continuous supply of food and water, as well as protection from predators and the outside environment. It does what a mother hen would do in nature.

Your chicks live in the brooder—which is frequently indoors but always somewhere temperature-controlled—until they fully feather, usually for between six and eight weeks. Actual length of time, however, depends on outside temperatures and the season; in January in Minnesota, they may need up to twelve weeks, but in Arizona during summertime, they may need just four.

A brooder consists of several parts:

- Container
- Heat source
- Waterer
- Feeder
- Bedding



[[A baby chick taking a drink from a commercial brooder trough]]

A brooder box does not have to be fancy. You have three options for obtaining a brooder: Purchase a commercial one, buy a kit that includes some brooder parts and requires you to provide some, or make your own homemade brooder out of wood, a kiddie pool, a plastic or rubber storage bin. I get into more detail about this a little later.

First you need to determine how big a brooder you need based on how many chicks you are expecting. Remember, chicks don't stay small for long and they need more space as they grow. Really, you can use anything for a brooder that has tall enough sides and ample ground space square footage.

Cardboard boxes can work, but with other free or inexpensive alternatives available, you may want to stay away from this fire hazard. Styrofoam coolers provide ample space for a few chicks, but these babies love to scratch and peck, often doing so to the small Styrofoam balls that make up the cooler's walls. For that reason, I discourage their use as well.

Commercial brooder boxes are fantastic, if you have the budget to purchase one. With water troughs, feed troughs, built-in heaters, and removable floors for cleaning, they make for an easy and pleasant brooding experience.

TIP

ONE DAY, I CALLED MY WIFE with what I believed was a revolutionary idea. I suggested that we use a kiddie pool as a brooder for the twenty five chicks we would soon receive. We rushed to the store and bought a cheap plastic kiddie pool and brought it home, eager to set it up. Turns out, it was one of the worst ideas I've ever had. It worked fine for the first week. Then the chicks started flying out to explore our garage. We purchased netting and lashed it down around the kiddie pool, but we soon found chicks marooned between the outside walls of the pool and the netting. We haven't used this brooder option since. I tell this story not to discourage, but rather to show that people have mixed results with every brooder option. Many people love the kiddie pool idea. If it appeals to you, give it a try; what doesn't work for one chicken owner may work perfectly for another.



A commercial brooder box



A completely set up and functioning homemade brooder made from a rubber/plastic bin



A homemade cardboard brooder box

SELECTING A BROODER

Because we all have different expectations and preconceptions for brooders, different types work for different people. When picking out the brooder you want to use, consider that it works well for you, your schedule, and your chicks.

Essentials: Container

Many household items can pass for a brooder, for example, an old bathtub, an out-of-use child's playpen, or an old animal trough. A favorite homemade brooder, with which I've started countless new chicken owners, is a simple 45-gallon (170 L) storage bin purchased from any big-box store or major retailer. It has many qualities that suit it for the task.

- Tall sides make chick escapes unlikely.
- Elongated shape allows plenty of room for growing chicks to move toward and away from the heat source.
- Sturdy sides and handles offer a perfect place to clamp a heat lamp.
- Plastic or rubber material makes it easy to clean with a household garden hose.
- Wheels, found on some models, make it easily moveable.
- Cardboard boxes can work, but with other free or inexpensive alternatives available, you may want to stay away from this fire hazard. Styrofoam coolers provide ample space for a few chicks, but these babies love to scratch and peck, often doing so to the small Styrofoam balls that make up the cooler's walls. For that reason, I discourage their use as well.

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Essentials: Heat Source

Now that you've selected your brooder, you need its corresponding pieces. First, choose the heat source.

Chicks get cold quickly because they haven't yet feathered out (they just have down) and therefore, haven't bulked up their internal heat source. There's no mother hen to keep them warm, so as chicken owner, it's your job. Do this by hanging a light bulb into the brooder to provide heat. Just make sure to choose the appropriate wattage, which I discuss shortly, and to hang it in such a way that leaves room between it and the chicks. Otherwise the bulb can become dangerous. I recommend a brooder lamp or shop lamp in conjunction with a heat lamp bulb as seen in the photo at xxxx.

There are two basic lamp types. One has a direct wire from the outlet to a ceramic base where the bulb is inserted. The connection of the plug to electricity alone turns this lamp on and off. The second lamp has a wire that connects from the outlet to a plastic base, which also has an on/off switch. For safety reasons, I discourage using cheaper plastic lamps. I've seen them melt due to high heat from constant bulb use in the brooder.

BROODER TEMPERATURE

All chicks need access to a spot within the brooder that is 95°F (35°C) for the first week and 5°F (about 3°C) less each week thereafter until the brooder temperature gets down to no lower than 70°F (21°C). Attach a



A direct wire brooder heat lamp with ceramic base



A red heat lamp bulb for use with the brooder heat lamp



A clear heat lamp bulb for use with the brooder heat lamp

thermometer to the section of the brooder at the chicks' level to confirm that it's at the appropriate temperature. If it hangs on the side of the brooder, it may be too close to the heat lamp to provide an accurate temperature reading.

If you pay close enough attention to your chicks, however, you do not truly need a thermometer in your brooder. Through their actions and their peeps, the chicks will let you know whether you need to increase or reduce the temperature. Try this: After you add heat to the brooder, watch how the chicks react. If all the chicks are loud, huddled close to the heat source, or lethargic, they are too cold and you need to increase the temperature. Doing this could be as simple as lowering the lamp or swapping in a higher-wattage bulb. If the chicks stay far away from the light, they are most likely too hot. Fix this problem by raising the heat source away from the chicks or by putting in a lower-wattage bulb.

The chicks do not need the entire brooder to be a uniform temperature. It is best to keep one area of the brooder warm, but not too hot, and keep other areas cooler so the chicks can regulate their own comfort levels. I have seen more chicks die from overheating than from being too cold because chicken owners put the chicks in a small box with a heat source that's too close. This is why it is important for the brooder to have an oblong shape or wide base that allows the chicks to get away from the heat source.

Whether you choose to clamp, hang, or set the heat lamp on the brooder, make sure the heat lamp is secure with no chance of falling from its berth. Remember, all heat sources are fire hazards and should be treated with caution.

LIGHTBULBS

There are two widely used types of bulbs. Red lightbulbs and white lightbulbs both give off the same wattage of heat. The only difference (literally) is the color light they emit. Some research shows that a red bulb discourages chicks from pecking at each other. While that may be a researched truth, in my experience, chicks with ample space peck very little, if at all. But just like people, chicks crammed into a small space get irritated with each other, which may translate into pecking.

Several factors determine the wattage appropriate for the bulb. A 125-watt bulb usually works for chicks in a brooder housed in a controlled-temperature environment like a basement. Consider a 250-watt bulb if the environment outside the brooder is cool, such as a garage during the winter. I like to change the bulb as the temperature changes with each season.

TIP HOW DO YOU KNOW whether your chicks are content? Happy chicks spread out in the brooder and move around freely, scratching, eating and drinking, and cuddling under the light to sleep. They will quietly chirp happy chirps.



Essentials: Waterers and Feeders

Feeders and waterers come in all different sizes. The number of chicks you need to feed and provide water and the size of your brooder box determine your choice. Most commercial brooders come with their own feeding and watering systems, like the model in the photo (page 4, top) that shows trays on the outside of the brooder. There are also plastic or metal feeders and waterers in a range of sizes that you can purchase from your local feed and seed store for your homemade brooder.

You can make homemade feeders out of bowls or even egg cartons, and homemade waterers out of plastic bowls, plastic bottle bottoms, or Mason jar lids. The drawbacks to homemade feeders and waterers are that chicks will climb into the feed and water, excrete into

them, sleep in them, and ultimately knock them over, spilling the contents. You can certainly hot glue the homemade feeder or waterer to some cardboard so the chicks can't turn it over, but it is best to use the feeders and waterers specifically designed for chicks found at a feed and seed store or online.

Base the size of your feeder and waterer on the number of chicks you have and the size of your brooder box. Those that are too large for the brooder take away space from the chicks or make it difficult for them to move around. Chicks need fresh feed and clean water at all times. Don't worry about exactly how much each chick eats and drinks but rather, pay attention to provide a continual supply of both necessities.

Place the feeder and waterer apart from each other in the brooder box. As the chicks eat, they scratch through their food and toss it with their beaks. If the waterer is next to the feeder, some of this scattered food may end up in the water. Spoilage from this creates a "fowl" smell!

For young chicks, place the feeder and waterer directly on the brooder floor. As the chicks grow, raise the feeder and waterer to their chest level (but never any higher). Feed will always be spread about the brooder floor, but raising the feeder and waterer—by pulling hanging versions higher or adding small blocks or bricks to those on the ground—reduces the amount of feed they waste.

Essentials: Bedding

Depending on the brooder, you may need to add bedding material to its bottom to help with cleaning. Its purpose is to reduce mess and (possibly) odor. There are several bedding options. Some work better than others.

Many people choose a wire floor for the brooder bottom. I recommend using 1/4-inch (6 mm) hardware cloth. This allows you to place a pan or cardboard under the wire to catch any wasted food, spilled water, and feces. The only disadvantage to this is that it does not allow the chicks to effectively use their natural instinct of scratching for food.

There are several types of shavings from which to choose. Studies have shown negative side effects of cedar shavings on mice and small rodents, so as a precaution, I discourage use of this with chicks. Instead, try pine shavings, which are usually readily found and aren't expensive. Some still debate the safety of pine shavings, but I have used them many times and have never had a problem. Aspen shavings are said to be the safest; they are the least toxic, but also more expensive.

Some people use shredded paper or newspaper as brooder bedding. When wet, these materials turn to mush and make cleaning difficult. Newspaper also can be too slick for a chick to stand on correctly, which over time may cause a deformity known as spraddle leg. This is a condition in which the chick's legs become spread out from walking on a slick surface and not being able to get traction. Spraddle leg must be corrected in the chick immediately by applying small splints often made with toothpicks and Band-Aids. Death can occur if not corrected in a timely manner. Most chick owners splint the chick themselves rather than going to a vet. For more about spraddle leg and other chick ailments, see Chapter X.



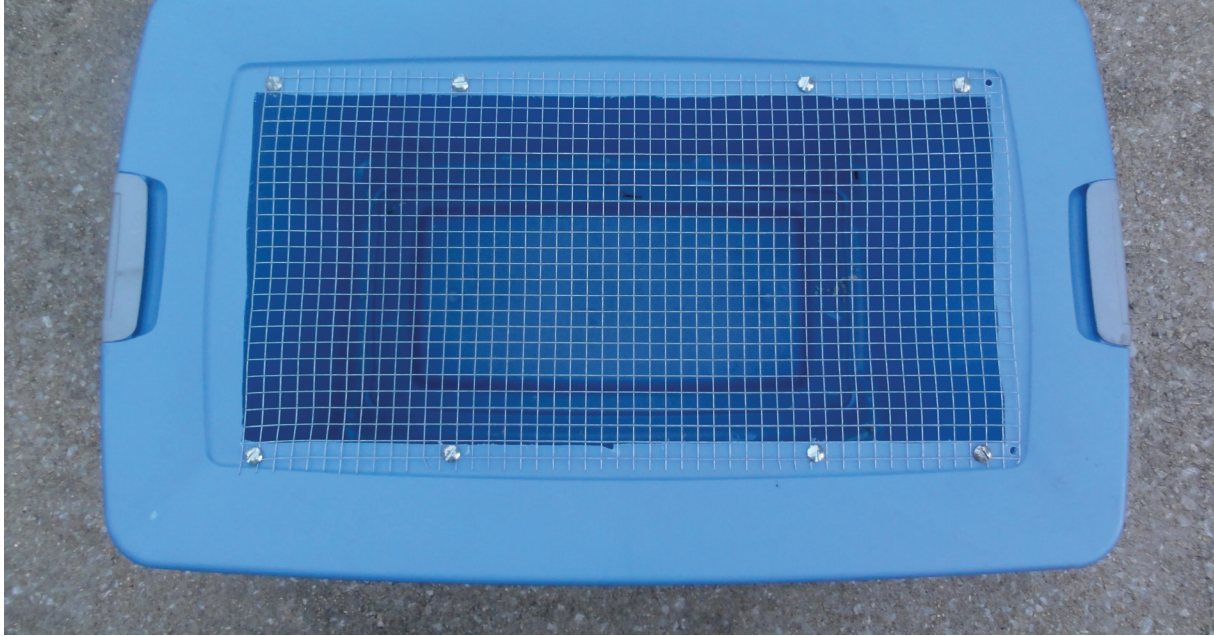
A plastic one-quart (946 ml) feeder with plastic base for use inside the brooder



A plastic one-gallon (3.8 L) waterer for use inside the brooder

TIP SINCE CHICKS are attracted to shiny things, filling the homemade or store-bought waterer tray with marbles encourages the chicks to peck at the water and stay hydrated, while keeping them dry.





A rubber/plastic homemade brooder box with a wire mesh lid.

Everything You Want to Know about Brooders

You may have additional questions before making a brooder decision. In spite of any advice given here or elsewhere, always evaluate all available options to make the decision that's best for you. Following are the answers to a few frequently asked questions.

HOW MANY CHICKS (FROM 0 TO 6 WEEKS) WILL A BROODER HOLD?

While chicks start out egg size, standard breeds quickly grow to softball size, around six to eight weeks old. What seems like plenty of room for a week-old chick will be quite tight for a six-week-old chick. Also, consider the space bulky items such as a feeder and waterer take up in the brooder. Though the heat source will not sit inside the brooder, it also affects the brooder's size and shape. Chicks need plenty of space to move toward or away from a heat source, at least 6 square inches (38.7 sq cm) per bird.

HOW EASY WILL CLEANING BE?

This may be one of the most important factors in your brooder decision. Cleaning takes time, and time is precious. Look for brooders that are easy to maintain and clean. Plastic and rubber surfaces can easily be rubbed down with a cloth or rinsed out with a hose.

HOW FREQUENTLY WILL I NEED TO CLEAN IT?

The amount of space and number of birds in the brooder determine how frequently you need to clean it. Larger brooders require less frequent cleaning than those with less space. Your nose and eyes will easily let you know when it is time to clean out the brooder. With the appropriate maintenance, you can keep odors low and reduce the chance for disease in your birds.

WILL THE CHICKS BE ABLE TO FLY OUT AFTER A FEW WEEKS? HOW WILL I PREVENT THEM FROM FLYING OUT?

If you choose a brooder with low sides (such as the kiddie pool, page xx), after the first week, chicks will flutter right over the edges. Just because they can get out doesn't mean they can get back in—which is necessary to get food and water, and for warmth. When they fly out, they also will make a mess where they aren't supposed to and may run into danger from household pets. Even storage bins with tall sides may not prevent chicks from getting out. I have found that they flutter to the top of their feeder or waterer, which puts them at a height to then flutter out of the bin. Attaching upside-down cones to the tops of the feeders and waterers (just as to prevent soiling, see page xx) keeps the chicks from flying on top of them. Netting or a wire lid also may be a solution.

DO I NEED TO PROTECT MY CHICKS FROM A HOUSEHOLD PET?

When you choose a brooder and its placement, keep in mind your pets—indoor cats, dogs, snakes, other household pets—and your young children. To protect the birds and keep unwanted intruders out of the brooder you should clamp it down or lock it with a wire lid, shaped chicken wire, or netting.

WILL THIS BROODER PROVIDE ME EASY ACCESS TO MY CHICKS, FEEDERS, AND WATERERS?

The easier it is to access the items you need regularly in the brooder, the more enjoyable a brooding experience you will have. A brooder that requires you to bend down, stretch, or climb in will make the six to eight weeks it takes for your chicks to feather seem much longer!

SHOULD I STORE IT FOR REUSE?

If there is one confession chicken keepers make to each other, it's that chickens are addictive. Even if you think you won't add to your flock, you may change your mind. Think about where and how you can safely store the brooder and brooder items for future use; do not discard your brooder just because your first chicks grow up.

HOW EXPENSIVE IS A BROODER?

Brooders can be as cheap or expensive as you choose. Some people use a bathtub or a large cardboard box, at little to no cost. Others build a brooder using recycled materials, new materials, or a mixture of both. And still others purchase commercial brooders. There are options for everyone.

Your Brooder's Location

Once you decide on the materials for your brooder, you need to figure out where to put it. Chicks must stay warm, dry, and away from drafts. You can raise chicks in your bathroom or in your garage, but a sunroom or other interior space is ideal. These latter options likely have a heating unit and an air conditioning, which will help you keep the chicks comfortable no matter the season.

Ideally, you'll keep your brooder out of the elements. At the same time, a brooder filled with growing chicks inside for six to eight weeks poses its challenges. A friend once reported that though he kept his first flock of chickens in a brooder in the basement, the smell overtook the house—all the way up to the third floor. He soon figured out that the brooder sat in the same room as the return air vent for the heating system. Need I say more? Moving the brooder from one room to another solved his problem. That's just one scenario, of course, but don't underestimate the smell of a dozen growing chicks inside your home, especially in a brooder not properly maintained.

INTRODUCING YOUR CHICKS TO THE BROODER

The brooder is finally set up, and you have brought your chicks home! What's the next step?

- ① Remove the chicks from the transport box and gently place them in the brooder one at a time. As you transfer them, examine each chick for any deformities, lethargy, or feces around their vent area. (See sidebar below for how to handle health problems in new chicks.)
- ② Once each healthy chick is inside the brooder, gently dip its beak in water. Allow it to throw its head back to swallow and then dip its beak in the feed.
- ③ Repeat this process with every chick.

This is an important time with your chicks because not only are you showing them where to find their feed and water—a mother hen would do—but you also are looking for any weakness that may cause problems for the chicks in the future.

TIP WASH YOUR HANDS before and after handling chicks to prevent contamination. This goes both ways; you could inadvertently pass something to your chicks or they could pass something on to you.



Contending with Health Issues in New Chicks

Pasty butt. Some chicks develop what is called pasty butt, a collection of fecal matter around the chick's vent area. If this occurred in nature, a mother hen would clean the chick's vent. Now it's your job.

- ① To prepare, fill a cup with warm water. Tear strips of paper towels into 3 x 4-inch (7.6 x 10 cm) sections.
- ② Put on gloves and begin picking up the chicks and looking at their vent areas. If you find a chick with pasty butt, dip a paper towel strip in the warm water and gently rub the area clean. The fecal matter often gets tangled in the chick's fuzz so you may need to carefully work on it to loosen it.
- ③ Check chicks daily for this issue because it can block the vent, constipating the chick, and potentially result in death. The problem usually goes away by the time the chicks are two to three weeks old, but it can last longer.

The good news is that not every chick has this problem. Usually the chicks that need wiping today are the same ones that need it tomorrow.

Weak chicks. Any time I spot a weak or sick chick, I separate it immediately from the other chicks. I always have available a smaller plastic box that I call the ICU (Intensive Care Unit) brooder. I separate these chicks for several reasons. Once healthy chicks spy a weak chick, they peck it, push it over, and run over it. In addition, this chick's problem may be contagious to the healthy chicks. Chicks that need to be separated include those that are lethargic or that have runny eyes, diarrhea, or droopy wings. These chicks may not be eating or drinking. They are most likely very quiet and want to sleep all the time.



A chick that has pasty butt that needs to be wiped and cleaned.

They may try to get as close to the heat source as they can, if they have enough energy to do so.

The ICU brooder is set up the same way as the regular brooder with food, water, and heat. However, it is usually smaller than the regular brooder and with an increased heat source (though one that doesn't overheat). This can be from a bulb that's closer to the chick or a higher-wattage bulb to increase the heat. Chicks stay quarantined in this brooder until they are completely well or they succumb to their illness. Poultry vitamins and electrolytes found at your local feed and seed store may supply the chick an extra boost. In a pinch, if you can't get to the feed store, add sugar to the waterer (no more than 3 tablespoons per gallon [45 ml per 3.8 L]) or put one dropper's worth of liquid baby vitamins (without iron) into the waterer base. Dip the chick's beak in the water tray occasionally throughout the day. It is a good sign if the chick drinks the water, but when it quits drinking completely, you must prepare for the worst.



There's no mother hen to care for these chicks, so as chicken owner, it's your job.

BROODER MAINTENANCE

Feeders and waterers always need a fresh and constant supply. Depending on the feeder and waterer size and the number of chicks, you may need to refill them as frequently as every two to three hours (especially homemade feeders or waterers), daily, or every couple of days. Constant monitoring of feed and water levels is essential.

It is also important to keep the feed and water clean from feces, which can contaminate a food and water supply. To reduce this problem, keep the feeders and waterers raised to the chicks' chest level. Attach an upside-down cone to the top of the feeders and waterers to prohibit the chicks from roosting and spoiling the feed and water from above.

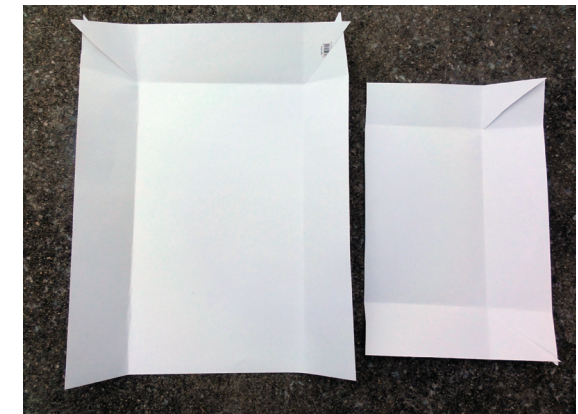
The brooder will need regular cleaning, the timing of which will again depend on the brooder size, the number of chicks you have, and the size and age of your chicks. Some general guidelines: Clean every other day during your first week with the chicks, unless a water spill requires you to do it more frequently. As the chicks grow, you will need to clean out the brooder everyday (or at least every other day). Your nose and eyes will also let you know you need to clean.

Cleaning includes:

- Replacing the bedding
- Rubbing down the sides with soapy water
- Cleaning the feeders and waterers with water and a sponge
- Spraying the brooder down with a hose

This may sound like common sense, but make sure to remove the chicks before you clean out the brooder. Place them in a box in a warm area.

When the chicks are ready to move outside to their new home, the chicken coop (which we cover completely in chapter 7), the brooder will need one final cleaning. I recommend using one-part bleach to ten-parts water to scrub down the brooder, feeders, and waterers. Rinse these items thoroughly with water and let them dry. Then store them safely for their next use.



Using poster board, folded and cut to fit the bottom of your brooder, can make clean-up time a lot easier.

TIP

I'M ALWAYS THINKING about how I can save time, especially when cleaning. Using poster board to line the bottom of the rubber/plastic brooder helps immensely. Cut a piece that fits the bottom dimensions. This allows quick bedding removal, which can then easily be dumped into a compost bin. (See photo of the poster board to go under the bedding, (top).) Then I place my bedding choice on top of the poster board. When it is time to refresh the bedding, I grab the sides of the poster board and lift it out of the brooder, taking the soiled bedding with it.

