



incubation guide

HATCHING BABY CHICKS

ITEMS NEEDED:

- ✓ Incubator [auto turning tray with air circulator fan] (*recommended*)
- ✓ Egg Incubator Digital Thermometer/Hygrometer {to best monitor the humidity and temp levels}
- ✓ Water

HOW TO INCUBATE:

Prepare your incubator. Make sure that it has been cleaned with hot soapy water to ensure you're starting with a sanitized environment.

Once the incubator is clean and dry, turn it on and check to be sure a constant temperature and humidity level will be maintained. Make sure you are placing the incubator in an area where ambient temperatures are steady, with no risk of draft.

TEMPERATURE

Temperature and humidity inside the incubator are critical factors for successfully hatching eggs. Suggested guidelines are as follows:

- Optimum temperature: 100.5 degrees Fahrenheit
- Temperature range: 99-102 degrees Fahrenheit
 - Don't let temperature drop below 99 degrees Fahrenheit
 - Do not allow temps of 102 degrees Fahrenheit to last more than a few hours
 - Double-check the incubator's thermometer with a digital Thermometer/Hygrometer placed inside to ensure the gauge is working properly.

HUMIDITY

Relative humidity, Day 1-17: 50-55 percent. On day 18, raise the relative humidity to 70 percent

- Use a hygrometer to ensure humidity levels are correct throughout the incubation period.

SETTING THE EGGS:

Once you have the incubator set-up and have analyzed the settings to ensure accuracy, you are ready to place the eggs inside the incubator. This process is called "setting the eggs." Place the eggs in the egg tray of the incubator, with the larger end facing up and the narrow end facing down in the incubator. Set the temperature to 100.5 degrees Fahrenheit with 50-55 percent humidity.

CANDLING THE EGGS:

Towards the middle of the incubation period at 7 to 10 days, eggs can be candled to determine if the embryos are growing properly. Candling is the act of simply shining a light through an egg. White and light-colored shells are the easiest to candle, while darker shells will require a brighter light. The simplest way to candle an egg is with a basic flashlight, but there are specialized pieces of equipment designed specifically for the job. Do not keep the egg out of the incubator for more than 5-10 minutes, and don't candle the eggs all at once. To allow the eggs to stay inside the incubator, plan to candle a few at a time.

CANDLING CONTINUED

To understand what you are looking for while candling eggs, read the following description from extension.com:

- If the inside of the egg is clear - that is, free from visible structures or dark areas - the egg is infertile, or the embryo died very early. Remove this egg from the incubator.
- If a ring of red is visible within the egg, there was an embryo at some point, but it has died. Remove this egg from the incubator.
- If you can see blood vessels within the egg, there is a live embryo inside. Blood vessels in chicken eggs are normally observable within 7 to 10 days of an egg's incubation. By 18 days of incubation, the embryo takes up most of the egg and appears as a dark area within the egg. You can sometimes see movement inside the egg.

DAY 18 - MOVE TO HATCHING TRAY

By day 18, the embryo has developed into a chick and will take up most of the space in the egg. The chick is preparing to hatch. You can do a few things to best help the baby chick prepare:

- Stop egg-turning at day 18 with the larger end of the egg facing up. At this point, the chick will position itself for hatching inside the egg.
- Maintain a temperature of 100.5 degrees Fahrenheit but increase humidity to 70 percent.
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DAY 21: HATCH DAY

Chicks will typically hatch at day 21. If the fertilized eggs were cooled prior to incubation, the process might take a little longer. If you are at day 21 with no hatch, give the eggs a few more days.

When the big day comes, let the chick hatch on its own. Do not attempt to help. Blood vessels that haven't dried up yet may still attach the shell to the chick, and prematurely pulling of the shell can cause excessive, potentially fatal, bleeding. A chick can take up to 24 hours to completely hatch, although 5-7 hours is more common.

The peeping of the new baby chicks will encourage unhatched eggs to also start hatching. When the chicks have all hatched, the incubator temperature can be lowered to 95o Fahrenheit. Once the chicks have dried, they can be moved into the brooder, which should already be up and running with a temperature of 90-95o Fahrenheit. Food and water should be in place as well.

If there are still unhatched eggs at day 21, don't despair. It is possible that timing or temperature went slightly awry, so give the eggs until Day 23. Candle any unhatched eggs to see if they are still alive before discarding them.

THINGS TO NOTE

Keep in mind that when hatching eggs, you will likely end up with roosters. There is a 50/50 chance that a chick will be born a rooster. There is no good way to determine if a male or female chick is developing inside an egg. Some town ordinances do not allow backyard roosters, so have a plan for re-homing a rooster if you can't keep him.

If you decide to keep a rooster, it is suggested to only have one. In addition, one rooster per 10 hens is typical for continued breeding. Any less than that can put hens at risk for overbreeding and injury.

Hatching eggs can be a very rewarding experience with proper planning and equipment. Remember to test all equipment before fertilized eggs arrive and set up the brooder as hatch day approaches.

Keep a watchful eye on temperature and humidity inside the incubator and invite friends and family over to watch the hatch. Everyone will be enthralled! Best of all, enjoy the new flock members you have had the privilege of raising from birth.

