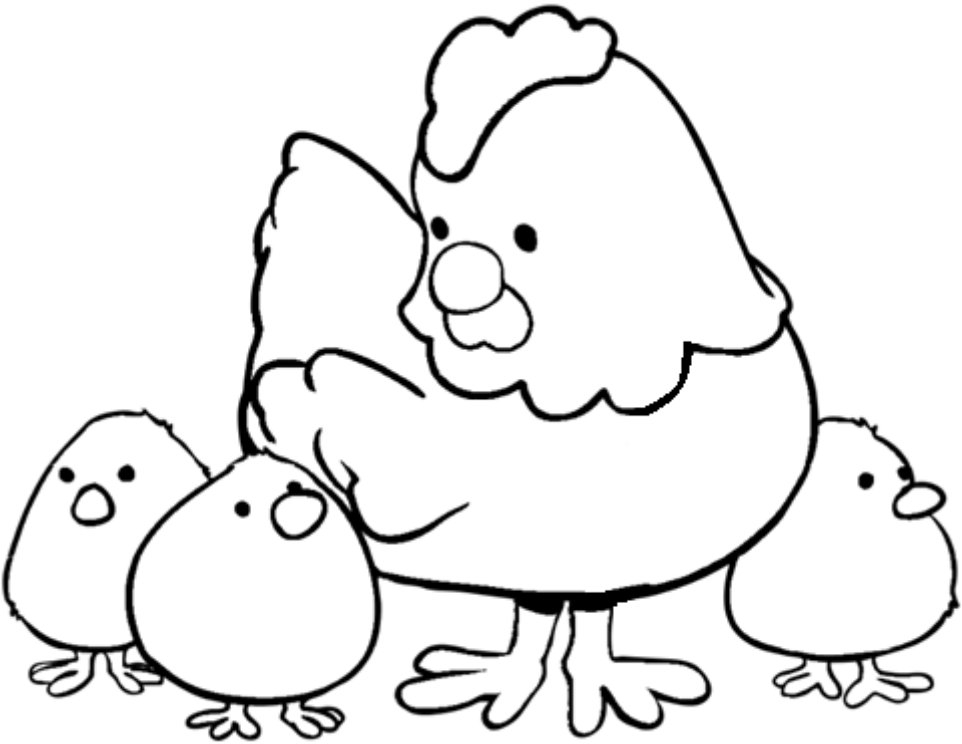
Starting your own backyard chicken flock?

In this coloring book, Dr. Cluck will teach you and your family how to best care for your new chickens!



UC CE

2019-2020

cdfa

Developed by the University of California Cooperative Extension (UCCE) and the California Department of Food and Agriculture (CDFA)

Hi there, I'm Dr. Cluck,
I'm a chicken veterinarian and heard you want to raise backyard chickens! Well you came to the right place. In this book, we'll discuss all sorts of things including:

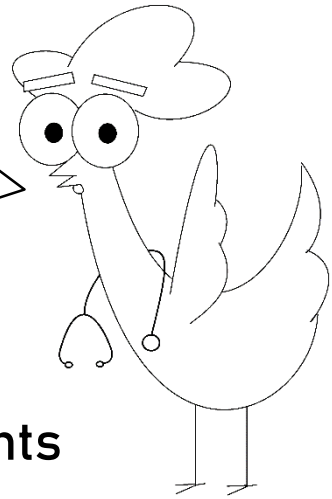
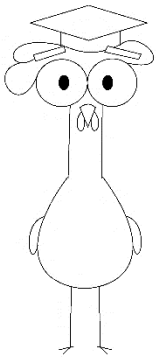


Table of Contents

Section	Page	Section	Page
What to do before buying chicks	2	Food safety	17
Setting up brooders	3	Heavy metals and chickens	18
Choosing chicks	4	Anatomy of chickens and eggs	19
Taking care of chicks	5	Egg candling	24
Setting up a coop	6	Composting waste	27
Biosecurity	7	Resources	29
Diseases	10	Kids' Corner	35
Ectoparasites	15		

Deep chicken thoughts: Chickens are fun, but please be responsible if you decide to raise them. Remember that if your chicken gets sick, she could spread her illness to other birds. Let's all do our part to keep all California chickens healthy!

Do Your Homework!



Before you buy your chicks or chickens:

1. First, find out if your city allows chickens
2. Set up a brooder (see page 3)
3. Set up a coop and fence it off (see page 6)
4. Purchase feed for chicks or chickens
5. Have a secure storage container for the feed
6. Read as much as you can about chickens!

Note: Chickens are social animals, meaning they like to hang out with other chickens. So if you want happy and healthy chickens, make sure to get more than one!

Not all veterinarians treat chickens, so plan ahead and find one who routinely cares for chickens! Our UC Cooperative Extension Poultry website (bit.ly/PoultryVets) has a growing list of private veterinarians who treat poultry in California.

Some veterinarians specialize in birds. If you want an expert, ask if your veterinarian has the following credentials:

- **ACPV:** American College of Poultry Veterinarians
- **ABVP:** American Board of Veterinary Practitioners (certified in Avian Practice)

Chicken giblets #1: What are an adult male and an female chicken called?

Answer: Rooster (male) and hen (female)

Setting Up and Maintaining a Brooder

For the first 6-8 weeks of their lives, chicks need to live indoors (ex. your garage, laundry room or some other well-ventilated, temperature-controlled area) in their brooder.

What is a brooder?
A brooder is a big box with minimum 18 inch sides, lined with 'litter' (wood shavings, straw, etc.) that your chicks will call home while they are babies. Change the litter frequently to reduce odor.

What is in a brooder?

- A heat source (usually a heat lamp)
- A water source
- A feeder with chick feed

Make sure pets and youngsters don't have access to the brooder area. The heat lamp is very hot! Work carefully under adult supervision. If needed, you can add a ventilated lid to help keep other pets out!

Brooder Basics

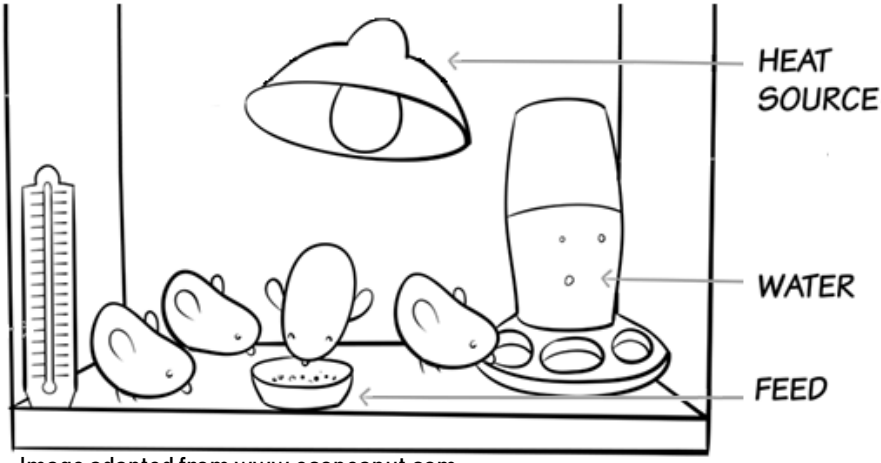


Image adapted from www.ecopeanut.com

Chicken giblets #2: How many weeks does it take a female chick to mature and lay eggs?

Answer: Approximately 18-24 weeks

Where to Pick Up Some Chicks

Buy chicks from a hatchery that buys chicks from a hatchery that participates in the **National Poultry Improvement Plan (NPIP)** or from feedstores that purchase chicks from NPIP approved hatcheries (ask if you're not sure!). NPIP requires birds to be tested to make sure they are free of certain diseases like Salmonella and Avian Influenza!

Questions to ask yourself before buying chicks:

- What is my goal for raising chickens? Eggs? Meat? Show?
- What breed(s) do I want?
    - What size chicks do I want? Standard or small (bantam)?
    - If I want eggs, what color eggs do I want?

Questions to ask the store before buying chicks:

- Were the chicks vaccinated against any diseases?
    - All chicks should be vaccinated against Marek's disease (more about Marek's disease on page 11)
    - Ask your poultry vet about which additional vaccines they recommend for your chicks
- How old are the chicks?

Popular Chicken Breeds

Breed	Cool Factoid
Ameraucana	Lay blue eggs
Australorp	Calm and docile
Leghorn	Great at laying a lot of eggs, but can be flighty
Rhode Island Red	Hardy in heat and cold

There are lots of other breeds, so do your research on which one(s) fit what you're looking for!

Chicken giblets #3: How many different breeds of chickens are there?

Answer: Over 150

How to Take Care of New Chicks

1. Make sure the brooder is set up before getting chicks so the new chicks can be put right in the brooder when they get home.
2. Have fresh water and clean chick feed available at all times.
3. Always wash your hands with soap and water or use hand sanitizer before *and* after handling the birds.
4. Isolate (quarantine) any sick birds ASAP!

What to Feed Chickens

1. For the first 6-8 weeks, chicks in the brooder should be fed 'chick' feed, also called chick starter. We recommend feeding a starter feed with coccidiostats to help improve your chicks' digestive health!
2. From 8-16 weeks, you may continue to feed your chicks starter feed OR switch them to a "pullet" feed if available.
3. After 16 weeks of age, feed the chickens a standard layer 'crumble' or 'pellet' feed.
4. As a treat, you can give chickens a small amount of chicken scratch (mixture of whole grains and cracked corn) and other table scraps, but it should not replace their regular diet.
5. Keep your feed in a waterproof, secure container that won't attract rodents and other vermin.

Chicken Feeder

Chicken Waterer

Chicken giblets #4: How many days does it take a chick to hatch?

Answer: 21 days

How to Set Up a Chicken Coop

When the chicks are 6-8 weeks old, they are ready to live outside in a coop. A recent survey among chickens found out that 9 out of 10 happy chickens like a well designed coop and living area which contain:

Fencing – To prevent unwelcome visitors like rodents or predators from getting in, and to make sure the chickens don't get out. Make sure there is secure fencing surrounding and covering the area where the chickens live.

Shelter area - A shelter, such as a coop, protects chickens from extreme weather and predators. *Note: We don't recommend using chicken wire for your coop, as it is too weak to keep predators out! Hardware cloth is a lot harder for predators to get through.*

Shade area - Aside from shelter, chickens should have access to sun and shade in order to stay cool or keep warm depending on the weather.

Nest box - Inside the coop there should be a nest box where the hens typically lay their eggs. Chickens like a nesting material, which can just be a reusable astroturf nest pad, or material such as straw. Make sure there is at least one nestbox for every 5 birds.

Scratch area - Chickens like an area to peck and scratch at

Perch - Birds like an area to be off the ground to rest. Depending on the size of your bird, make sure you have at least 6" to 9" of roosting space per bird.

Feed and water area - There are many styles of feeders and waterers. One style of each is shown on the previous page. Whichever type you choose, just make sure there are enough for every bird to have access to food and water!

Chicken giblets #5: What does Alektorophobia mean?

Answer: The fear of chickens

What is Biosecurity and Why is it Important?

Biosecurity – is any practice that reduces the risk of introducing disease to your flock or other flocks.

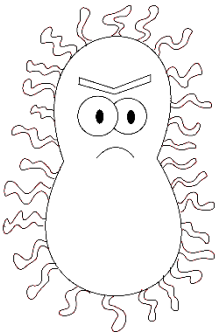
Basically, biosecurity is how we prevent chickens from getting 'cooties' (germs) and giving 'cooties' (germs) to other animals and humans.

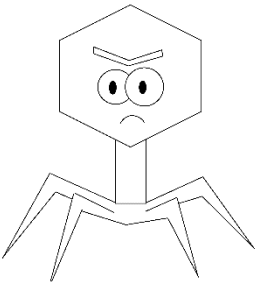
Sources of disease

1. Animals (both domestic and wild)
2. People
3. Feed
4. Water
5. Fomites: objects (such as containers, shoes, tires, and tools) that can transmit germs

It's dangerous out there!
Viruses, bacteria, and parasites are all over the place. Are you practicing good biosecurity to prevent diseases from entering your flock from these sources?

For example, think about where your hands and shoes have been… You probably don't know what kinds of germs could be on them that could get your chickens sick! Follow the steps on the next page to keep your flock safe!

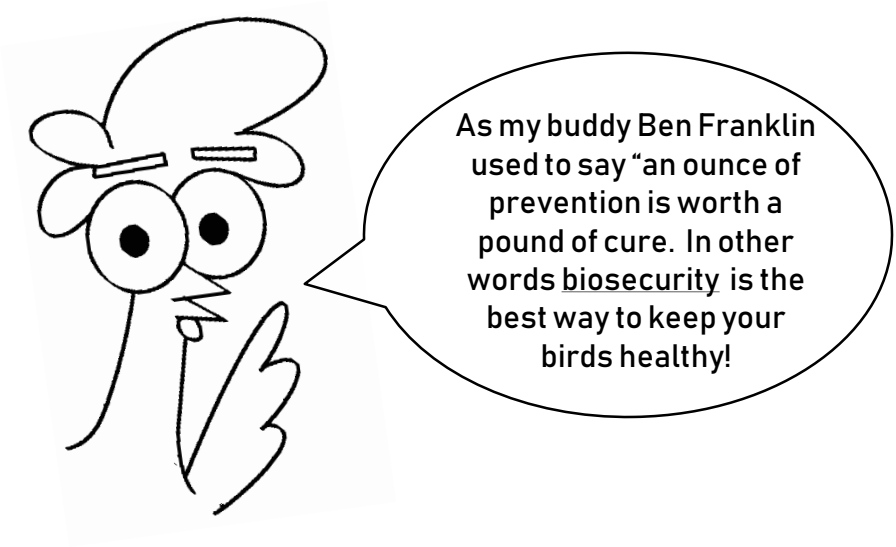




Chicken giblets #6: Why did the chicken cross the playground?

Answer: To get to the other slide!

Biosecurity for Backyard Chickens



How to keep your chickens healthy before they get sick

Here are some biosecurity tips to keep your flock healthy:

1. **Wash your hands** with soap and water or use hand sanitizer before and after working with chickens.
2. **Have designated 'coop boots'**. These will be the only shoes that go into your chicken area and they won't go anywhere else OR
3. **Use foot baths** before entering and exiting the fenced off coop area. A foot bath is a container with an approved disinfectant to disinfect shoes. Make sure to maintain a clean footbath (this usually means changing it out weekly). Disinfectants don't work if the footbath is dirty!
4. Don't allow wild animals to come in contact with your chickens!
5. If you have a sick bird isolate it (quarantine) and contact a veterinarian (see page 2).

Note: to learn more about biosecurity and ways to protect your birds, visit bit.ly/BirdBiosecurity

Chicken giblets #7: True or False: Chickens can get diseases from humans and humans can get diseases from chickens.

Answer: True

What Do I Do if my Chicken Gets Sick?

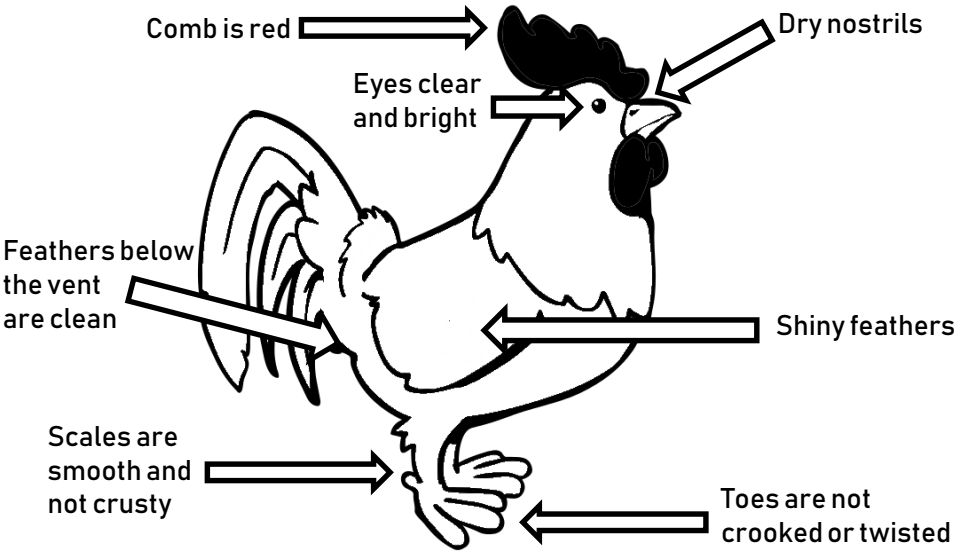
Who to contact about a sick bird

1. Call your veterinarian (see page 2)
2. Call the Sick Bird Hotline: 866-922-BIRD (2473)
3. Call your local California Animal Health and Food Safety Lab (CAHFS). There are four laboratories in the state with experts in diagnosing animal diseases (page 29)
4. The California Dept. of Food and Agriculture (CDFA) has offices throughout the state with veterinarians who can help (page 30)

Signs that birds are sick:

1. Sudden death
2. Diarrhea
3. Decreased or loss of egg production
4. Inactivity or listlessness
5. Sneezing, coughing

How to Check the Health of Your Bird

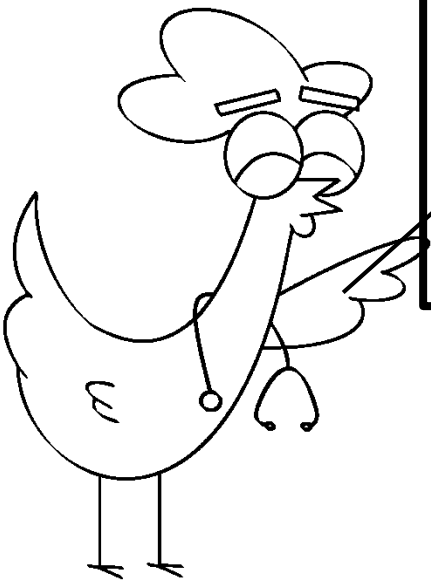


Chicken giblets #8: What is the normal body temperature of a chicken?

Answer: 105-109° F

What Diseases Can my Chicken Get?

There are too many avian diseases to list. For purposes of this book we'll just focus on the biggies!



Common Avian Diseases

- Marek's Disease
- Avian Influenza
- Salmonellosis
- Avian Pox
- Newcastle Disease
- Infectious Bronchitis
- Necrotic Enteritis
- Coccidiosis

For purposes of public health, animal diseases can be broken down into two categories: diseases that *can* be transmitted to humans from other animals (also called "**zoonotic diseases**"), and those that *can't* be transmitted to humans.

Remember, regardless of the disease, **biosecurity is essential** in protecting your birds and your family!

Chicken giblets #9: Chickens don't have teeth; the gizzard (formally known as the ventriculus) is used to grind up food in a similar way that teeth do.

What Diseases Can my Chicken Get?

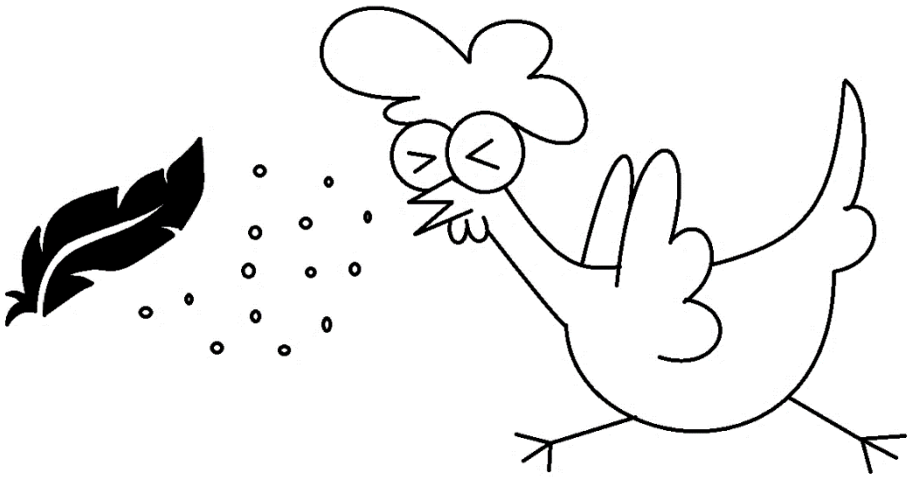
Marek's Disease

Marek's Disease is caused by a virus.

1. It is not zoonotic (What does that mean again? See page 10.)
2. It is the most common disease of backyard birds
3. It is transmitted primarily by feather 'dust'

Symptoms: weakness or paralysis

Note: Good news! Marek's disease is almost 100% preventable if you have your birds vaccinated against Marek's! However, the vaccine is only effective if chicks are vaccinated before hatching or within 1 day of hatching, so ask your pet store or supplier of chicks if they vaccinate!



Check to make sure your birds are vaccinated before you bring them home!

Chicken giblets #10: The town of Chicken, Alaska (population 7) was supposed to be named after a type of grouse, but the founders did not know how to spell it. Can you?

Answer: Ptarmigan

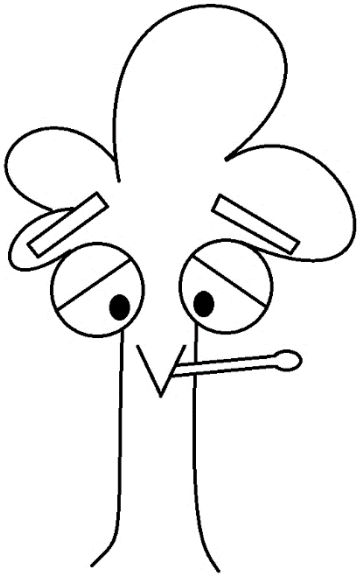
What Diseases Can my Chicken Get?

Avian Influenza (AI)

Avian Influenza or "Bird Flu" is caused by a virus

1. There are many different types of Avian Influenza- some more serious than others.
2. Chickens can get very sick if they get it and it is often very contagious.
3. Avian Influenza can be zoonotic, but the United States of America has not had any types of Avian Influenza that has made people sick- but there is always a risk, so use proper biosecurity (What is this again? See page 7).
4. Wild birds are the biggest risk for transmitting the disease to your flock because they can carry the virus, but look completely healthy– so keep them away from your chickens!

Symptoms: depression, loss of appetite, diarrhea, soft/misshaped eggs, mortality, or none.



Do you think your chicken might have the flu?

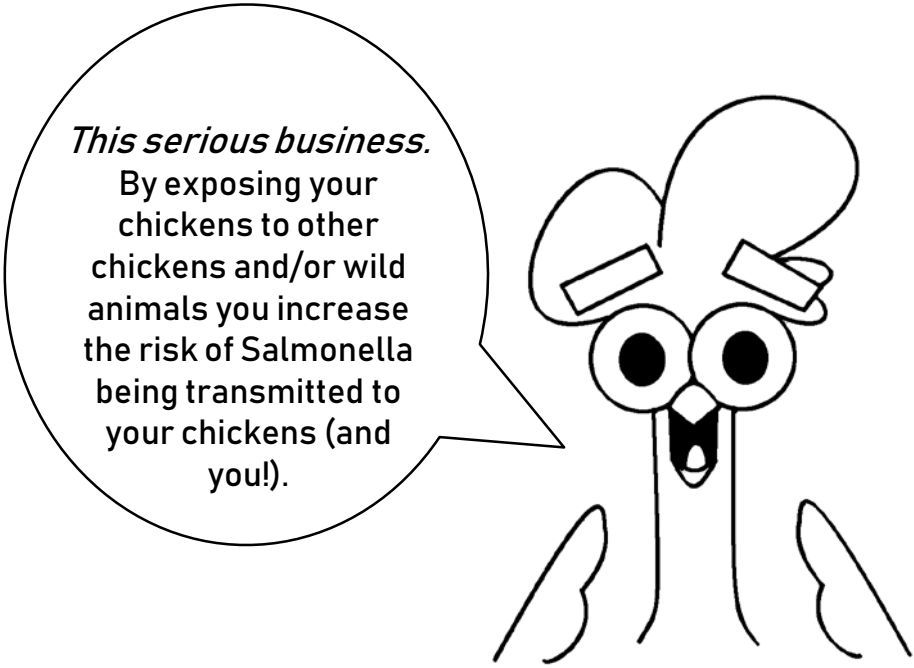
Call the Sick Bird Hotline at: 866-922-2473

Chicken giblets #11: True or False: Birds are dinosaurs.

Answer: True

What Diseases Can my Chicken Get?

Salmonellosis



Salmonellosis is caused by a bacteria called *Salmonella*

1. There are many species of Salmonella bacteria that can live in your chickens.
2. Chickens can live without any signs that they have Salmonella, but Salmonella is zoonotic, so people can get sick from coming into contact with it.
3. Rodents can carry it and spread it to your birds.

Symptoms: depression, not eating, diarrhea, lameness, mortality, or none.

Wondering if your chickens have pathogenic Salmonella?
Contact your local CAHFS lab (page 30) to learn what you can do!

Chicken giblets #12: What country has the highest egg consumption in the world?

Answer: Mexico

What Diseases Can my Chicken Get?

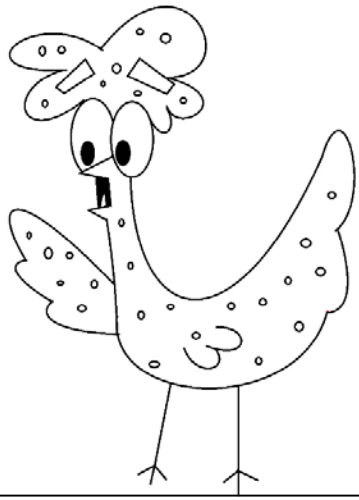
Avian Pox

Avian pox is caused by a virus and is different from the "chicken pox" that people can get.

1. It is not zoonotic (What does that mean again? See page 10)
2. The virus is typically spread by mosquitoes or by contact with the scabs that form as a result of the disease
3. To control disease transmission:
    1. Focus on mosquito control
    2. Scabs contain lots of virus so don't pick at them and then touch other birds!
4. There is no cure, but birds typically recover from symptoms in 2-4 weeks. Once a bird recovers from Avian Pox, they are less likely to become reinfected.

Symptoms: small scabs or blisters on non-feathered portions of the chickens body, decreased egg production, weight loss, loss of appetite

Note: consider vaccination IF Avian Pox has been demonstrated in your area. Consider using both the avian pox and pigeon pox vaccine to get adequate coverage.



Chicken giblets #13: Are chickens the only bird species that get avian pox?

Answer: Most birds species can get avian pox including pigeons, parrots, song birds, turkeys and quail.

What Diseases Can my Chicken Get?

Ectoparasites

What is an **ectoparasite?** An animal that survives by feeding on or living on another animal without killing it ("ecto" means "outside").

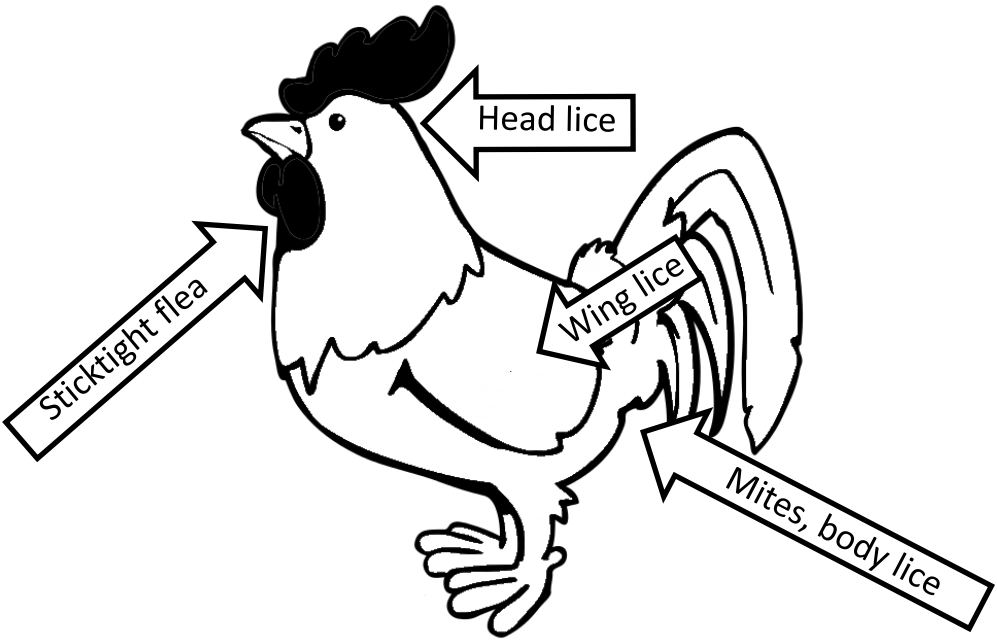
Chicken Ectoparasites are insects or mites that use chickens (not people) for food or shelter

There are 2 main types of ectoparasites

1. **On-host:** these live AND feed on the chicken
   Ex: *Northern Fowl Mite, lice, sticktight flea*
2. **Off-host:** these live in the chicken house and feed on the chicken
   Ex: *Chicken Red Mite, bed bug*

Where should you look for ectoparasites? Well, it depends!

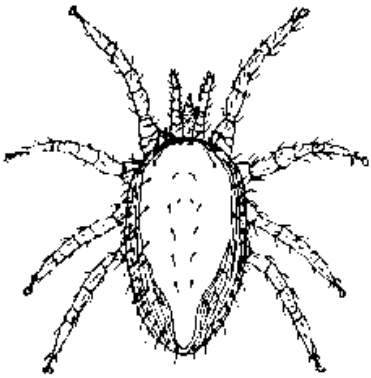
- Different **lice** are found on different chicken body parts.
- The **Northern Fowl Mite** is very common and is usually found in the vent of the chicken.
- **Sticktight fleas** attach to the face of the chicken.



Preventing Ectoparasites

Chicken body lice and other lice species only live on chickens. Most of them just feed on feathers, though some can feed on blood. Make sure you check new birds before introducing them to your flock!

Look for small ,yellow-brown , cigar-shaped insects that move quickly on the skin and feathers of the body and especially under wings.



Northern fowl mites and other mite species are found on lots of birds, and can be introduced to your chickens by wild birds and their nests. Keep your chickens away from these sources of contamination. These feed on blood, lay their eggs, and develop in the feathers by the vent.

Look for mite fecal material (black specks) in the feathers and skin around the vent and around the body and legs.

Sticktight flea adults live on chickens and feed on blood, but the immatures (larvae) live in the bedding or litter of the hen's house. Clean this area regularly to help prevent fleas. These fleas can also thrive on other pets and even humans.

Look for small brown insects embedded in the fleshy parts of the head, especially near the eyes.

Food Safety

Like all foods, people can get food poisoning from eggs. Here are a couple of handy pointers for the safe handling of eggs:

Collection: Collect the eggs at least 2 times each day. Discard eggs with cracks or holes, or those that are excessively dirty.

Storage: Store eggs in a refrigerator at 35-40° F. Eggs that are properly refrigerated and handled can be stored and used for about 6 weeks.

Preparation: Cook eggs until yolks are firm and whites are 'set', and cook foods containing raw eggs to 160° F.

"No, *you* back off! I was here before you!"

Heavy Metal Contamination in Chickens

Heavy metals in the environment

Many naturally occurring metals can cause health effects in chickens and humans when consumed in excessive amounts. These include lead, arsenic, cadmium, mercury, nickel, and copper. Human activities have lead to increased heavy metal levels in the environment.

Threat to chickens

Chickens can ingest heavy metals from foraging in their environment if the heavy metals are found there. Different metals have different ways of being absorbed into the body. For example, Pb particles can dissolve in the digestive tract and get into the blood, and build up in your chickens liver/kidneys. Heavy metal toxicity in birds can cause a variety of symptoms and even sudden death.

What can I do?

Evaluate chicken areas (coop, runs, free-range areas, etc.) for other potential sources of heavy metals, and/or test these areas for heavy metals. California Environmental Laboratory Accreditation Program accredited laboratories can analyze soil samples using approved methods. The California Animal Health and Food Safety laboratories can perform necropsies or test eggs or chicken feed for heavy metal levels.

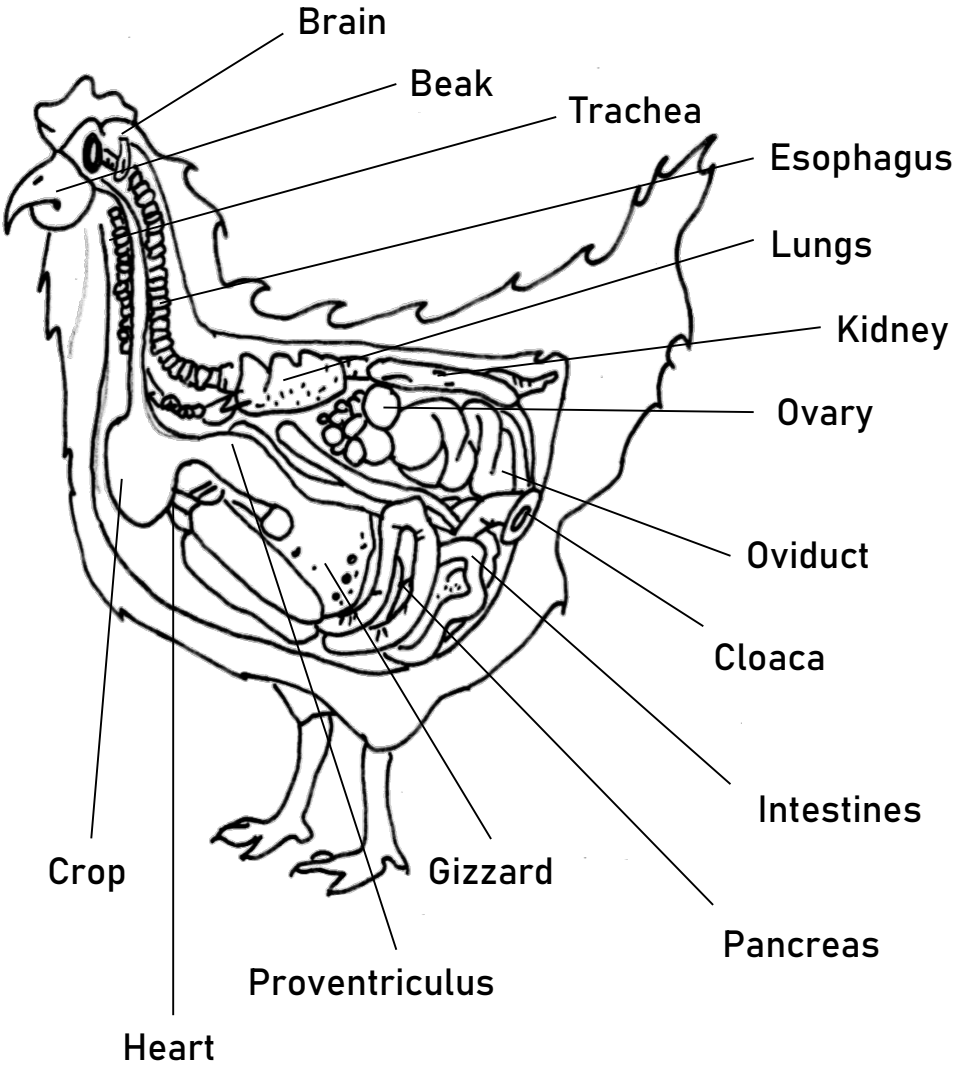
Note: more information can be found at bit.ly/HVMresources

Chicken giblets #14: On which side does the chicken have the most feathers?

Answer: On the OUTSIDE!

Color My Parts

Then look at the next page to see what they do!



Chicken giblets #15: Which of the 15 different "parts" are present in poultry and not humans? (Hint: there are five of them!)

Answer: Beak, Crop, Proventriculus, Gizzard, Cloaca

Chicken Anatomy

Brain: The "boss" of the body that controls all bodily functions

Beak: Picks up food then secretes saliva to moisten food

Trachea: Carries air to the lungs

Lungs: Connected to the trachea and bring oxygen from the air to the blood

Heart: Pumps blood to supply oxygen to the muscles

Esophagus: Carries food from the beak to the crop

Crop: Stores food and water before it goes to the proventriculus

Proventriculus: Digestion begins here

Gizzard: Grinds food to break it down into smaller pieces. Chickens don't have teeth, so they need the gizzard to "chew" their food

Intestines: Completes digestion and nutrient absorption

Kidney: Filters blood and produces urine

Pancreas: Aids in digestion

Ovary: Holds the eggs before they are laid

Oviduct: Path that an undeveloped egg takes to develop into the shelled egg that we eat

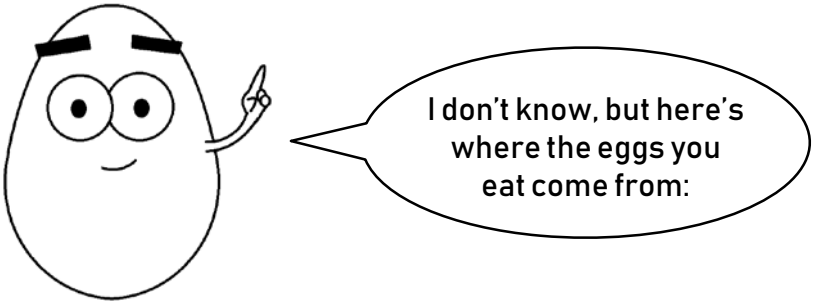
Cloaca: Where eggs, feces, and urine exit the body

Chicken giblets #16: How big is a chicken's bladder?

Answer: Trick question; chickens don't have bladders!

Chicken Reproductive Anatomy

Where does the golden egg come from?



Hens (female chickens) lay eggs with or without the presence of a rooster (male chicken). That's good to know since roosters are illegal to keep in many communities!

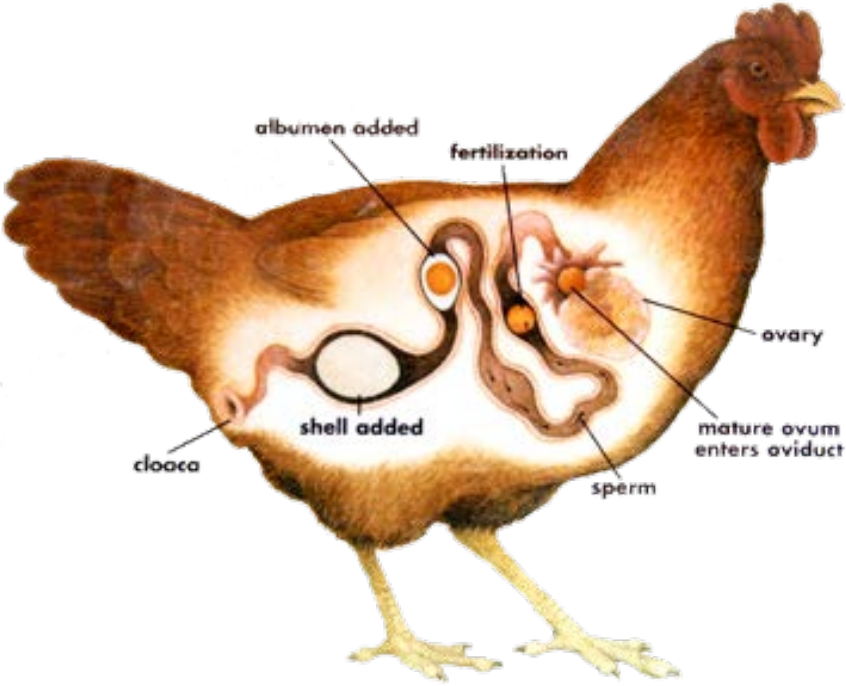


Photo from poster in Norfolk Zoo, VA

Chicken giblets #17: How often, in hours, does an average hen lay an egg?

Answer: Every 26 hours

Anatomy of an Egg

Structure	Why do developing chicks need it?	Why do we like it?
Egg yolk	Important source of nutrition for the developing chick	Gives baked goods a smooth and creamy structure
Egg white	Helps protect the developing chick	Essential for a good soufflé!
Shell	Helps protect the developing chick while allowing for exchange of oxygen and carbon dioxide	Good for composting
Chalaza	Holds the yolk centered in the egg	Looks like a bungee cord
Air Sac	Source of air for chick	Size indicates the age of the egg (older eggs have larger air sacs)

How do I get more eggs from my hens?

Healthy hens produce eggs while stressed and sick hens do not. So, keep hens healthy and keep them in a comfortable, calm environment.

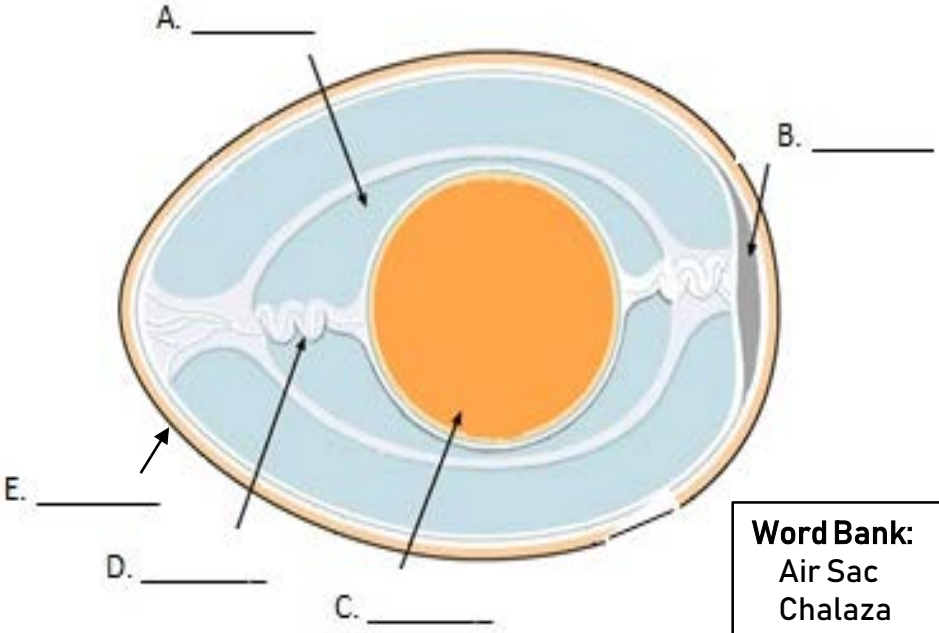
'Broody' hens (hens that sit on their eggs for long periods of time) stop laying eggs. To prevent this behavior, remove the eggs from the nest box at least twice daily.

Chicken giblets #18: When are chickens more likely to lay eggs, as daylight increases or as daylight decreases?

Answer: As daylight increases

Anatomy of an Egg

Based on what you just read, identify the following parts of an egg:



Word Bank:
- Air Sac
- Chalaza
- Egg White
- Shell
- Yolk

Extra credit: About ____ million laying hens produce some ____ billion eggs each year in the United States.

Matching:
A. Egg white B. Air sac C. Yolk D. Chalaza E. Shell

Extra Credit: 240 million hens and 50 billion eggs.

Chicken giblets #19: How do you know the color of eggs that your chicken will lay?

Answer: By the color of their earlobes

Importance of Egg Candling for Incubation

Egg candling is when you shine a light through an egg to see what is going on inside.

If you are incubating eggs:

1. Candling can help you determine if your eggs are fertile, infertile or if they stopped developing.
2. Ideally you want to candle your eggs at day 7, 10 and 18 of incubation.
3. Remove eggs that are clear (free of blood vessels) at day 7 of incubation as these are infertile.
4. Remove eggs that have a single blood ring around the bottom of the egg, gas bubbles or stopped developing between candlings as these are signs of death.

Incubation Timeline

Day 7

Blood vessels should be forming against the shell and the embryo (quarter-sized dark spot in the center) should be visible.

Day 10

Should look similar to day-7 egg but with a larger embryo.

Day 18

The embryo should be so big that it is blocking the light, making the blood vessels less apparent. The egg will appear mostly dark with the exception of the air cell.

Note: The incubation process promotes bacterial growth and gas formation in dead or infertile eggs that can eventually cause them to explode, turning them into "ticking time bombs!" Avoid contaminating your incubator and the rest of your eggs by candling and discarding infertile or dead eggs right away.

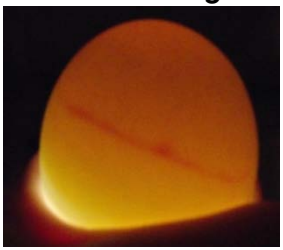
Fertile

Pic from cemanifarms.com.

Infertile

Pic from backyardchickens.com.

Blood ring



Pic from backyardchickens.com.

Candling for Egg Quality and Freshness

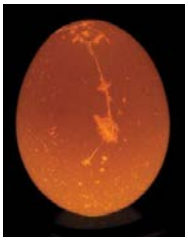
If you are consuming your eggs, candling can help you determine egg quality and make some egg abnormalities more apparent. These are just a few examples:

1. **Blood spot eggs:**
   Occasionally during egg formation, blood vessels in the yolk or oviduct rupture causing blood spots to form.

2. **Checked egg:**
   An egg with a broken shell or crack but with the shell membranes still intact (not leaking).

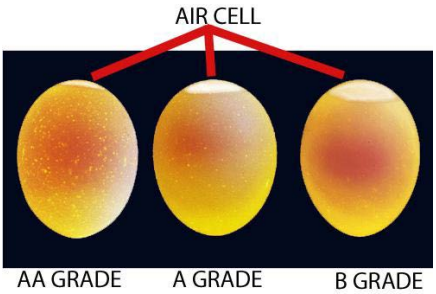
Blood Spot Egg

Checked Egg



There are other parameters (ie. shell quality) to consider when determining egg quality but in general you can determine egg freshness from the air cell depth (length from egg white to large end of the egg):

- AA- 1/8in. or less in depth
  .
- A- 3/16in. or less in depth.
- B- over 3/16 in. in depth.



Commercial Egg Candler

There are different types of egg candlers out there. You can even use a flashlight on a cell-phone or make one yourself. Regardless of the type you use, you are sure to have lots of fun candling! But, for the most part, commercial egg candlers are easier to use because they are brighter than regular flashlights and have adapters specifically for working with eggs (like the candlers shown to the left).

DIY Egg Candler

Instructions and pictures from CamDAx's post on instructables.com.

Materials

- LED flashlight
- Empty toilet paper or paper towel roll
- Electrical tape

1. Wrap tube with electrical tape to prevent light from leaking. The size of the tube depends on the type of eggs you are candling (quail vs. chicken eggs). Basically, you want the tube big enough for the egg to fit snuggly on top. A paper towel or toilet paper tube is probably just right for chicken eggs.

2. Insert the LED flashlight into the tube and wrap more electrical tape if needed. Make sure you can turn the power switch on and off without having to take it apart.

3. To candle, it is best to go to a darkened room. Place the egg on the opening and you should be able to see inside the egg!

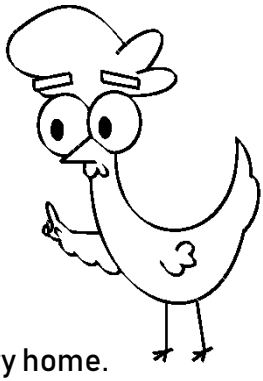
Composting Waste

1. Hens produce around ¼ lb of poop a day! That's a lot of chicken poop or 'black gold' for your garden if composted correctly!
2. If managed correctly, the birds can help compost the manure using their natural scratching behavior.
3. Make sure you have a carbon rich litter substrate such as straw or rice hulls where the birds live.
4. If you also garden, consider collecting the used litter and composting the litter-manure mix.

Types of composters

Be a Good Neighbor

Every city has different rules for Backyard chickens. Here are some basic rules of comb:



1. House your chickens in a clean and sanitary home.
2. If at all possible keep the enclosure at least 20 feet away from neighboring residences.
3. Understand and follow your local ordinances.

Chicken giblets #20: Why did the chicken cross the basketball court?

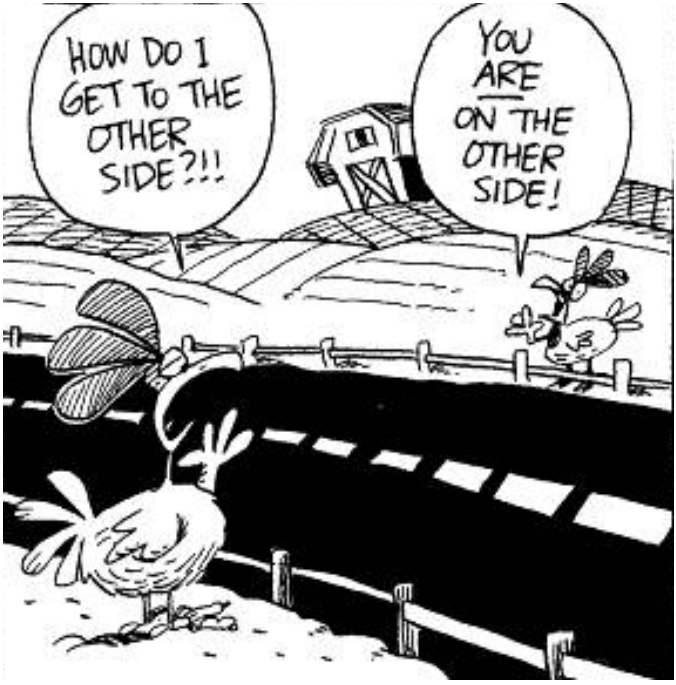
Answer: She heard the referee calling fowls!

Tidbits for Chicken Giblets

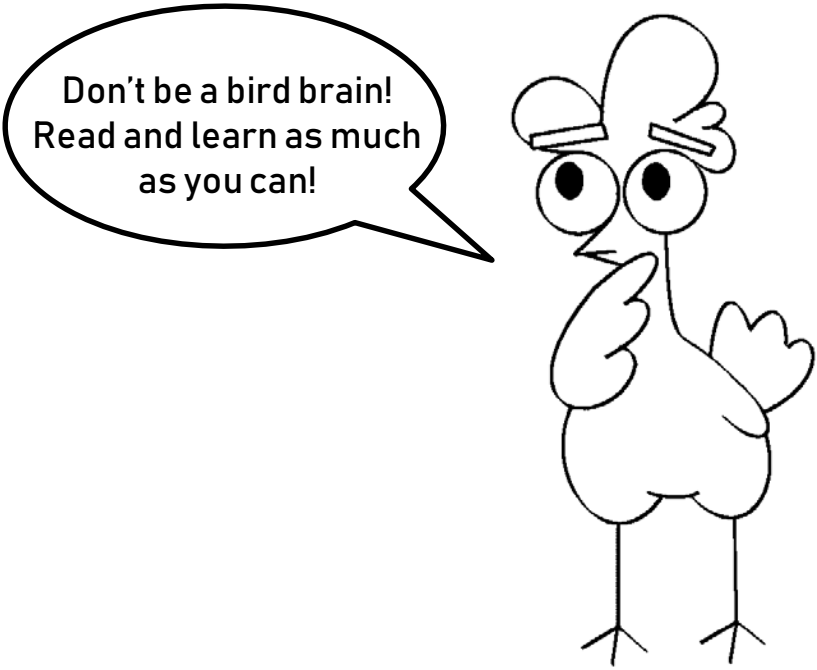
Brown egg or white eggs? As chicken giblet #19 states, we can figure out the color of the eggs the hen will produce based upon the hen's ear color. However, there are no nutritional differences between brown eggs and white eggs.

When will my hens start producing eggs? As chicken giblet #2 states, most hens become sexually mature and begin laying eggs between 18-24 weeks of age. However, most chickens lay eggs as daylight increases (see chicken giblet #18). In addition, certain breeds are more sensitive to light than other breeds. Consequently, it may take longer depending on the season and the breed for a hen to start laying eggs. Reading and practical experience are the best way to figure this out!

All birds, including chickens, have no bladder (chicken giblet #17). This keeps them light which makes flying easier. **Note**: Most bird bones are hollow (pneumatic) for the same reason.



Other Resources



Getting started and general information:
Avian Health Program (CDFA): bit.ly/AvianHealthProgram
UC Davis Extension: ucanr.edu/sites/poultry

Coop and brooder information:
www.feathersite.com

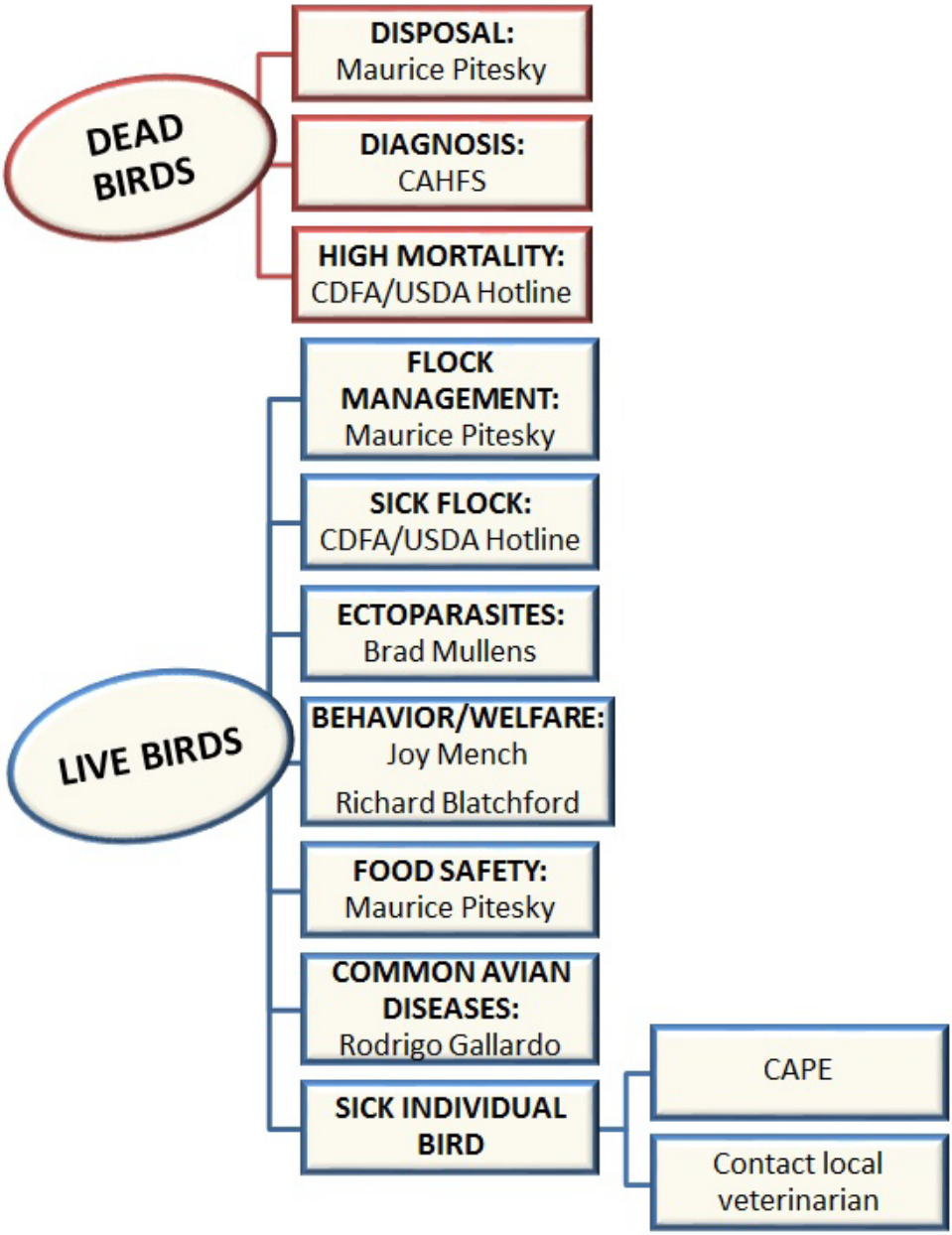
Biosecurity information:
Bird Biosecurity (USDA): bit.ly/BirdBiosecurity

Food safety information:
Salmonella in Eggs (CDC): bit.ly/SalmonellaInEggs
Backyard Egg Safety (U Wisc.): bit.ly/BackyardEggSafety

Contacts if you have sick birds:
CDFA Sick Bird Hotline: 866-922-2473
CAHFS: bit.ly/CAHFSlab or call: 530-752-8700
To submit a bird to CAHFS: bit.ly/CAHFSsubmission

You can also email questions to Dr. Cluck at: DrCluck@ucdavis.edu

Who You Gonna Call?



For specific contact information go to:
ucanr.edu/sites/poultry/contact/

Chicken School

Let's talk AND learn chicken!

UC Davis periodically hosts different types of "chicken school" for veterinarians and other interested parties.

Go to ucanr.edu/sites/poultry for more information.

UC DAVIS
VETERINARY MEDICINE

Interested in learning more about what University of California is doing with regards to poultry?

Sign up for our quarterly newsletter
"Poultry Ponderings"

UCDAVIS
VETERINARY MEDICINE

Poultry Ponderings

Edition 14 · Spring 2018

A quarterly newsletter detailing poultry related work at the UC system

Inside this issue:

Vaccinating Against Virulent Newcastle Disease 2
New UCCE Spanish Poultry Website 2
Avian Influenza Testing in "Bridge Species" 3
Jimsonweed Toxicity 4
4H Backyard Poultry Workshop 5

Questions or Comments?
Contact Maurice Pitesky at:
mepitesky@ucdavis.edu
or 530-752-3215

Editor: Anny Huang

Keeping Your Birds Safe from Virulent Newcastle Disease

The California Department of Food and Agriculture (CDFA) has identified several cases of **virulent Newcastle disease** in small flocks of backyard birds in Los Angeles and San Bernardino Counties. The initial case was detected at the UC Davis School of Veterinary Medicine's California Animal Health & Food Safety Laboratory (CAHFS) when a private practitioner submitted a sick bird for testing. All detections are confirmed at the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Services (APHIS) National Veterinary Services Laboratory (NVSL) in Ames, Iowa. This was the first case of virulent Newcastle disease, previously referred to as exotic Newcastle disease, in the U.S. since 2003. CDFA is working with federal and local partners as well as poultry owners to respond to the incident. State officials have quarantined potentially exposed birds and are testing for the disease.

Virulent Newcastle disease is a highly contagious and deadly virus in birds; the virus is found in respiratory discharges and feces. Clinical signs in birds include: sneezing, coughing, nasal discharge, green watery diarrhea, depression , neck twisting, circling, muscle tremors, paralysis, decreased egg production, swelling around eyes and neck, and sudden death.

It is essential that all poultry owners follow good biosecurity practices to help protect their birds from infectious diseases such as virulent Newcastle. These include simple steps like washing hands and scrubbing boots before and after entering a poultry area; cleaning and disinfecting tires and equipment before and after moving them on/off the property; and isolating any sick birds. New or returning birds from shows should be isolated for 30 days before placing them with the rest of the flock. For backyard flock owners, biosecurity measures also include using dedicated shoes and clothes when caring for birds and not wearing those clothes/shoes in other areas.

In addition to practicing good biosecurity, all bird owners should report sick birds or unusual bird deaths through California's Sick Bird Hotline at 866-922-BIRD (2473). Additional information on VND and biosecurity for backyard flocks can be found at *www.cdfa.ca.gov/ahfss/Animal_Health/Newcastle_ Disease_Info.html*

Sick or dead backyard birds can be submitted to CAHFS laboratories for post-mortem examination ($20 plus shipping and handling). Information on this program can be found at: *cdfa.ca.gov/ahfss/Animal_Health/pdfs/CAHFS_NecropsyFactsheet.pdf*

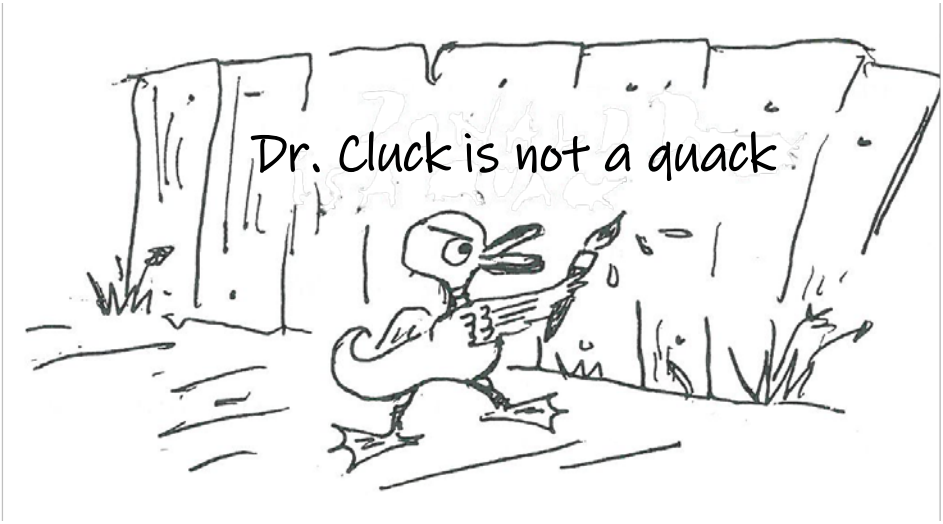
For additional information on who to contact for issues regarding backyard poultry, see: *ucanr.edu/sites/poultry/contact*.

Virulent Newcastle disease is NOT a food safety concern. No human cases of Newcastle disease have ever occurred from eating poultry products. Properly cooked poultry products are safe to eat. In very rare instances people working directly with sick birds can become infected. Symptoms are usually very mild, and limited to conjunctivitis and/or influenza-like symptoms. Infection is easily prevented by using standard personal protective equipment.

If you have any questions, please do not hesitate to call the Animal Health Branch Tulare District Office at 559-685-3500.

—Jennifer McDougle, MVB

Sign up at ucanr.edu/sites/poultry/PP/



UC Davis School of Veterinary Medicine
Cooperative Extension
drcluck@ucdavis.edu
530-752-3215

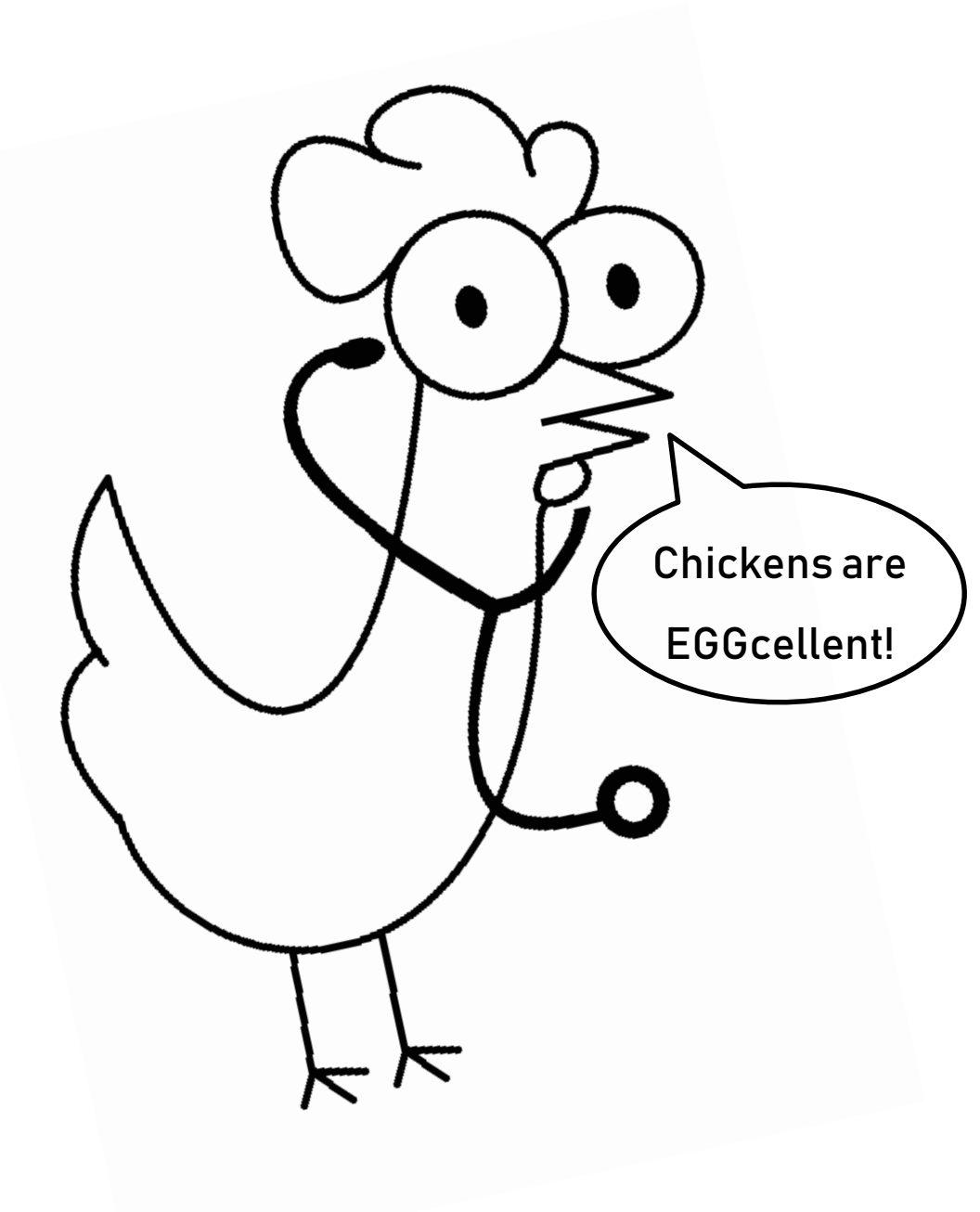
Acknowledgements

Our flock of writers in no particular pecking order include:

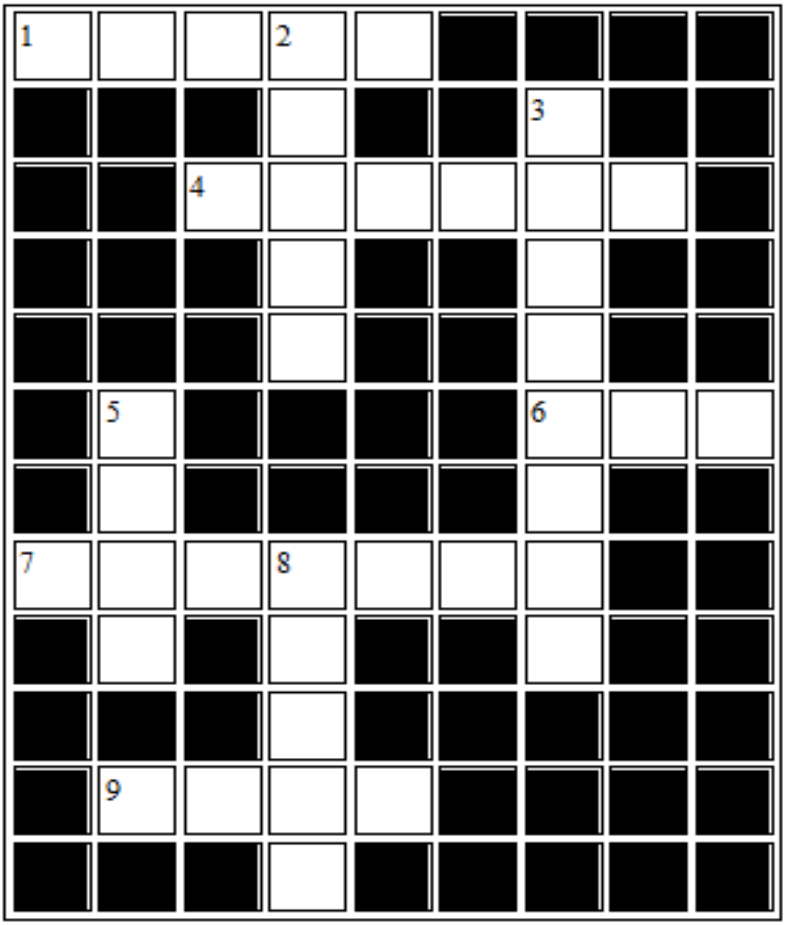
Evan Adler, Myrna Cadena, Jenna Celigja,
Anny Huang, Nancy Levine-Sinai, Asli Mete,
Amy Murillo, Maurice Pitesky, Felicia Pohl,
and Dennis Wilson

Kids' Corner

Fun EGGsercises to do with your kids!



Chickenword Puzzle



Across

1. Bunch of chickens
4. Name for a young female chicken
6. Name for a female chicken
7. Name for a male chicken
9. Part of an egg

Down

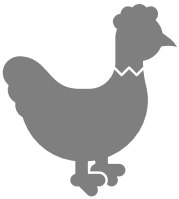
2. Chicken sound
3. All birds have _____
5. Where chickens live
8. The outside of an egg

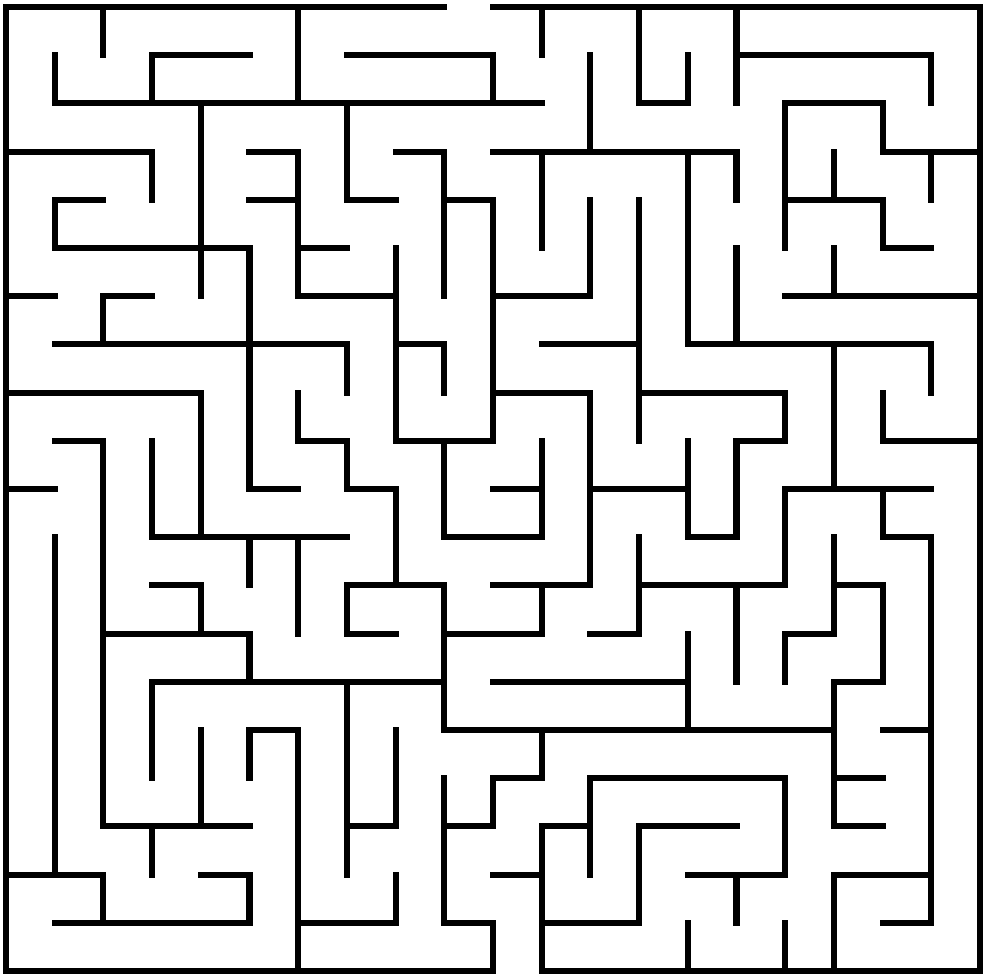
Answers:

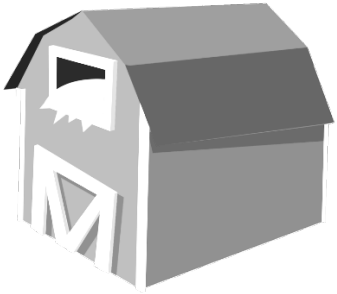
Across: 1. Flock 4. Pullet 6. Hen 7. Rooster 9. Yolk

Down: 2. Cluck 3. Feathers 5. Coop 8. Shell

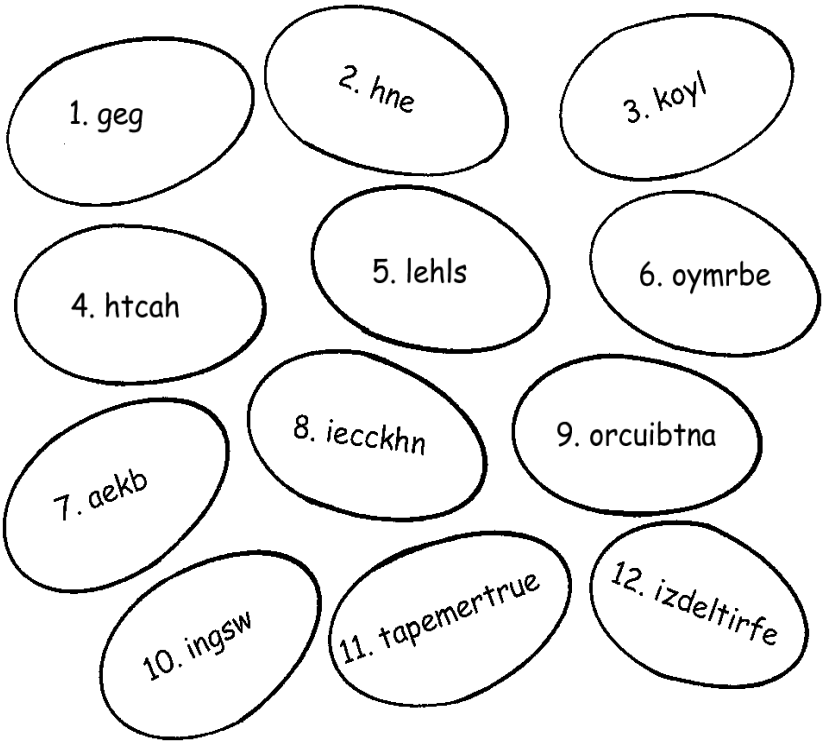
Help the chicken get back to her coop!







Unscramble the Scrambled Eggs



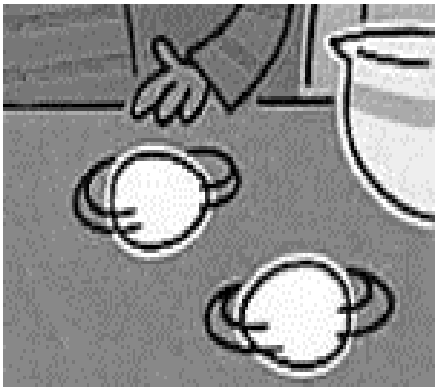
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

Answers:

1. Egg	4. Hatch	7. Beak	10. Wings
2. Hen	5. Shell	8. Chicken	11. Temperature
3. Yolk	6. Embryo	9. Incubator	12. Fertilized

Fun Eggzperiments

Eggzperiment #1: Spinning Eggs



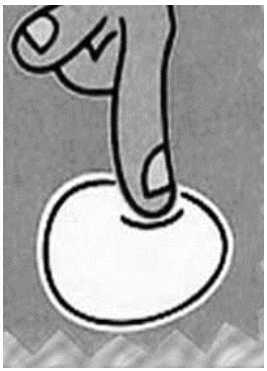
You will need: 2 raw eggs, a pot, and a bowl.

1. Boil 1 egg in water for 10 minutes or until they are hardboiled
2. Cool the egg under cold water, then chill in the refrigerator
3. Spin the hardboiled egg then try spinning a raw egg!

Question: Which egg continues spinning after you stop spinning, and which one does not? Why do you think this is?

Answer: *The raw egg still spins because the liquid inside keeps turning after you stop spinning. Because the hardboiled egg is attached to the shell, it doesn't keep spinning!*

Eggzperiment #2: Squishy Eggs

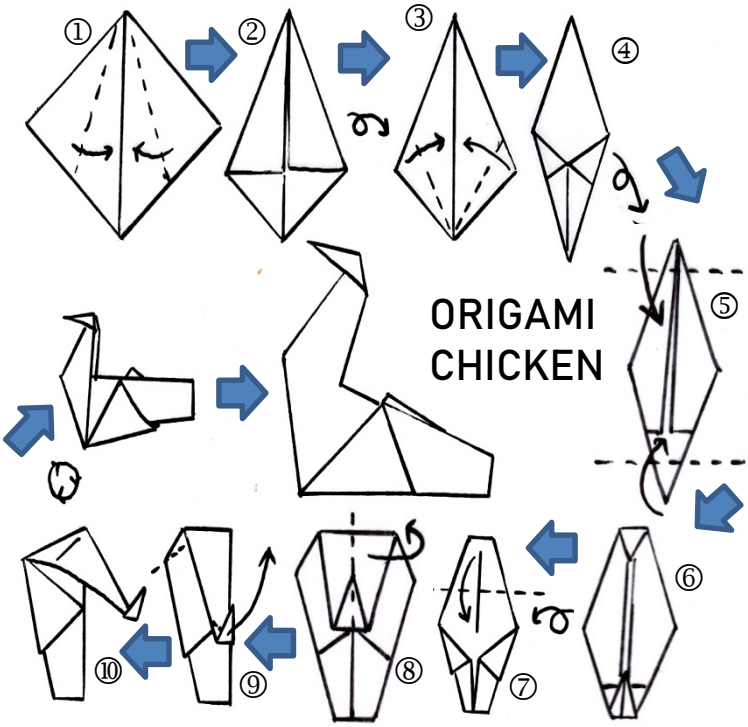


You will need: 1 raw egg, vinegar, and a large jar or lidded container

1. Put a raw egg (in its shell) into the jar and cover it completely with vinegar
2. Wait two days, then drain off the vinegar
3. When you touch the egg, it will feel rubbery! Be careful not to break the egg membrane and wash your hands after touching the egg.

Question: Why is the egg squishy?

Answer: *Vinegar is an acid that dissolves calcium in the eggshell. The calcium helps keep the eggs hard, and is also the same stuff that keeps your bones strong and healthy! With the hard calcium gone, you can squish the thin, flexible membrane just under the shell.*



STEP 1:
CUT OUT
THIS SQUARE

STEP 2:
FOLLOW
THE ABOVE
INSTRUCTIONS
TO MAKE YOUR
OWN ORIGAMI
CHICKEN!

THIS IS THE BACK OF

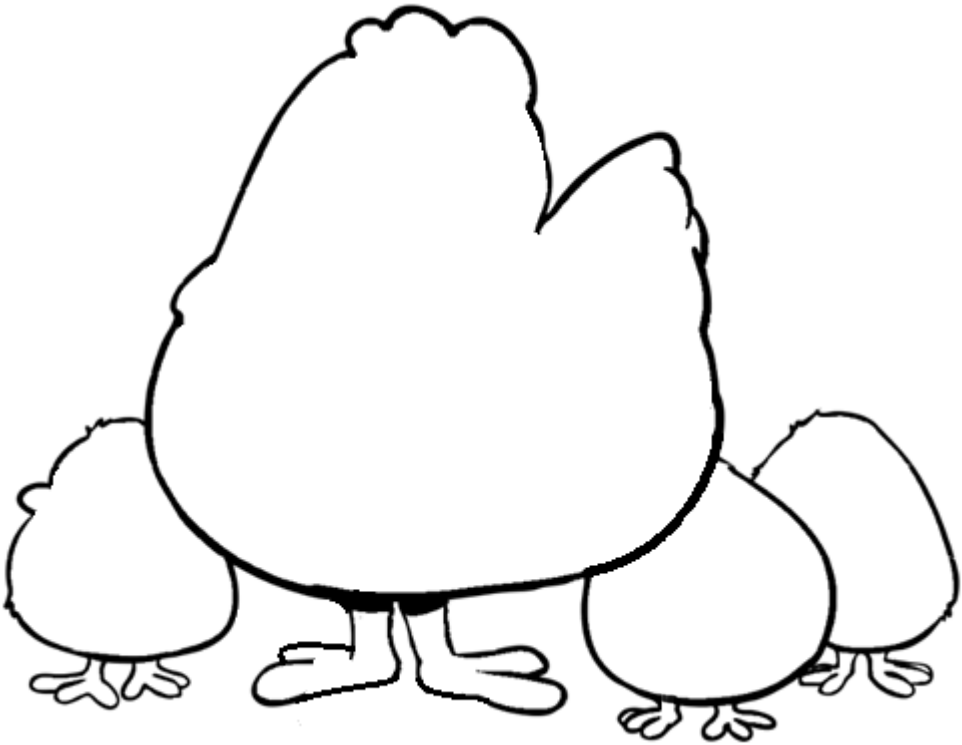
THE ORIGAMI CHICKEN

Want a chance to have your art on our website? Draw your best chicken picture in the space above OR on a separate 8 ½" by 11" sheet of paper and mail it to the address below.

Want a chance to have your bird photos featured in the CDFA Avian Health Calendar? Submit your best photos of any kind of bird to the address below:

California Department of Food and Agriculture
Animal Health and Food Safety Services
Animal Health Branch
Attn: Felicia Pohl
1220 N Street Sacramento, CA 95814
(916) 900-5002

For more information, visit bit.ly/AvianHealthProgram



Developed by the University of California Cooperative Extension (UCCE)
and the California Department of Food and Agriculture (CDFA)