



My Chick

Activity Book



TEXAS A&M
AGRILIFE
EXTENSION

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WHAT IS 4-H?

4-H is an exciting youth program that helps young people learn new and interesting things through various projects and activities. 4-H began in Texas in 1908, so we are now moving strong into our second century!! In case you're wondering, the four H's stand for **head, heart, hands and health**. Kids between the ages of 8 and 19 can join a 4-H club, and the Clover Kids program is open to kids age 5-8. Whether you live in the city or in the country, you can get involved. In fact, ***you are part of 4-H while you do Hatching in the Classroom!***

Its not just about agriculture either! There are so many different things you can do in 4-H! Animals, science, cooking, gardening, wildlife, computers, clothing, leading others, all are things YOU can do in 4-H! You can be a part of 4-H in the community, in your school, or in other organizations.

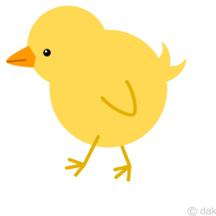
In addition to completing projects, you can go to camp, show your work at fairs and win ribbons, travel, host exchange students, attend events with other young people, and more! 4-H is a family affair with parents getting involved, too. 4-H is the youth program of the Texas A&M AgriLife Extension Service, a part of the Texas A&M University System. For more information about 4-H, contact the Guadalupe County Extension office:

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Extension website: <http://guadalupe.agrilife.org>

Facebook: <http://facebook.com/guadalupecounty4h>



© dak

Welcome to your Hatching in the Classroom Activity Book. This Booklet is going to guide you through the process of what is happening inside the eggs in the incubator. Did you know that eggs only take 21 days to hatch? This is a lot of growth in a short about of time!



In this student activity book we are going to learn about how eggs and chicks grow and develop. We will also learn all about chickens and eggs; and get to do some cool activities along the way!

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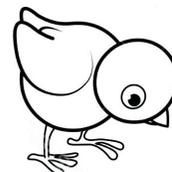
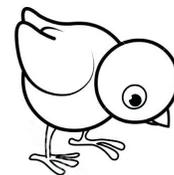
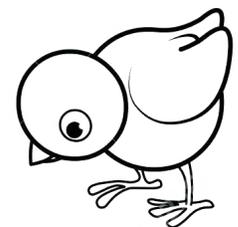
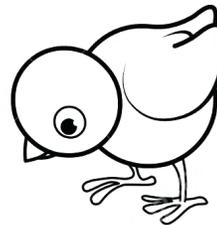
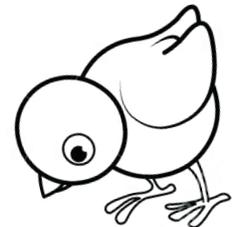
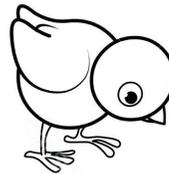
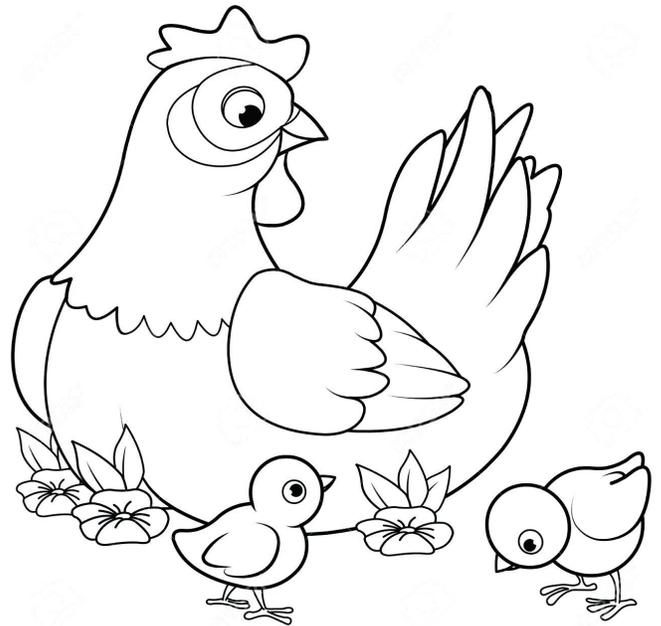
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What is an Egg?

What is an egg exactly you may ask? Well an egg is how some animals reproduce. For instance when you have a **rooster** (a male chicken) and a **hen** (a female chicken) you can get an egg that is fertilized. That means that a baby chick should come out of an egg in 21 days. For now it is called an **embryo**. The egg acts as its home and gives it all the nutrients and safety that it needs. This is similar to how a parent would feed you and protect you.

Even with no rooster around the hen will still lay an egg, but there will not be a baby chick growing inside it. This means that it is an unfertilized egg. Eggs that are unfertilized are what you would buy at the grocery store, so don't worry when you eat eggs, there isn't a chick growing inside it.

Chickens aren't the only animals that lay eggs many other animals lay eggs as well. Some examples include turkeys, ducks, doves and many other birds. Some reptiles lay eggs also such as turtles and snakes.

In the box below draw your favorite egg and the animal that would live inside it.



Parts of the Egg

Did you know that there are several different parts of an egg? Let's take a closer look at what the inside of an egg looks like and what each part is.

The Shell- The shell of the egg is the most outer part of the egg. This helps protect the egg from getting hurt. Just like a turtles shell helps protect it. Another important part of the shell is that it has small pores or tiny little holes all over it. Next time you hold an egg you can feel that it is not completely smooth and has a bumpy texture to it. The tiny holes are so that air can pass through the egg.

The Membrane- The membrane of the egg is the very next layer right under the shell. This layer helps protect the egg from bacteria that can make the egg sick. This is like how your skin helps protect you.

The Air Cell- The air cell is the space at the top of the egg. This space is so that when the egg cools down and heats up the insides of the egg won't crack the shell. Just think of if you have ever seen a can of soda that has been frozen it can pop the can and overflow.

The **Albumen** or White- The albumen or white of the egg is the part of the egg that is right under the shell and membrane. This part of the egg is low in fat but high in other nutrients. If you have ever seen a hardboiled egg it is the white part that you see once the shell is off the egg.

The **Chalazae-** The chalazae is the part of the egg that looks like a rope. There is one on both sides of the egg to hold the yolk or center part of the egg in place.

The **Vitelline Membrane-** The vitelline membrane is a clear case that keeps the yolk together.

The **Yolk-** The yolk is the center part of the egg or the yellow part whenever you crack an egg or look at a hardboiled egg. The yolk of the egg has most of the vitamins and minerals of the egg.

The **Germinal Disc-** the germinal disc is the spot on the side of the yolk. This is the spot where you can tell if the egg is fertilized. This is also where the chick will start to grow if the egg is fertilized.

Now, lets match these terms to the egg on the next page!

Stages of Development of the Egg

Did you know that everyday your eggs are growing and changing? Let's learn about what is happening inside your eggs every day!

Day 1: today you can see the start of the development but it just looks like a small white spot.

Day 2: today the whit spot has grown so that it is more visible and you can start to see blood vessels.

Day 3: today the heart beats for the first time and the blood vessels are very visible.

Day 4: today the eye appears.

Day 5: today the elbow and knees show up.

Day 6: today the beak appears and the chick can start to move a little bit.

Day 7: today the egg tooth appears

Day 8: today you can see where the feathers are going to be also known as feather tracts.

Day 9: today the chick actually starts to look bird-like. They can also start to open their mouth.

Day 10: today they start to have toenails.

Day 11: today they have tail feathers.

Day 12: today the toes are fully formed and there are more visible feathers.

Day 13: today their scales start to appear and their body is lightly covered with feathers.

Day 14: today their heads turn towards the large end of the egg.

Day 15: today their stomach moves into their body.

Day 16: today their feathers cover their complete body.

Day 17: today their head is between their legs.

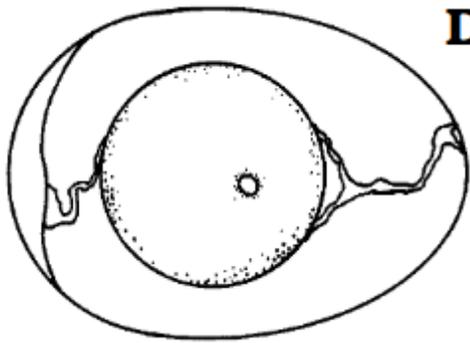
Day 18: today the growth of the chick in the egg is nearly complete.

Day 19: today the remainder of the yolk is moved into the chicks body and the chick takes up most of the space inside the egg.

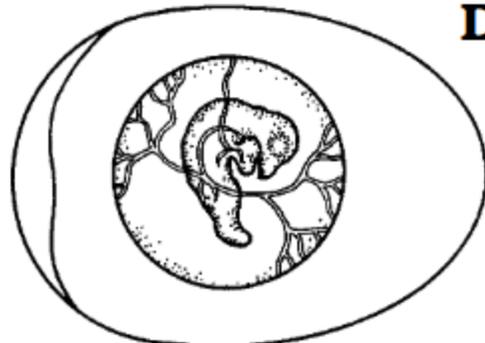
Day 20: today the chicks will actually become a chick and start to breathe in the air from the air cell.

Day 21: today the chicks hatch from the eggs.

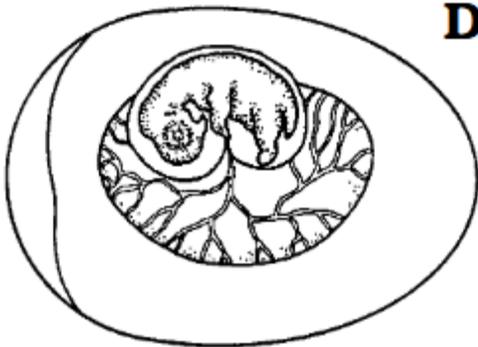




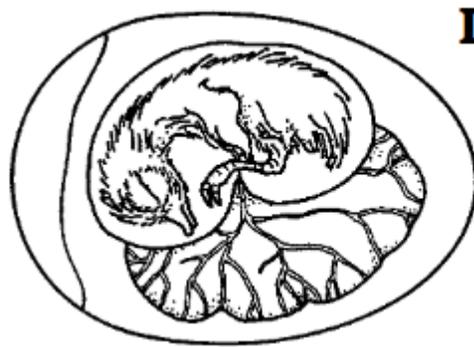
Day 1



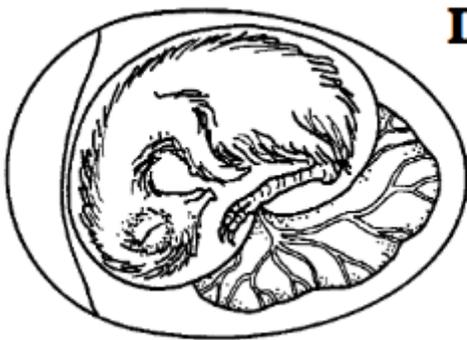
Day 3



Day 6



Day 13



Day 16



Day 19



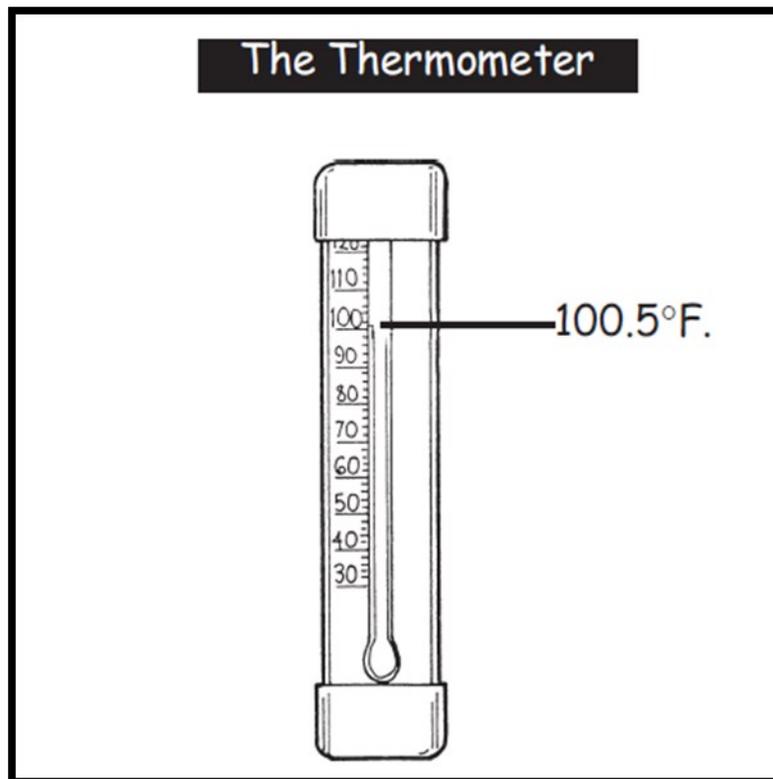
Day 21

How Do You Take Care of Your Incubator?

So what can YOU do to help make sure the eggs are growing in the incubator? You can help in many ways. One very important thing to remember is to always be careful around the incubator. That means no running, pushing, or horse playing anywhere near the incubator. Another important thing to remember is to not touch the incubator unless you have permission from you teacher and they are with you if they let you touch it. And last but not least make sure that if you touch the incubator you wash your hands before and afterwards.

Another way can ensure that your eggs are doing great is by helping you teach ensure that the temperature is correct. That mean you incubator should always be 100.5 degrees F.

Answer the Questions about the Thermometer and then color the picture.



An instrument that measures temperature is a _____. We try to keep the temperature at _____. The temperature would _____ when the incubator was opened.

What Eggs Do We Eat

You may look at the eggs in your classroom and think how can I ever eat an egg again? You don't have to worry because the eggs we eat are unfertilized. They are eggs that the hen lays when there is not a rooster around. Hens lay around one egg a day after they are about 6 months old. A hen can lay over 250 eggs in just one year! They will continue that process for 5 to 7 years. That's a whole lot of eggs!

Have you ever eaten an egg before? Most likely you have! Eggs are in a lot of things we eat, as well as go along great with breakfast! Eggs are in many types of tacos, they are in egg drop soup and many people just eat eggs by themselves cooked in a variety of ways.

Write three sentences about foods you eat with eggs in them.

1.	_____
2.	_____
3.	_____

How Healthy Are Eggs?

That is an excellent question! Eggs are very healthy for you. Many people call them the original superfood. So what makes them so healthy? Here are 10 building blocks that make them so healthy, let's take a look at each of them.

1. Protein- Builds, repairs, and energizes strong bodies.
2. Omega-3- Helps your brain, heart, bones, joint, eye, and mental health.
3. Vitamin B12- This gives you energy, supports your nervous system, and mental health.
4. Vitamin B5- This is for mighty muscles and energy to burn.
5. Vitamin B2- This is essential for building blood cells.
6. Vitamin A- This repair's damaged cells, supports your eyesight and looks after your skin.
7. Iron- This carries iron around your body and removes carbon dioxide from your blood.
8. Phosphorus- This is for strong healthy bones and is good for your teeth.
9. Zinc- This protects you from catching the colds and other things that can make you sick.
10. Vitamin D- This is one of the most important because Vitamin D is vital for your bone growth so it will help you grow big and strong!

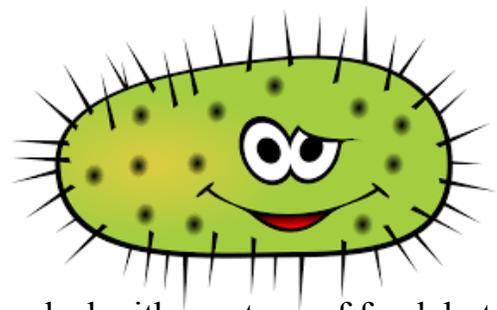
Complete the word search by using the words below.

Yummy Healthy Eggs

E	M	G	I	V	S	C	H	N	E
A	U	F	B	I	Y	A	P	V	G
Y	S	P	P	T	B	L	W	P	G
C	C	R	U	A	Z	C	M	J	S
H	L	O	E	M	I	I	R	U	C
E	E	T	C	I	N	U	J	M	I
A	S	E	J	N	C	M	W	E	A
R	P	I	V	S	X	R	Y	B	Y
T	F	N	P	S	N	E	K	D	J
E	S	C	V	C	V	R	O	G	S

CALCIUM
VITAMINS
HEART
EYE
PROTEIN
EGGS
ZINC
MUSCLES

Food Safety for Eggs



It is very important to use food safety whenever you deal with any type of food, but it becomes even more important when dealing with eggs. Eggs sometimes carry bacteria on the outside of the shell. Why is that important when you don't eat the shell? That is because if you touch an egg, then touch other food products, that puts you at risk for getting those bacteria.

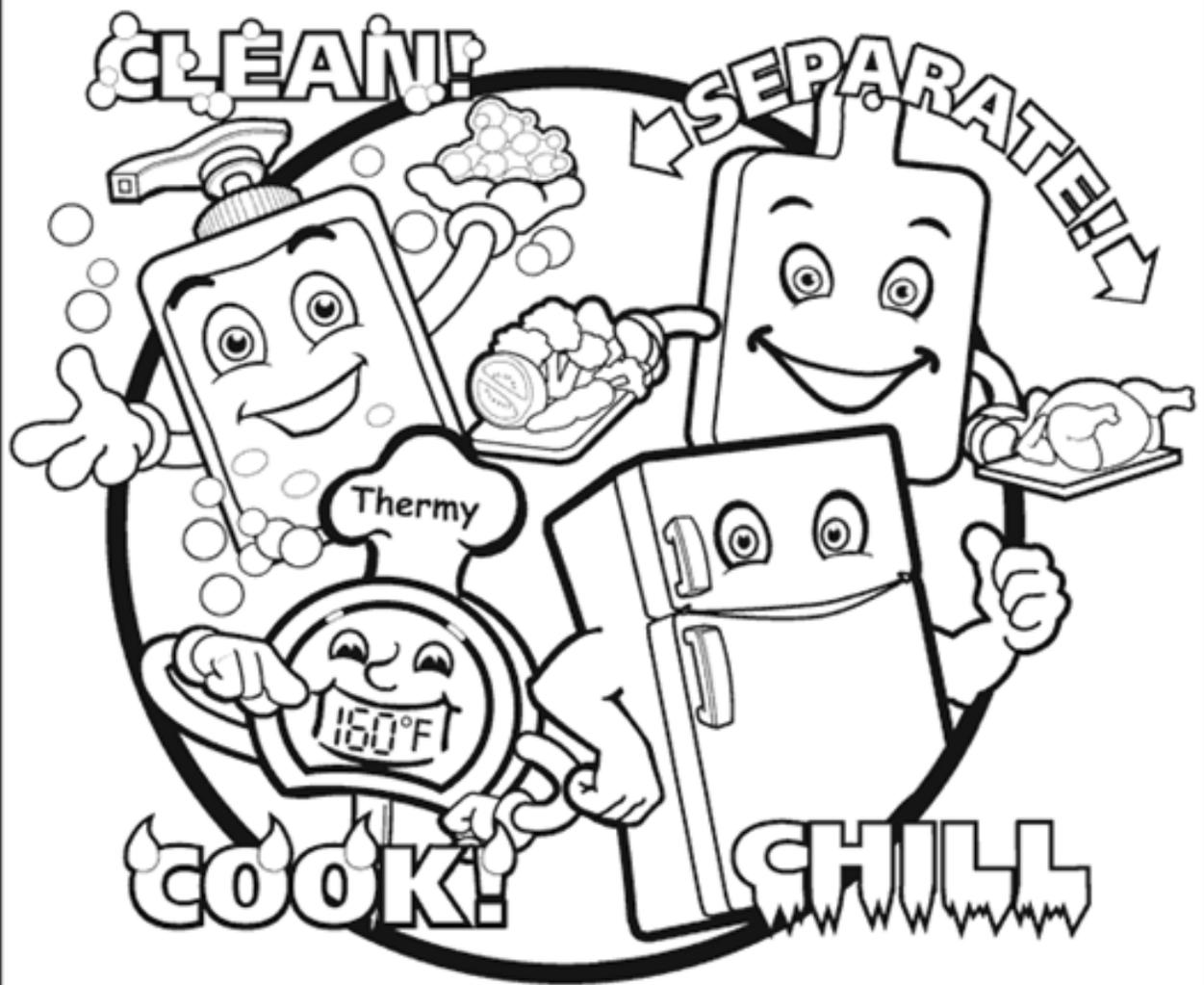
Eggs we eat are only the safest eggs possible. However, there is still a small risk that the egg contains bacteria such as Salmonella. Salmonella is bacteria that can make you sick for 4 to 7 days and is not fun. However, don't let it scare you; if handled properly this will never affect you.

So what can you do to be food safe? Whenever you touch eggs, remember to always wash your hands before and afterwards; also clean down any surfaces that touch the eggs. Remember to never keep your eggs at room temperature for more than 2 hours. If they are left at room temperature for too long, they can spoil and make you sick. The last important rule to remember is never eat a raw egg. When you cook eggs, the heat kills the bacteria that can make you sick.

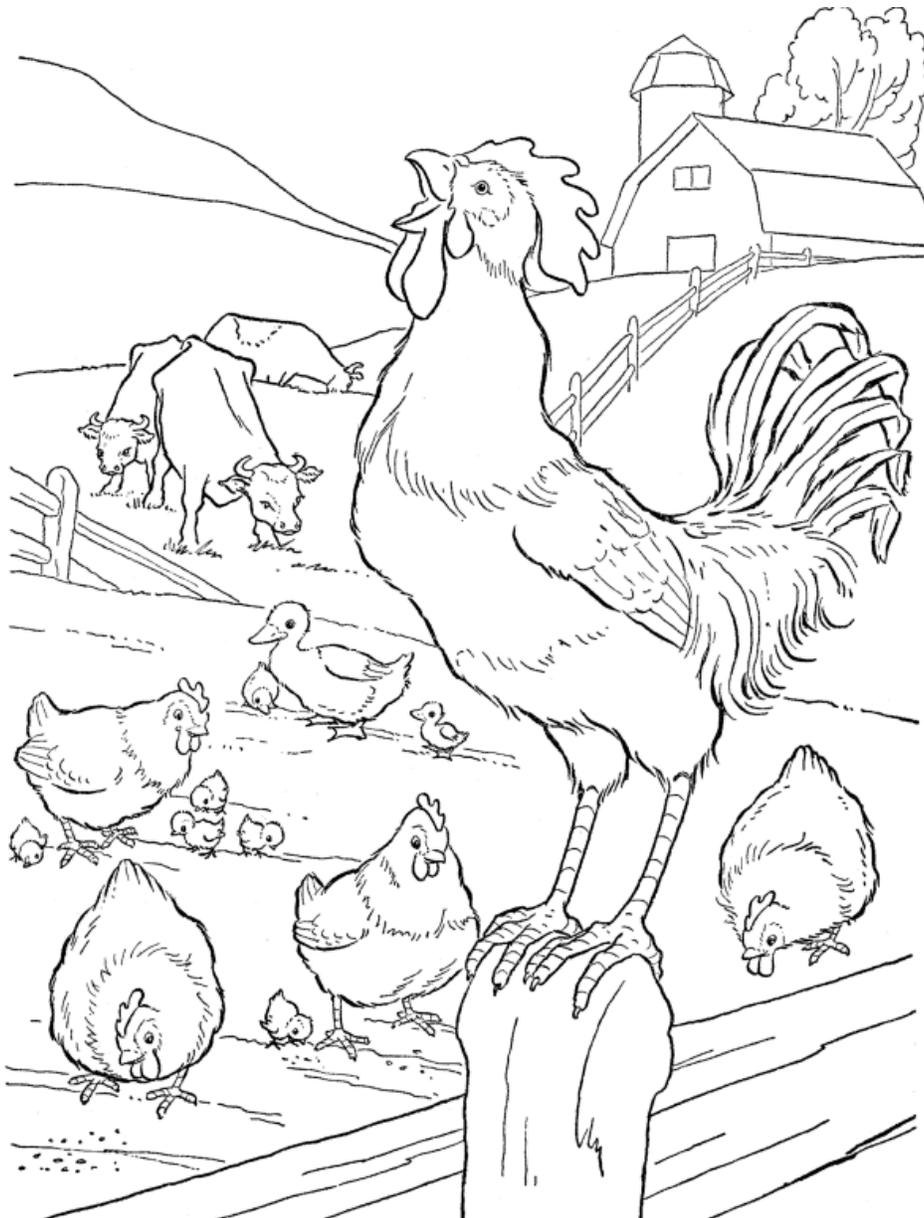
Color Picture on the next page reminding us how to be food safe.



Keep Food Safe!



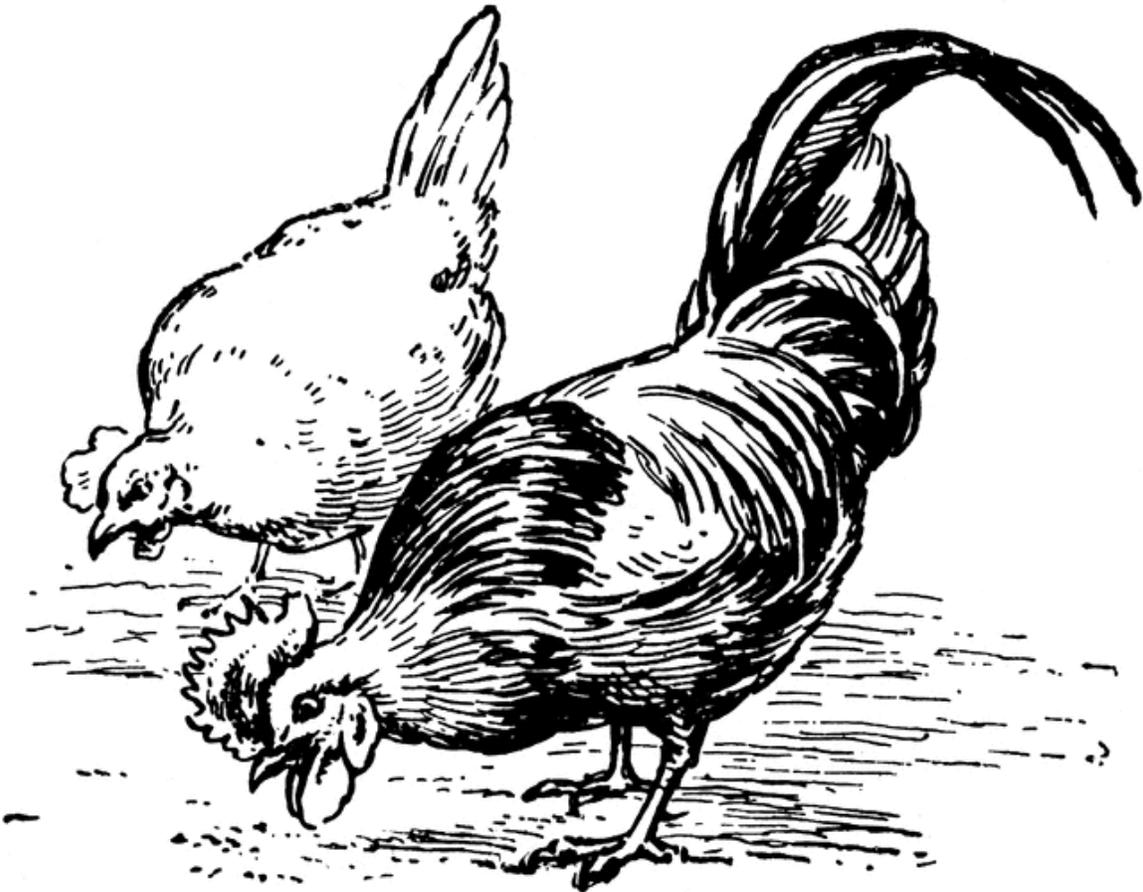
The Chicken



Fun Facts about Chickens

Let's take a few minutes to learn a little bit more about chickens.

- Chickens live anywhere between 10 to 15 years.
- The rooster or male chickens are larger and have brighter colored feathers than the female chickens.
- The males use their brightly colored feathers to attract females.
- Chickens eat worms, insects, seeds, grain, snails, slugs, vegetables and many other foods.
- Chickens have what is called a gizzard, this is part of their stomach and they actually eat tiny stones that stay in their gizzard and grind up what they eat. This is just like how you chew your food before you swallow this is how they chew their food.
- Some animals that prey on chickens are hawks, bobcats, snakes, skunks, owls, raccoons, foxes and opossums



Parts of the Chicken

Comb- The comb is the red fleshy piece on the top of the chickens head.

Eye- The chicken's eyes are dark and prominent. The eyes are on either side of their head.

Ear Lobes- The chicken has two ear lobes on either side of their head right behind their eye.

Beak- Chickens have an upper and lower beak that is usually a yellow color.

Wattle- Chickens have two wattles that hang right below their beak. The wattles are a fleshy piece of skin that is usually a reddish color.

Breast- The breast is the front of the chicken and should be broad and plump.

Vent- This is the opening that allow the female to lay their eggs.

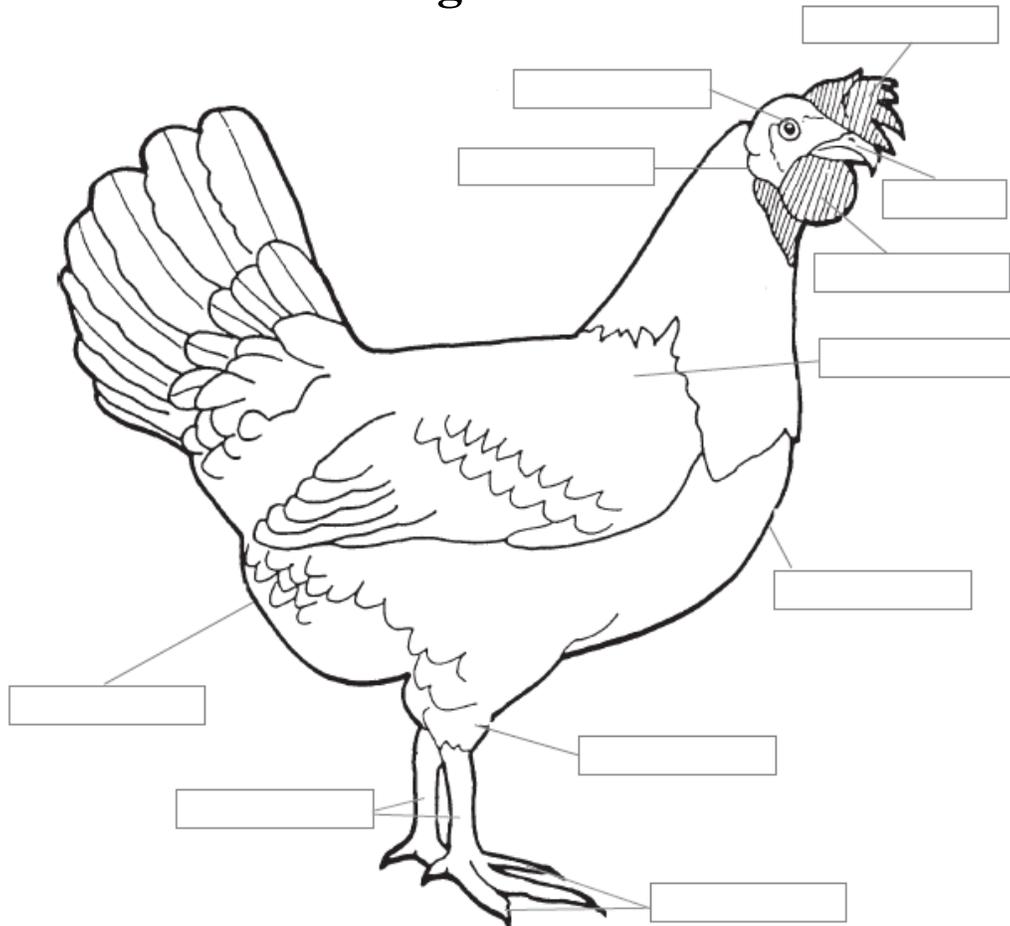
Hock- The hock is the leg joint that bends the opposite direction from the human knee.

Shank- The shank is the bird's lower leg that has a scale like appearance.

Toes- Chickens have four on each foot. Three toes face forward and one that points backwards.

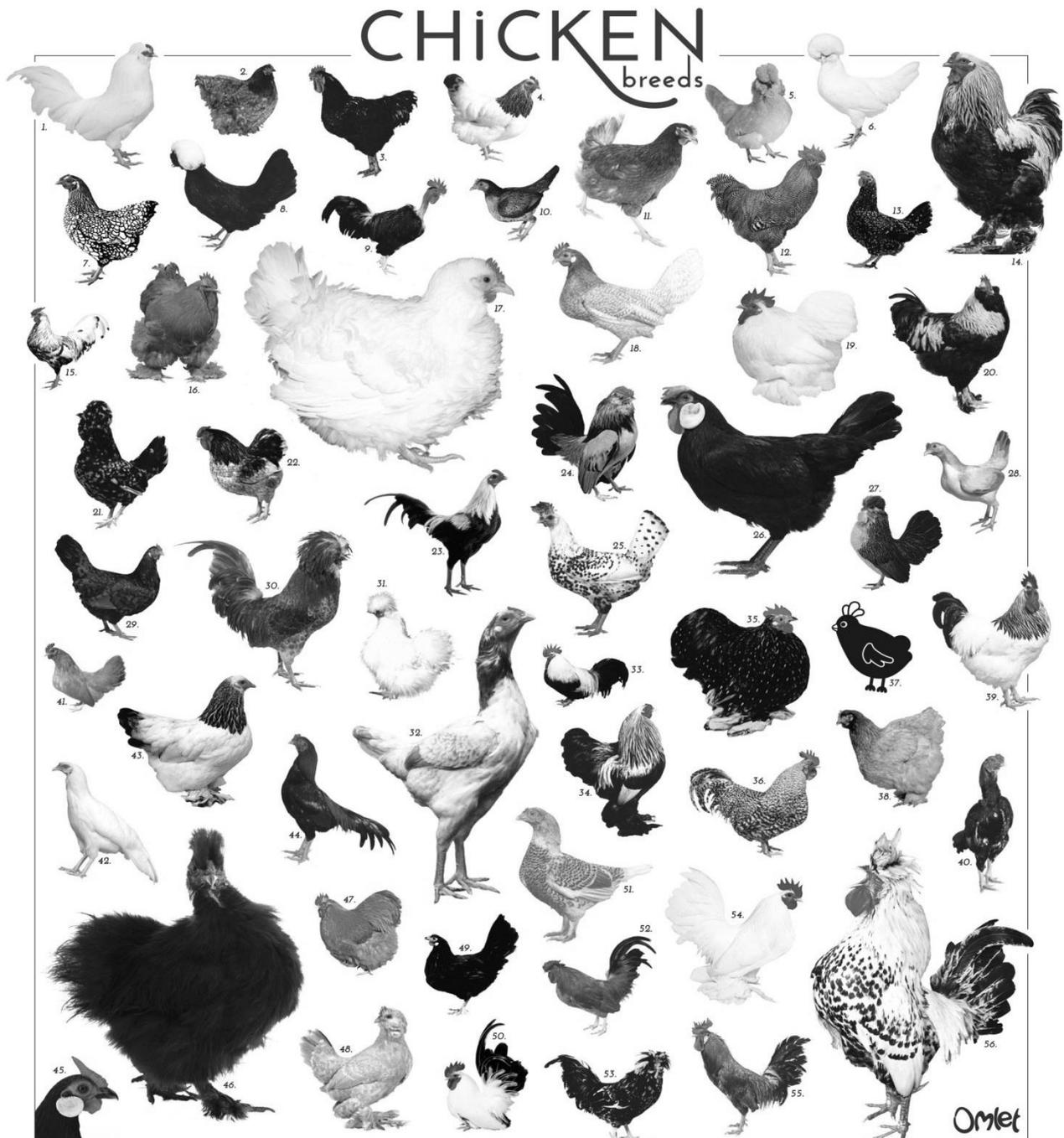
The one that faces back is for balance.

Color and Label the diagram of the chicken.



Types of Chickens

Did you know there are over 300 breeds of chickens! That's a lot of chickens. These chickens can be divided up in a bunch of different way. We are going to divide them into three, meat chickens, egg laying chickens, and specialty chickens.



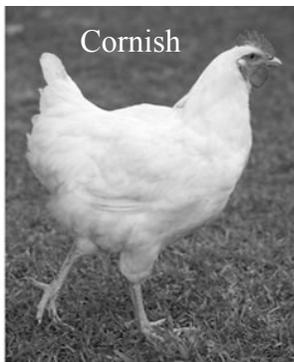
Meat Chickens

What is a meat chicken? Meat chickens are usually chickens that are meatier or have more muscles than an average chicken. Meat chickens are also not typically good moms, so they don't lay as many eggs or large eggs for eating.

Let's look at a few breeds of meat chickens!

The **Cornish** chicken is the number one chicken grown for meat. The Cornish can grow very fast, and usually weighs about 8-12 pounds.

Next we have the **Jersey Giant**; this chicken is a very large chicken and grows to be 10-13 pounds, however it takes a while for them to grow to be an adult versus the Cornish.



Cornish

Fill in the crossword puzzle using the words in
Meat Chickens

ACROSS

1 Meat

4 Cornish

5 Muscles

7 Nonmaternal

9 Giant

10 Jersey

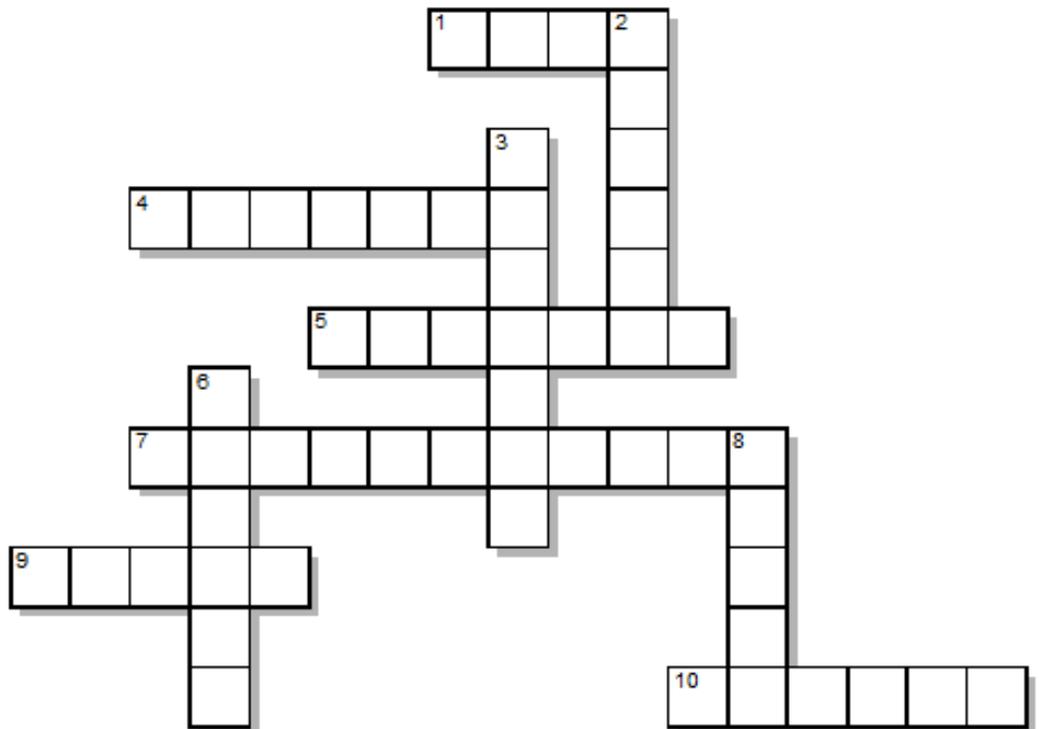
DOWN

2 Twelve

3 Chicken

6 Pounds

8 Large



Jersey Giant

Egg Laying Chickens

Just like some chickens are good for meat, others are good for laying eggs. Egg laying chickens are special because they lay bigger, higher quality eggs. There are several types of egg laying chickens that we will look at today.

The best egg laying chicken is the **White Leghorn**. This breed of chicken lays on average 280 eggs a year and lays a large white egg.

The next breed is the **Rhode Island Red**. This breed on average lays about 260 eggs a year and is a pretty hardy breed which means sometimes they can be a little mean.

The last one we are going to look at is the **Golden Comet**. This breed is a great chicken for cold temperatures. They lay on average 250-300 eggs annually and they are brown eggs.



Leghorn



Rhode Island Red



Golden Comet

Match the egg to its grade.

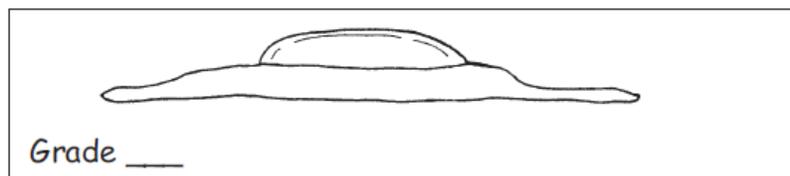
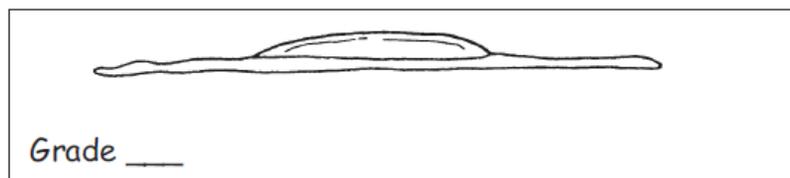
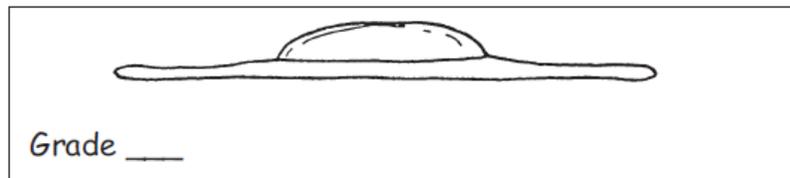
Eggs are graded for quality. Read the description of each grade of egg carefully and then grade each egg in the box with AA, A, or B.

A grade AA egg stands up tall. The yolk is firm and the area covered by white is small.

A grade A egg has a yolk that is round and tall. The white is a little flatter than a grade AA egg.

A grade B egg spreads out more. The yolk is flattened.

The grade of eggs can change if eggs are not stored correctly or if eggs are kept for a long time in the refrigerator.



Ornamental Chickens

Ornamental chickens are special chickens that are usually kept as pets not eggs or meat. These chickens come in different shapes, sizes, and colors just like people! There are many types of ornamental chickens but we will just look at three today.

The first ornamental chicken is the **Silkie**. Silkies weigh about half the size of the standard chicken and their egg is about 2/3s the size of your average egg. Silkies have black skin and have an extra toe on each foot. They come in a variety of colors such as white, black, and blue. Silkies have a good temperament and are very friendly.

The next ornamental chicken is the **Polish**. This chicken is bred mainly to be a show bird. The polish chicken comes in a many colors such as golden, silver, and white. They lay small white eggs. Over all the polish makes a good pet because friendly and quiet.

Last but not least we have the **Easter Egger** chicken. This chicken lays beautiful eggs they are very large and range in colors such as blue, green, olive, aqua, and sometimes even pinkish. The Easter Egger is a medium sized chicken. This chicken has a fun personality and is usually pretty easy going.



Silkie

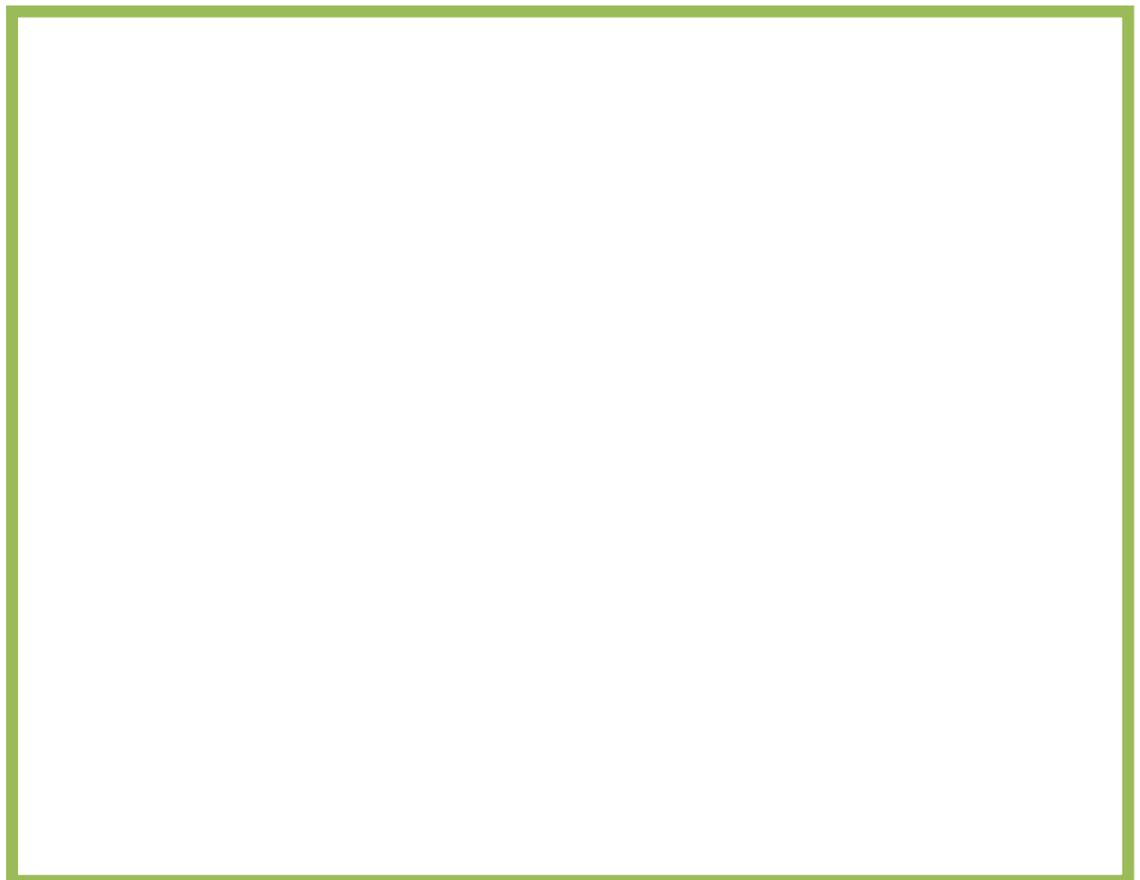


Polish



Easter Egger

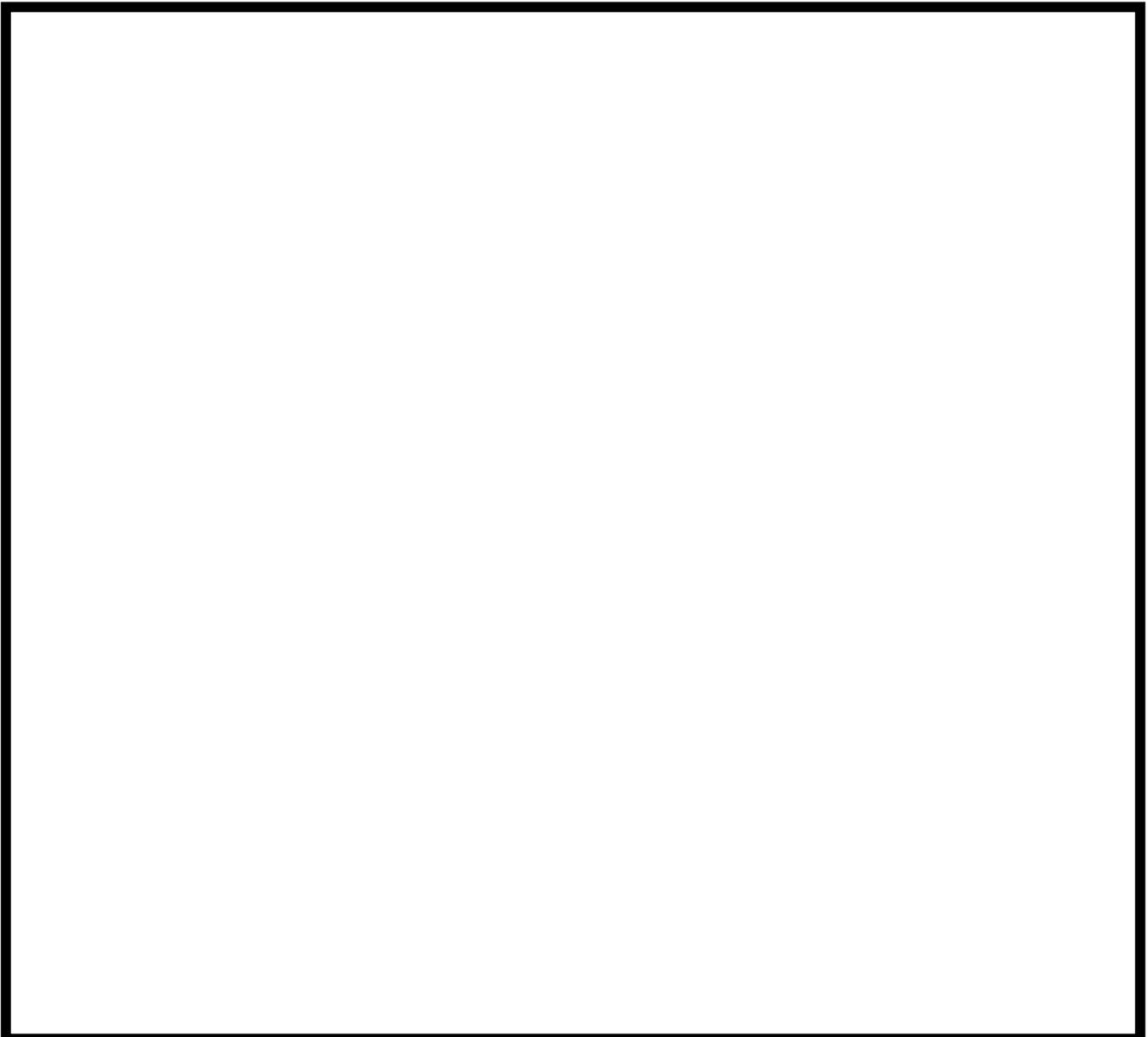
If you got a pet chicken what would you want it to look like? Draw a chicken that you would like to have.



Candling

What is candling? Candling an egg is the process of putting a light source under an egg so that we can see inside the egg. When we look inside the egg we can see how the embryo (baby chick) is doing whether it is still developing and many other things.

**Today you will get to look at the candled egg. What did you see?
Draw and color a picture of the egg below.**



Life Cycle of the Chicken

The life cycle of a chicken is from the hatching of an egg to the adult stage of the chicken's life.

The first step of the life cycle of a chicken is when you have a rooster and hen together, you get a fertilized egg.

The hen then lays the egg and must keep it warm for 21 days. The egg has the embryo on the inside and starts to grow and develop before it can hatch on the 21st day.

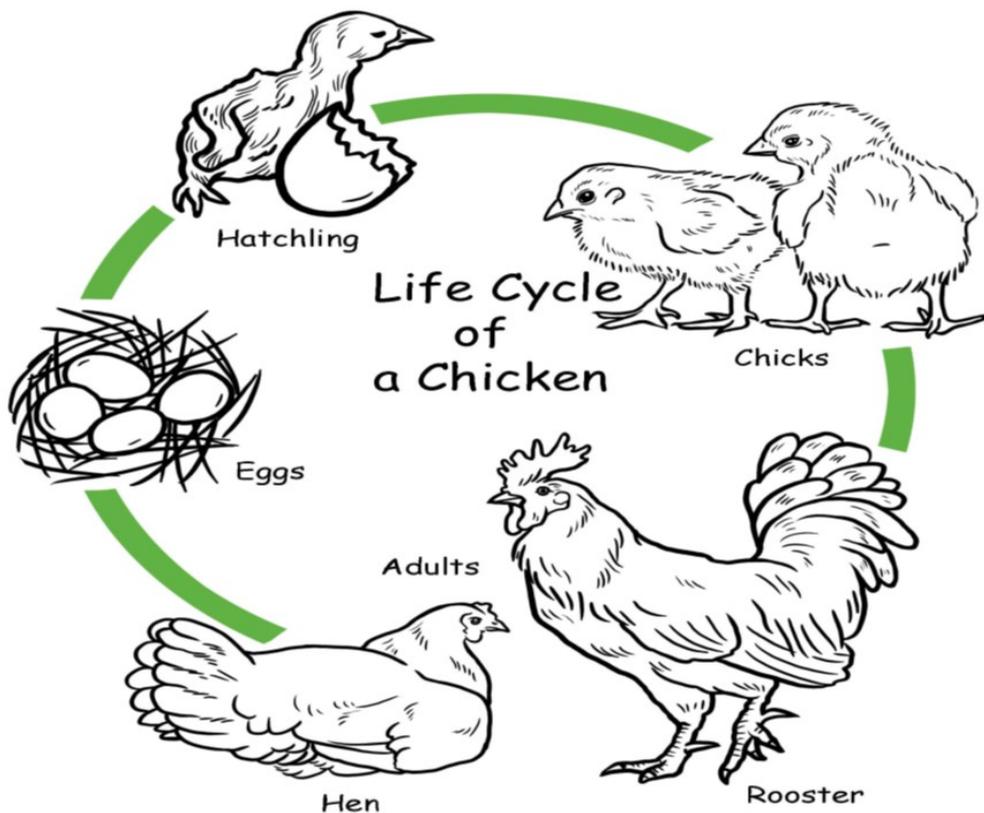
Once the egg hatches it is considered a chick and will grow very rapidly in the coming weeks.

Around 6 to 8 weeks the chick is now considered a full grown chicken, although this may vary in each breed because some chickens are slower developers.

At 6 months the chicken will be able to start laying eggs, and will be able to continue laying eggs for 5 to 7 years.

Then the cycle repeats itself with the eggs.

Color the Life Cycle Below.



Caring for the Baby Chicks

The special day is almost here when your eggs hatch! First we need to learn how to care for the baby chicks. One of the most important steps when caring for the baby chicks is making sure to wash your hands before you touch the chicks. This is because you could have germs on your hands that could make them sick because when they are little it is easier for them to catch something.

It is also very important to wash your hands after you touch the chicks because they might have germs on them that can come from their bedding or feces.

Another important rule is never squeeze or hold a baby chick too tightly. This could injure the chick because their bodies are very delicate and break a lot easier than yours would. So remember use both hands when holding the chicks and hold them very gently.

One way you can help your teacher is by making sure they always have clean water and food. And make sure they have a light to keep them warm. Once you know these key things to remember enjoy your new friends!

Look at the pictures and phrases below. Circle the pictures that show the right way to care for an egg or chick. Cross out the pictures that show the wrong way to care for an egg or chick.



Make sure coop is warm enough



Hold chick gently with both hands



Toss egg up in the air



Shake egg



Clean hands before and after holding eggs or chicks



Toss chick up in the air



Hold egg gently and with both hands



Hold chick very tight



Run with chick in hand



Make sure chicks have clean water and food

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Development Stages of the Chicks

After the eggs first hatch the chick will remain in the incubator for the first 24 hours so they can rest and their feathers can dry. This is the time were you can still see the egg tooth on the end of their beak.

1 day old



The egg tooth will fall off around two days after hatching.

After about a week you can start to see the feathers starting to develop on the wings. At this time you can start to tell the difference between the males and the females. Males will have shorter wing feathers than female. However this is not always the case sometimes you will have to wait weeks to look for other signs depending on the breed of chicken you have.

1 week old

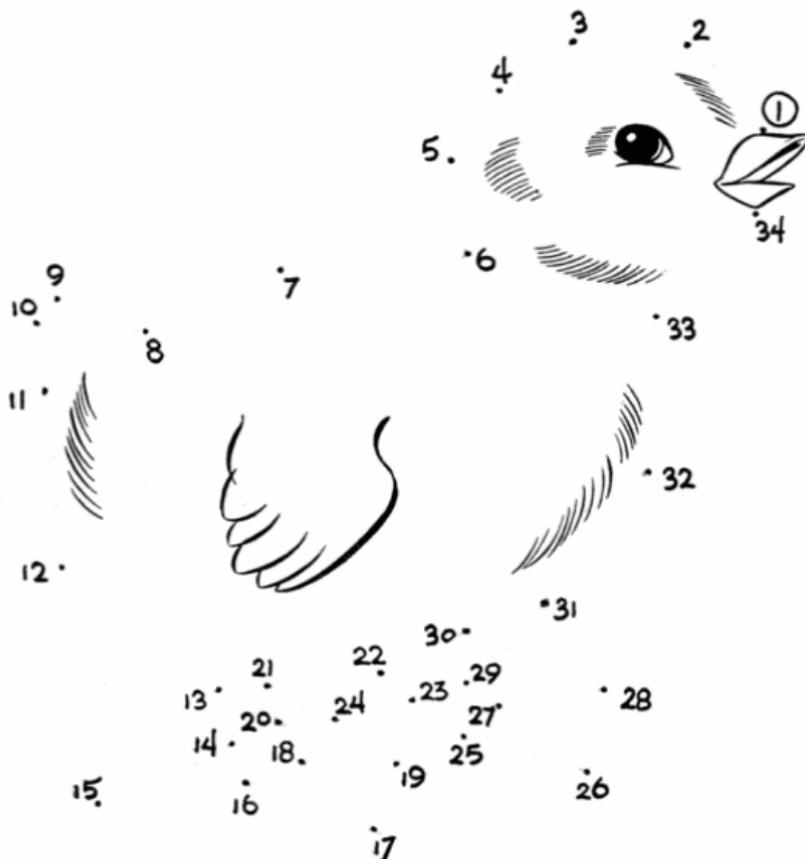


Each week more and more feathers will develop on your chicken. Looking at the photos on the side of the page will help you see this development.

2 weeks old



Follow the Dots.



3 weeks old



4 weeks old



6 weeks old



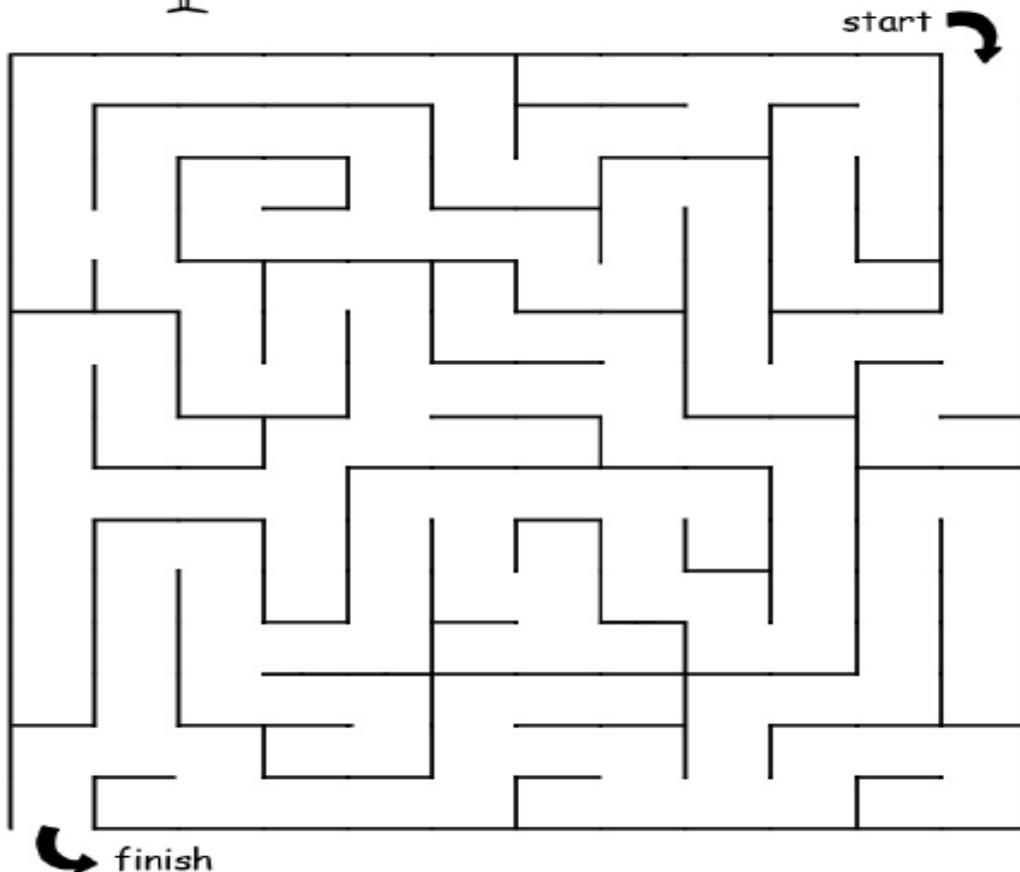
What Chicken Do You Eat?

How can you eat chicken after raising these little ones? Well, these chicks will not be eaten, it is necessary for people to eat chicken. First, a chicken can start laying eggs only 6 months of being hatched. Then it can lay up to 1 egg a day. That is a lot of chickens! They would be everywhere!

The chickens would soon run out of food and so would we. That would not be good for us or them. So we eat chicken but just like cows, there are plenty of them on the planet, so we don't have to worry about them becoming endangered. Another reason we eat



Help little Betty
find her way home



Food Safety for Chicken

There are several very important things you need to remember when it comes to raw and cooked chicken. Can you think of somethings your parents tell you to do when it comes to being safe with chicken?

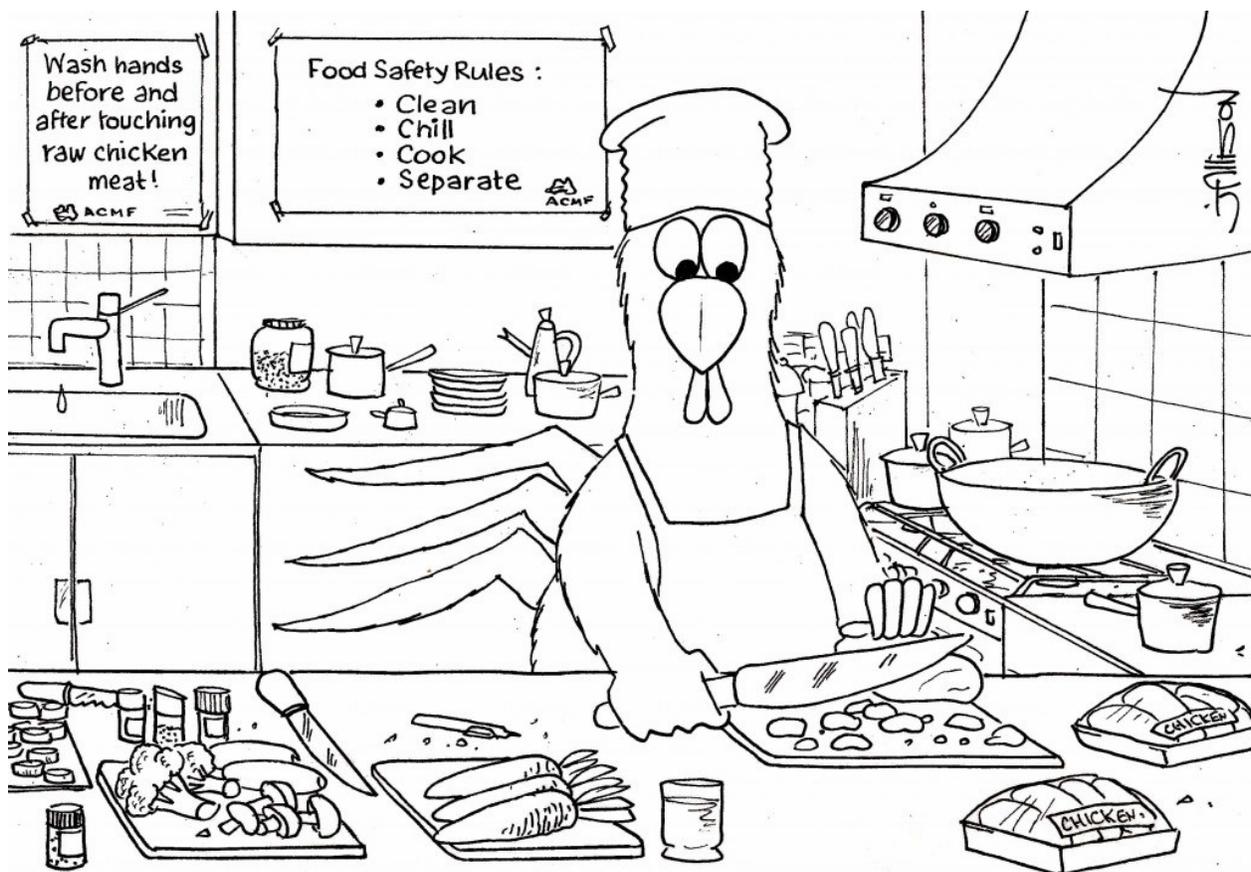
Well the first thing to remember is to keep **raw chicken separated** from other meat at all time because bacteria from the raw chicken can make you sick if it touches any other food.

Also make sure you keep raw food **refrigerated** until you are ready to cook it.

Another important thing to remember is to always **cook** raw chicken completely. Chicken should be well cooked and should never be pink or red. If it's not completely cooked it can cause you to get very sick.

Whenever you eat chicken you should be sure that it does not sit out for more than **2 hours** or you will risk getting more bacteria on the food and getting very sick from it.

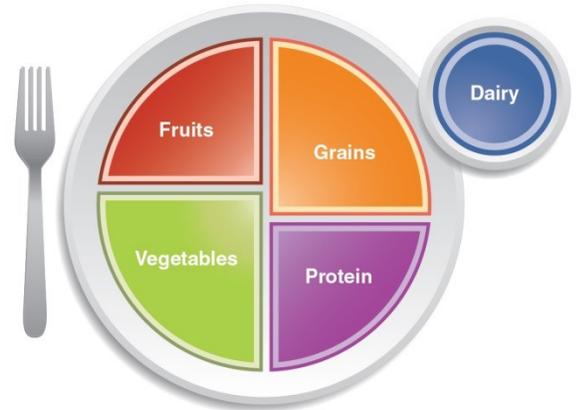
Don't be scared, chicken is very safe when cooked completely!



Health Benefits of Eating Chicken

Chicken is extremely healthy for you and should be on the menu for just about everyone. What makes it so healthy you may ask? Well chicken is very high in protein! Protein is very important to our diets because it helps you grow big muscles. So if you want to grow big and strong you need to make sure you are eating protein. Chicken also high in vitamins and minerals; this can help your skin, bone health, improve your nervous system, and heart health plus many more.

**We eat chicken in a lot of different ways!
From chicken noodle soup to fried chicken
it is in thousands of things. Name 5 things
you eat that have chicken in it.**



ChooseMyPlate.gov

1.

2.

3.

4.

5.

What is Made Out of a Chicken Feathers?

Most people think that there isn't much that we can do with the feathers of the chicken other than maybe makes feather pillows out of them but there is a wide variety of things we can do with them. Another more common thing that we use the feathers for is for boas, costumes, masks, flowers, fans, and earrings. There are many more things that are made out of feathers that you would never think of. Another thing that is made out of feathers is diapers, this isn't commonly used but it an alternative to the traditional diaper. Feathers can also be used to make plastic stronger.



Scrambled Feathers

Unscramble the words below to create what is made out of chicken feathers.

earring	boas	fans	plastic	flowers	costumes
pillows	diapers	masks	hats		

- | | | | |
|-------------|-----------------|--------------|---------------|
| 1. SABO | b _ _ _ | 6. GRAEINR | _ _ _ r _ _ g |
| 2. COSTSMEU | c _ _ _ _ m _ _ | 7. SIOPLWL | _ _ l _ _ _ s |
| 3. SSAMK | _ _ _ _ s | 8. STHA | _ a _ _ |
| 4. LROWSEF | _ _ _ w _ r _ | 9. CSI PTLA | p _ _ _ _ _ |
| 5. FASN | _ _ _ s | 10. DRES PAI | _ _ _ p _ _ s |