Chickens are birds. Birds are animals who:

- Have feathers
- Have wings
- Have a beak
- Lay eggs
- Are warm blooded

Birds are also known to be direct descendants of dinosaurs and their closest modern-day relatives!
Chickens come in all sorts of shapes and sizes, from the most ordinary to really unique looking ones.

Chickens came from wild birds called jungle fowl who live in Asia. About 8,000 years ago, humans took in jungle fowl to raise them for their eggs and meat. Over time, people developed all kinds of breeds of chickens from these jungle fowl using selective breeding.

Figure 1: By Francesco Veronesi from Italy - IMG_5008, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=47310294
Hens - Female chickens are called hens. They tend to be smaller and more plain looking than roosters. This is so they don't attract predators. Mother hens are constantly on the lookout for threats to her babies. They are very protective and become stressed when they believe their chicks are in danger. Hens even get involved with what their kids eat and will discourage them from eating food that is not suitable.

Roosters - Male chickens are called roosters. It's a rooster's job to protect his flock from potential danger. At Charlie's Acres, Brewster calls all of the hens inside if he spots a hawk overhead. Roosters have different alarm calls for predators in the sky or on the ground, so his family knows where to go to stay safe. He will also taste test new foods for them to make sure that it is safe to eat. Once Brewster determines that the food is safe, he guards his family while they eat without fear.

Visit: https://youtu.be/Jpd8S1X0MUU to watch a video of Brewster taste testing a strange new food before his hens eat.

Chicks - Baby chickens are called chicks. Chicks have soft, downy feathers when they are young. At six months old, chicks will have grown all their adult features, such as mature, full sized feathers, and are considered a chicken.

Flock - Groups of chickens are called flocks. A flock usually has one rooster and many hens. Chickens form friendships and social hierarchies, recognize one another, develop a pecking order, and can remember the faces and ranks of more than 100 other birds! Chickens have a cultural knowledge that they pass down from generation to generation, which helps them avoid harmful foods.
Shelter

Chickens need a secure and comfortable house to live in. The name of a chicken's house is a coop.

Like any house, the chicken coop has places for them to sleep, either on a perch or in a nesting box. A nesting box is where chickens lay their eggs. A chicken coop needs to protect chickens from the rain, so it can't have any leaks. And it has to protect them from predators, so the door has to be shut at night and there can't be any holes that let other animals get in. Hawks, foxes, coyotes, racoons, weasels, and dogs can all be dangerous to chickens.

Their coop also has to be kept clean to help the chickens stay healthy. A coop is kept clean by covering the floor with wood shavings so their poop can be cleaned up easily. (picture of a clean, freshly bedded coop) Wood shavings also make a comfortable bed for chickens to sleep on. If you give chickens a clean, secure house with windows for sunlight and fresh air, they will be very happy.
Some humans also keep chickens inside their house, just like dogs and cats! Chickens can bond with humans and be very affectionate. It's not possible to potty train chickens but special diapers can fix that issue easily! House chickens can be very good companions and there are even famous house-chickens such as Boo the Roo.
Diet

When chickens know it's time to eat, they get very excited and come running over for their breakfast or dinner. They even know when it's time for their afternoon snack!

What do chickens like to eat? They like seeds, fruit, lettuce, leafy plants, worms, bugs, and even eggs! One of a chicken's favorite treats is hardboiled eggs. This might seem strange, but eggs can replace important nutrients for chickens.

Chickens who have been domesticated by humans can lay up to 250 or even 300 eggs a year – that's almost one egg every day! Jungle fowl lay only 4-6 eggs twice a year. Chickens have been selectively bred to lay that many eggs so people can eat the eggs. Laying this many eggs is hard on a hen; they can develop a lot of health problems from laying so many eggs, like weak bones and poor feather quality. Making an egg requires a lot of calcium and protein, so feeding hens their eggs gives them back the calcium and protein they lost. Sometimes we even feed tofu to our rescued hens to give them an extra protein boost!
Chicken Anatomy

- Comb
- Nostril
- Beak
- Wattle
- Breast
- Wing
- Eye
- Ear
- Tail
- Vent
- Thigh
- Lower Leg
- Feet
New Chicken Anatomy Terms

Wattle and Comb – The wattle and comb helps a chicken stay cool. Unlike a human, a chicken can't sweat. To cool off, its blood goes into the comb and wattle. Because the comb sticks out away from the body, it stays cooler than the rest of the chicken.

Beak – Chicken beaks are made from hardened keratin, the same things your fingernails are made from!

Vent – The vent is the hole that chickens use both for laying eggs and going to the bathroom.

Chicken Senses

Sight – Chickens have incredible eyesight! They can see more colors than humans and detect tiny movements. Their left eye is farsighted, while their right eye is nearsighted. That way they can watch for predators from a distance and still find their food to eat.

Hearing – You may have a hard time finding a chicken's ears but they hear very well and this is an important sense for them.

Taste – Chickens have small, hard tongues and few taste receptors. Humans have about 9,000 tastebuds, while a chicken has only about 400. This means that chickens don't have a very good sense of taste.
Smell – Chickens don’t have a very developed sense of smell, but their smell is good enough to detect dangerous chemicals, like ammonia, so they can get out of a harmful environment.

Touch – Just like humans, chickens detect pressure, pain, hot, cold, and limb position with their sense of touch. Instead of using fingers to investigate their world, chickens use their sensitive beaks to explore new things.

Communication

Chickens have dozens of different vocalizations to communicate. There are different sounds for danger approaching from land, sky, and water and mother hens begin teaching these to her chicks before they even hatch. Mother hens cluck softly to their chicks before they hatch and they chirp back to her and to each other from inside their shells.

Chicken Life Cycle

Unlike humans and other mammals, chickens do not give birth to live babies. After mating with a rooster, a hen will lay a fertilized egg that a baby chick grows inside.

If a hen has not mated with a rooster, she can still lay an egg, but a baby chick will not grow. This is called an unfertilized egg. Hens will lay and sit on a fertilized egg to keep them warm and protect them from harm for 21 days. During this time, a baby chick is growing inside the egg, feeding off of the egg yolk. If the egg doesn’t crack and is kept at just the right temperature for those 21 days, a chick will emerge!

There is a lot going on inside of an egg.
Parts of an egg:
**Air Cell** – Located at the large end of the egg, the air cell holds oxygen for the chick to breath.
**Cuticula** – The natural coating which covers an eggshell and protects the inside of the egg from bacteria. It also helps to keep moisture inside.
**Eggshell** – A hard shell with protects the albumen and yolk, and eventually the growing embryo. It's mostly made of up calcium carbonate which is why feeding chickens a calcium supplement is so important.
**Thick Albumen** – The albumen, or the egg white, cushions the egg yolk floating within it and is the main source of protein and water for the embryo. The thick albumen is a dense layer around the yolk.
**Germinal Disc** – The round, white bullseye-looking spot you see on the surface of the yolk. This is where the embryo begins to develop.
**Thin Albumen** – The albumen, or the egg white, cushions the egg yolk floating within it and is the main source of protein and water for the embryo. The thin albumen is a narrow fluid layer next to the shell membrane (eggshell).

**Yolk** – A major source of vitamins, minerals, almost half of the protein, and all of the fat and cholesterol for a growing embryo.

**Chalazae** – Pronounced kah-layz-ah, the chalazae are the rope-like strands you see connecting egg whites to the yolk. They provide a stable environment for a growing embryo.

**So what's happening inside that egg during those 21 days?**

Check out this video to watch an animation of a chick embryo developing over 21 days: https://youtu.be/PedajVADLGw

**Day 1** - Nervous system, head and eye begin forming.  
**Day 2** – Heart and ear begin to form. Heart begins to beat.  
**Day 3** – Nose, legs, and wings begin to form.  
**Day 4** – Tongue begins to form.  
**Day 5** – Reproductive organs begin to form. Sex differentiation begins.  
**Day 6** – Beak and egg tooth begin to form.  
**Day 7** – Comb begins to form.  
**Day 8** – Feathers begin to form.  
**Day 9** – Embryo begins to resemble a bird. Mouth opening appears.  
**Day 10** – Beak begins to harden.  
**Days 11-12** – Tail feathers appear. Toes fully formed.  
**Day 16** – Feathers cover body. Scales, claws, and beak become firm.  
**Day 17** – Beak turns towards air cell.  
**Day 18** – Growth is almost complete!  
**Day 19** – Yolk sac begins to be absorbed by body.  
**Day 20-21** – The embryo now occupies most of the egg shell, except for the air cell. The yolk sack is completely absorbed into the body. The chick pokes into the air cell and begins breathing, then uses egg tooth to poke around the shell to hatch.

**Activities**  
Visit [https://www.charliesacres.org/kids_chickens.html#activities](https://www.charliesacres.org/kids_chickens.html#activities) to download activities which accompany this lesson.

**Sources:**  
http:// https://www.coursera.org/lecture/chickens/smell-and-touch-3K9Tg  
https://theheartyhenhouse.com/2019/06/18/a-chickens-5-senses/  
https://www.smithsonianmag.com/science-nature/dinosaurs-living-descendants-69657706/  
http://chickscope.beckman.illinois.edu/resources/egg_to_chick/development.html
Watch my chick grow.