

## Monday

**\*Hand out and complete pre-test BEFORE starting the lessons or activities\***

### Learning Objective:

To become familiar with caring for chicks and gain an understanding of the responsibilities raising chicks entails.

### Learner Goal:

To become familiar with:

Incubation- keeps eggs warm so chicks can hatch, should be 99° F, humidity should be 55-60°. Chicks are incubated for 21 days before they hatch

Temperature- chicks do not regulate their own temperature, should stay around 99-100° for chicks to be comfortable

Feed- chicks do not have teeth, so all of their nutritional needs are packed into small pellets

Water- water is extremely important for chick development. The water lines are placed above the chicks because they must look up to swallow

Hatching process- after 21 days, chicks will begin hatching out of the egg. The humidity and temperature are still important in order for the chicks to hatch out comfortably

### Activity:

Utilizing the PowerPoint, discuss each item of how to care for chicks (temperature, feed, water, hatch out).

Find an area of the classroom that will be suitable for the aquarium and incubator. After receiving the incubator and aquarium, allow the students the opportunity to set up the aquarium in preparation for the chick's arrival, adding all of the items discussed that a chick needs for caring

### Teacher Narrative:

**Slide 3:** Incubation is used to keep the eggs warm until the chicks hatch-out. For our classroom, we will use an incubator; however, this is the same as when mother hens sit on their eggs until they hatch. She acts as the incubator and

makes sure the eggs are always warm so the baby chick can grow properly. This takes 21 days.

**Slide 4:** Humidity is what keeps the eggs wet inside and allows the chicks to hatch without becoming dried out. If there is no humidity, then the chick will become stuck in the egg and never come out. We will control this in our incubator by adding water! Do you all see where the water goes? We can also use a certain type of thermometer that can tell you the percent of humidity in order to see what it is within the incubator, which should stay around 55-60%. The temperature in the incubator should stay around 99-100 °F so that the chicks can stay warm while they develop! Chicks are like babies and need to have someone keep them warm. They cannot do it themselves. We can also monitor this by using the thermometer inside of the incubator. Can you see the thermometer in the incubator?

**Slide 6:** After 21 days of incubation, the chicks are ready to hatch-out! The chicks are very smart and can get around on their own as well as eat and drink by themselves. Is this different from us when we are born? Yes, it is, we need someone to feed us and cannot walk until we are older, but not chicks! However, they still will need a lot of help from us to provide the feed and water and to help keep them warm. How do you think we keep them warm? What food do you think chicks eat? And how do you think they drink? Let's look and see how we do all of these things for the chicks.

**Slide 7:** Chicks cannot keep themselves warm, so we put a heat lamp in the aquarium in order to keep them warm!

**Slide 8:** If we look at the chicks, we notice that they do not have teeth! Because the lack of teeth they do not chew their food but instead swallow everything whole. They use their beak to pick up food and swallow it. We provide them with small pellets of food in order for them to be able to swallow all of the nutrients they need in one bite. The nutrients are all the healthy foods they need. Just like you need a good balanced meal with vegetables and meat and vitamins to grow strong, baby chicks need this too. Their food contains mostly corn and soybean with some vitamins and minerals in order to help them grow strong.

**Slide 9:** When chicks drink, they must look up because they do not have the ability to swallow like we do. We can all stick our tongues out and this helps us push water back into our throat to swallow it. Chicks have a tongue, but it will not come out of their mouth like us. When we grow chickens in a chicken house, they use waterlines like the picture in the top. These are above their heads, so they do not have to go up and down to get water to drink. It is also very important that chicks have clean water in order to keep them healthy. This

makes it important to check the water each day and give them clean water if it is dirty. Would you want to drink dirty water? Of course, not, and neither would your chicks!

**Slide 10:** Now that we have become familiar with what a chick may need, let's set up for our chicks!

## Tuesday

### Learning Objective:

To gain an understanding of chick development during the incubation process

### Learner Goal:

Teachers will be able to help students grasp what happens during incubation, how long it takes chick to develop, and different stages of development while the chick is inside the egg.

### Narrative:

**Slide 12:** If we look at this picture of the egg, we will notice a few things: The outside of the egg is hard and where we find the shell. The shell is what helps to protect the chick while it grows. The yolk is what will feed the chick during development! One cool fact is that the chick can live off the yolk for up to 2 days after hatch, meaning they do not have to have food and water right after they hatch because they still have yolk in their tummy! We can also see the air cell on the picture, this is where the chick will take its first breath when it starts to break through the shell and hatch. Now let's take a closer look at what happens during chick development.

**Slide 13:** In just 3 short days of incubation the chicks' heart is beating, blood is flowing, and what will be his wings and legs begin to develop. Click day three to watch the video.

**Slide 14:** The egg tooth is formed on day 7, which will help the chicks be able to hatch out of the eggshell. This egg tooth is a tiny pointy piece found on the end of the beak. After hatching, the egg tooth will break off and leave the chickens with no teeth. Just like our baby teeth they lose their one egg tooth! Look at your chicks in the aquarium and see if you can find one with an egg tooth and one without an egg tooth. Click to watch the video

**Slide 15:** On the 10<sup>th</sup> day his toes and wings are formed, he has visible feathers, and his egg tooth has hardened. The chick is almost halfway grown now! Click and watch the video

**Slide 16:** The chick starts preparing to hatch on day 14 by moving into position to hatch: The chick will curl his body into a ball and tuck its head under right wing. If a chick does not get into this position, they are not able to crack the shell open and hatch properly. Click to watch the video

**Slide 17:** The chick is fully formed and ready to enter the world. The chick internally “pips” which means he will break into the air cell using his egg tooth so he can now breath fresh air. He will then “pip” through the hard shell and start to hatch on day 21.

**Activity:**

**Supplies:** Scissors, Crayons, Paper Plates (in bag), Hole punch, Metal brads(in bag), Glue, coloring sheet of lifecycle (in bag)

**Time:** 30 minutes (maximum)

*Life cycle activity: Picture illustrations are located below*

1. Each student should receive two paper plates and should punch a hole in the middle of each one.
2. Color the pictures.
3. Use scissors to cut on the lines.
4. Cut out and color the title “Life Cycle of a Chicken” then glue on the bottom half of the first paper plate and place it to the side.
5. Line up each of the remaining pictures in order from 1 to 4. Glue them in order around the edge of a second paper plate.
6. Place the first paper plate with the title over top of the second paper plate and place a metal brad through the center of both paper plates.
7. Cut a three-sided hole on the bottom edge of the title plate so that you can see one step of development at a time as you rotate the bottom plate. Now you can tell the story of a chick hatching from an egg



**Wednesday**

## **Learning Objective:**

To become familiar with the definition of biosecurity and gain an understanding of the importance of biosecurity in the poultry industry

## **Learner Goal:**

To understand and identify procedures used to protect humans or animals against diseases or harmful biological agents in order to keep the chickens healthy and safe

Biosecurity- the practice of keeping yourself and the chickens safe from harmful diseases and bacteria

PPE- used in order to maintain good biosecurity

## **Narrative:**

**Slide 20:** Biosecurity is extremely important for the safety of us and the chicks. Along with us, many different jobs use biosecurity for the safety of everyone involved! Can you think about how we keep ourselves safe each day from dirt and germs? Let's learn about what this means and how we can keep ourselves and our chicks safe!

**Slide 21:** Here are two lists, one for examples of good biosecurity and the other is for bad biosecurity. A couple of examples of good biosecurity could be washing your hands, taking a shower, spraying your truck tires off chicken farmers do so that they do not bring dirt into their farm or out of their farm and they change clothes when they are dirty. This helps to keep them from spreading germs to their chickens or to others. Bad examples would be wearing dirty boots inside, not washing your hands and not changing dirty clothes. What happens when we spread germs to each other? What are some more examples of how we can keep the chickens clean as well as ourselves?

**Slide 22:** In order to maintain good biosecurity practices and stay clean as well as keep the chicks safe, farmers in the poultry industry use personal protective equipment (PPE). Farm workers wear this equipment into chicken houses and change them when visiting another farmer's farm. Some examples would be a hair net/hard hat, gloves, safety glasses, earbuds for noise, an apron or coveralls, and boot covers. All of these items keep a farmer clean and help to keep the chickens clean as well. Click the video

## **Activity:**

**Supplies:** glitter (germs), sand, plastic cup (coup) (small and big) All in bag

**Time:** 30 minutes

**Procedure:**

*Sand and Glitter Biosecurity activity*

1. Have students in groups.
2. Give each student a “coup” cup of sand and each group a “grocery store” cup of sand.
3. Let each student pick a color of glitter and have them pour some in the coup cup sand. If possible, use a color only once in each group.
4. Have them “work their chicken coup” by playing in their cup of sand and glitter.
5. Give instructions like “visit the neighbor to your left/right” and have play in someone else’s coup cup a few times and have them “visit the grocery store” one at a time. You can do this as many times as you would like.
6. After, have them look at their cups and their hands. Talk about all the different colors they see in their cups and even on their hands. Tell them that the glitter represents germs and how easily the spread from person to person and then to their chickens. This is why biosecurity (washing our hands before and after touching our chicks) is very important to keep everyone healthy.
7. Wash hands



**Thursday**

**Learning Objective:**

to become familiar with types of chickens and the poultry industry.

### **Learner Goal:**

Students should be able to describe and identify the different types of birds and their purposes and what products we can get from chickens (meat, eggs, feathers etc.), also what different people do within the industry.

### **Narrative:**

**Slide 25:** Within poultry, there are three main types of chickens. The first are backyard flocks, then there are broilers and the third are layers

**Slide 26:** Back yard flocks are the chickens that are mainly raised in our backyard. These birds can produce both meat and eggs for us to eat. The chicks that we have in our classroom are all backyard birds and could be taken home to have as pets.

**Slide 27:** There are thousands of different breeds of chickens! Let's look at our chicks and see if we can figure out what breed we have in our aquarium!

**Slide 28:** The next breed are broilers. These are the chickens that are raised in order to provide meat for us like (chicken nuggets, chicken legs, wings, tenders, etc). They can be girls or boys. These birds do not lay eggs and are only for us to use for meat. The birds we get eggs from are in completely different houses and do not live with these broilers. Did you know that the average person eats around 84 pounds of chicken a year?? That is about 340 chicken nuggets! Do you eat that many nuggets?

**Slide 29:** The last type of chickens for today are called layers. These birds give us eggs that we eat! Layers will start laying eggs at 4 to 5 months old. They are able to lay almost 365 eggs a year which is close to 1 egg every single day! Similar to how many chicken nuggets people eat, we eat around 245 eggs a year! A cool fact about layers is that we can see what color eggs they will hatch by looking at their earlobes. Yes!! chickens have ears and earlobes (look at your chicks and see if you can tell).

**Slide 30:** After learning about both the broiler and layer, let's compare them side by side. Notice the layer's skinny and has longer legs as compared to the broilers short and thick legs and its body is much bigger. Since we grow a broiler for meat, they are much larger than the layer. The layer is smaller and is able to lay lots and lots of eggs.



**Slide 32:** Here in our state, chickens are actually very important. Mississippi's #1 Agricultural commodity is poultry. Which means we grow more chickens than anything else you would find on a farm such as fruit, vegetables, pork, beef, milk, and trees; poultry makes the most money for Mississippi. Over 2 billion dollars a year.

**Slide 33:** Chicken farms are very popular in south Mississippi. Some companies that grow broilers in Mississippi are Tyson and Sanderson Farms. These are two of the largest chicken selling companies in the whole world. They sell their chicken to places we all love to eat at, like Chick-fil-a and McDonalds as well as grocery stores like Walmart and Kroger. One company that sells the eggs we get at the grocery store is Cal-Maine and it is here in MS. They are one of the world's largest egg companies and send eggs all over the world.

**Slide 34:** There are many different people and jobs in these poultry companies! Some examples are veterinarians (make sure the chickens are healthy), teachers (help people to learn about chickens), nutritionists (make the feed for chickens), farmers (take care and house the chickens),

### **Activity:**

**Supplies:** corn, bag of feed, dirty bag of feed, fence, coup, chicken, starburst, dog, green felt, mean face sticker, band-aid, syringe, dirty/ripped up gloves. All items should be in the Thursday bag which will contain smaller bags (one for each group(4))

**Time:** 30 minutes

### **Procedures:**

There are many different job opportunities within the poultry industry whether it be a farmer, nutritionist, or veterinarian. However, it is a teacher that has the first impact on the working society. They are the ones who build the initial platform for people to use. This activity will allow the students to step into each role and decide which objects belong in the poultry industry and on a farm in order for it to succeed.

1. Separate the class into 4 groups
2. Pass out each of the supplies to every group (one small bag per group). There should be 4 bags within the large bag. Each small bag contains everything for one group.

- The students will then each be a teacher, farmer, veterinarian, and nutritionist. As each role, the student will decide what items belong on the farm and will decide the one item that does not belong.

Nutritionist- corn, bag of feed, dirty feed (does not belong)

Farmer- fence, coup, dog (dog does not belong)

Teacher- platform (green felt), chicks (who sit on the starburst), mean face (bad attitude) (does not belong)

Veterinarian – band aids, vaccines (syringe), dirty/ ripped up gloves (does not belong)



Friday

**\*Complete post-test AFTER activity has been completed\***

**Learning Objective:** to review the weeks lesson

**Learner Goal:**

Review and recall some main points from the past week of lessons:

- A broiler is a large bird that produces the meat we will eat
- A layer is a small bird who produces our eggs
- Broilers and layers do not live together in the poultry industry
- Chickens feed us a lot of different foods (eggs, chicken nuggets, chicken legs, chicken tenders, etc.)
- There are several jobs that you can do in the poultry industry (veterinarian, nutritionist, farmer, teacher, etc.)
- It takes a chick 21 days to hatch and they will need help once they are hatched (keeping them warm, feeding and watering them, etc.)
- Good biosecurity is needed in order to keep chicks safe (washing your hands, cleaning your boots, taking showers, etc.)
- Chickens do not have teeth, just a beak and a strong tongue in order to eat

**Narrative:**

**Slide 37:** If we think all the way back to Monday, we should remember some things that we learned! Chicks cannot keep themselves warm (which is why we should pay attention to the thermometers), they do not have teeth which is why their food is so small, and water is super important, and we must always keep it clean for the chicks!

**Slide 38:** Some other main points that we should recall are things such as chicks take 21 days to hatch (day 3, day 7, day 14), good biosecurity will keep us and the chicks safe (washing hands, wearing gloves, etc.)

**Slide 39:** The last thing we should recall is that there are many different people and job responsibilities that makes up the poultry industry! The main examples would be a farmer, nutritionist, teacher, and veterinarians. There are several more opportunities, I just pointed out a couple!

**Slide 42:** To play the game have a group choose a day and number. Use your mouse to click the groups choice. Once the question pops up read the question aloud and have them give you the answer. Then click the question box to see the correct answer and click the house to come back to the activity board for the next group to choose a number. Once you have finished playing, click the star!

## **Activity:**

### **Procedure- Jeopardy**

1. Split classroom into different groups
  - a. This will differ depending on classroom size
2. Use the PowerPoint provided as a guide and allow students to choose different areas for questions
  - a. The PowerPoint is set up to go to the answer and back to the playing board
3. Total the points at the end to find the winning group

**\*Complete teacher survey\***