

Lesson Plan – Monday

Subject: Hatch-out Program

Topic: Getting ready for the chicks

Goal: To understand what is needed and why in preparation for the chicks and materials to arrive in the classroom

Lesson duration: 30 minutes

Lesson Objectives

- **To take the pre-test BEFORE any information is given out**
- To understand the basic needs of chicks before they arrive in the classroom (heat, food, water)
- To set up an area in the classroom for the incubator and aquarium that is in close proximity to an outlet

Guide for lesson

- Students should take the pre-test before any information is given out in order for us to see the full potential and results on Friday from the upcoming week
- Chicks will be arriving in the classroom today, but there are a few things to get ready beforehand: designate table or area in the classroom, next to a plug-in, for the incubator and aquarium to be placed
- Watch the video provided for more information on how to prepare for the chicks and what they will need once they arrive in the classroom (heat, water, feed)
- Highlight topics from the video:
 - chicks should always have access to heat from the heat lamp provided (99-100 degrees), clean feed and water in their aquariums
 - the incubator should stay around 99-100 degrees with 55% humidity, which is regulated by adding water periodically into the incubator
 - while students are allowed to touch and hold the chicks, they should be gentle with them, so they do not get hurt
 - the chicks must stay in the incubators after they hatch until they are completely dried

Materials/Equipment	Instructions
Incubator	<ol style="list-style-type: none"> 1. Set incubator and aquarium in designated area 2. Plug in the incubator into the wall and the heat lamp into the incubator 3. Place heat lamp on corner of aquarium 4. Fill up the waterer and humidifier container 5. Place the waterer in the aquarium and the humidifier in the hole of the incubator (in order for water to come out, hold the container upside down until
Eggs	
Thermometer	
Aquarium	
Humidifier Container	
Heat lamp	
Feeder	
Feed	
Waterer	
Extra light bulbs	
Shavings	

half of the container empties into the incubator) *add more water daily to ensure the humidity stays at the right %
6. Remove feed from plastic bag and put into plastic feeder provided

Here is a guide as to what the incubator and aquariums should look like when they are set up



Lesson Plan – Tuesday

Subject: Hatch-out Program

Topic: Life cycle of chicks / chick development

Goal: To understand what incubation is, how long it takes to incubate a chick, and different stages of development Lesson duration: 30 minutes

Lesson Objectives

- To understand the basic life cycle of a chicken (chicken – egg – incubation – hatch – chick)
- To gain a basic knowledge of different stages throughout incubation
- To participate in the life-cycle activity at the end of the lesson

Guide for lesson

- *What is incubation?* Incubation is keeping the eggs warm until they hatch. It takes 21 days of incubation for a baby chicken to hatch. Discuss the difference in what a mother hen would do in the wild versus what we are doing in the classroom (they would sit on the eggs in their nest, which is why we have to keep the eggs warm until they hatch in the incubators). The perfect temperature for eggs is between 99- and 100-degrees Fahrenheit (99.5). Inside the incubator provided there is a thermometer. Talk about the temperature reading and whether it is too high or low and by how much.
- Discuss the main days of incubation from the slides
 - Day 1: Before the end of the first day of incubation his eyes and nervous system have already started to form.
 - Day 3: At just 3 days of incubation the baby chicks' heart is beating, blood is flowing, and what will be his wings and legs begin to bud.
 - Day 7: The egg tooth is formed on day 7, which will help the chicks be able to hatch out of the eggshell. After hatching, the egg tooth will break off and leave the chickens with no teeth.
 - Day 10: On the 10th day his toes and wings are formed, he has visible feathers, and his egg tooth has hardened. Eggs are candled (a light is shined inside the egg to check whether the baby chick is alive and growing) on this day as well.
 - Day 14: The chick starts preparing to hatch on day 14 by moving into position to hatch: body curled, and head tucked under right wing
 - Day 20: The chick is fully formed and ready to enter the world. The chick internally "pips" through the membrane around him and then uses his egg tooth to "pip" through the hard shell
- Humidity is important! Just like us chicks' bodies are made up of mostly water, so the egg has to hold lots of water inside of it. The egg also has lots of tiny holes called pores. These tiny pores let air in but also can let water out. If too much water gets out the chick will be unable to hatch. The air inside the incubator needs to be about half water and half air too make sure the inside of the egg does not dry out as the chick hatches.

Materials	Instructions
Scissors Crayons Paper plates Hole punch Metal brands Glue	<ol style="list-style-type: none"> 7. Each student will need two paper plates with a hole punched in the middle of both plates 8. Color the picture provided 9. Use scissors to cut the pictures out separately 10. Write the title "Life Cycle of a Chicken" on the bottom half of the first paper plate and place it to the side 11. Line up each of the pictures on the second paper plate 12. Glue them in order around the edge of a second paper plate. 13. 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. 14. 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 the students rotate the bottom plate. Now students can tell the story of a chick hatching from an egg

Here are pictures that can be used as a guide for the activity



Lesson Plan – Wednesday

Subject: Hatch-out Program

Topic: Biosecurity

Goal: To gain an understanding of the importance of biosecurity Lesson duration: 30 minutes

Lesson Objectives

- To gain a basic knowledge of the importance of biosecurity
- To participate in the biosecurity activity at the end of the lesson

Guide for lesson

- Biosecurity is the procedures that are used to protect humans and animals against diseases or harmful biological agents
-it is important to follow good biosecurity practices (washing your hands before and after handling the chicks, cleaning your boots off, taking a shower, wearing gloves, changing outfits when visiting multiple farms, etc.)
- Personal protective equipment (PPE) is also equally important in helping with biosecurity
-examples are boot covers, safety glasses, safety vest, gloves, hard hat/hair net, apron/coveralls

Materials	Instructions
<p>Glitter - germs Sand Big plastic cup – grocery store Small cups – individual coups</p>	<ol style="list-style-type: none"> 15. Separate the students into groups 16. Give each student a “coup” cup of sand and each group a “grocery store” cup of sand 17. 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. 18. Have them “work their chicken coup” by playing in their cup of sand and glitter. 19. Give instructions like “visit the neighbor to your left/right” and have play in someone else’s coup 20. 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 they 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.

21. Wash hands

Here are pictures that can be used as a guide for the activity



Lesson Plan – Thursday

Subject: Hatch-out Program

Topic: Poultry industry and job opportunities

Goal: To gain an understanding of the poultry industry and the job opportunities that are possible

Lesson duration: 30 minutes

Lesson Objectives

- To understand the poultry industry and different breeds
- To learn about the different job possibilities that are in the poultry industry
- To participate in the build a farm activity at the end of the lesson

Guide for lesson

- *Backyard chickens*: these chickens are considered “dual-purpose” birds, which means they will produce eggs and can also be used for meat
 - the eggs that are provided for your students come from dual purpose birds that are housed at Mississippi State University
- There are several different possibilities that your chicks may be
 - Barred Plymouth Rock – black chicks
 - White Plymouth Rock – solid bright yellow chicks
 - Americana – fluffy cheeks, vary in color (usually grey)
 - Turkin – naked neck chicks
 - Cochin – fluff on legs
 - Welsummers – prominent stripe down their back, looks like they are wearing eyeliner
 - New Hampshire – light red/dark yellow chicks
 - Rhode Island – dark red chicks
 - Polish – fluffy head chicks
- *Broiler*: these are the meat birds that you buy at the store in different parts (chicken nuggets, chicken tenders, wings, etc.)
 - Broilers are large bodied and short. They have lots of muscle and grow to full size very fast.
 - the average American eats about 84 pounds of chicken a year, which amounts to about 340 chicken nuggets
- *Layer*: these chickens are the smaller framed birds that produce and lay the eggs that you will buy in a grocery store
 - Layers are very thin and tall and weigh much less than broilers
 - the eggs they lay are not fertilized and will not produce a chick
- Side by side it is very noticeable the layer’s thinner and longer legs when compared to how large the broilers thick and short legs are
- Poultry is the number one commodity in Mississippi, it brings the most amount of money into the state when compared to anything else
 - Poultry is number 5 in the United States, falling below Georgia, Arkansas, Alabama, and North Carolina
- Poultry is more than just chickens, it can also include ducks, turkeys, and quail

- Top broiler (the chickens we eat) are Tyson, JBS, Pilgrim’s Pride, Sanderson Farms, Wayne Farms – they provide the chicken to places like McDonalds and Chick-Fil-A
- Cal-Maine is the top layer company, and it is headquartered in Jackson, Mississippi – they provide eggs to places like Wal-Mart and Kroger
 - the eggs that are provided from Cal-Maine reach from the state of California all the way to Maine, hence the name Cal-Maine
- The job opportunities that are available in the poultry industry are endless!
 - Veterinarian – these are the people who make sure the chickens are safe and healthy
 - Teachers – without teachers, there would be no platform for the education about the poultry industry to reach to students all over the world
 - Nutritionist – these people make the feed for the chicks and chickens by mixing ingredients, such as corn and soybeans
 - Farmers – these are the people who take care of the chickens and make sure they are given everything they need in order to grow
 - Food Safety & Quality Control – these are the people who are responsible for making sure the birds are taken care of properly
 - Processing – people who work in processing turn the chickens into the meat and eggs that we all eat
- There are plenty more jobs available in the poultry industry, those are just a few

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.

Materials	Instructions
Corn Bag of feed Dirty bag of feed Fence Coup Chicken Starburst Dog Green felt Mean face sticker Band-aid Syringe Dirty gloves	22. Separate the students into 4 groups 23. Pass out each of the supplies to every group. Each group should get one of the smaller bags in the Thursday bag (this should contain everything a group needs). 24. 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 gloves (does not belong)

Here are pictures that can be used as a guide for the activity



Lesson Plan – Friday

Subject: Hatch-out Program

Topic: Review

Goal: To review the main topics that were covered throughout the week

Lesson duration: 30 minutes

Lesson Objectives

- To review the main points that were learned throughout the week
- To pack up the materials that were used throughout the week
- To participate in the review activity at the end of the lesson
- **Take the post-test AFTER completing the activity**
- **Take the teacher survey**

Guide for lesson

- Poultry is the number one commodity in Mississippi, it brings the most amount of money into the state when compared to anything else
- A broiler is a large bird that produces the meat we will eat (wings, chicken legs, chicken nuggets, etc.)
- A layer is a small bird who produces our eggs
- Broilers and layers do not live together in the poultry industry
- 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.)
- The job opportunities that are available in the poultry industry are endless!
 - Veterinarian – these are the people who make sure the chickens are safe and healthy
 - Teachers – without teachers, there would be no platform for the education about the poultry industry to reach to students all over the world
 - Nutritionist – these people make the feed for the chicks and chickens by mixing ingredients, such as corn and soybeans
 - Farmers – these are the people who take care of the chickens and make sure they are given everything they need in order to grow
 - Food Safety & Quality Control – these are the people who are responsible for making sure the birds are taken care of properly
 - Processing – people who work in processing turn the chickens into the meat and eggs that we all eat
- Chickens do not have teeth, just a beak and a strong tongue in order to eat
- Students should be given the post-test in order to evaluate what had been learned over the past week of the hatch-out program
- Since the week is over, everything needs to be cleaned up so the chicks can leave - water should be dumped out of the aquarium and incubator, feed should be packed up, litter can be thrown out

Materials	Instructions
Jeopardy	<ol style="list-style-type: none"><li data-bbox="873 289 1328 321">1. Separate the students into groups<li data-bbox="873 321 1393 401">2. Play the jeopardy game and tally points to have a class “winner”