Agricultural Education CDE Lesson Plan Template

Instructional Plan	Instructor: [redacted]
Unit:	Animal Science
Problem Area:	The Poultry Industry
Lesson:	Candling eggs

Overall Objective (key point or goal of lesson)

After the lesson is completed, students will be able to identify the external and internal parts of a fertilized egg and the incubation stage of chicken eggs using a candling method.

Student Learning Objectives (steps necessary to achieve objective)

Students will be able to:

1. **Identify the exterior and interior parts of an egg.**
2. **Identify the incubation stages of eggs.**
3. **Effectively use an egg- candler to identify the incubation stage and viability of chicken eggs.**

Application/Evaluation (check for understanding of objective and student learning objectives)

Overall Objective Assessment: Students will candle 10 fertilized chicken eggs to determine their viability and incubation stage.

Student Learning Objective Assessments:

1. **Students will be provided with 10 fertilized chicken eggs, an embryology chart, and a handheld candler to determine each egg's incubation stage.**
2. **Students will work in pairs to candle the eggs and determine their incubation stage, recording their results in a chart provided.**
3. **Students will be required to list characteristics and parts seen in the eggs during the candling that lead them to their answer.**
4. **Students will compare their answers with one other group, discuss their results, and reach a group consensus on the incubation stage.**

Context / Audience

Location / Facilities:
Instruction will take place in the agriculture classroom. No additional facilities are required for this lesson. This is a 50-minute lesson.

Learner Demographics:
8-12 Introduction to Agriculture students with varying levels of experience in agriculture.

Time Allotted per Activity	**Interest Approach** (motivation)
2 minutes for the opening question	I will introduce the topic to the students by asking them: Q: When you crack open a chicken egg what do you see? Q: Do you know what the parts are called?

3 minutes for parts matching and ID 2 minutes for Question 3 minutes to candle egg.	-After a quick question and answer I will break the students into groups of 2-3. -They will move to sit next to their partner. -I will hand out an envelope to each group. -I will tell the students to dump the contents of the envelope out on the table try to recreate an egg and then label the parts. -Once they have done that I will ask if anyone wants to share what they did. I will not tell them if they are right or wrong, we will go through that during the presentation. I will then ask them Q: What do you think the inside of an egg looks like if a chick is growing inside of it? -I will then demonstrate how to candle and egg. -I will then hand out a candler and a fertilized egg to each group -I will have each group candle their egg and guess how many days old the chick inside is.	
Time Allotted per Activity	**Present Objectives** (What can students expect to learn today?)	
2 minutes	Understanding the parts of the incubation stages and parts of an egg is very important for the poultry industry. Producers need to have this knowledge to make money. Knowing the incubation stages will increase your chances of hatching out healthy chicks. Today you are going to 1. Identify the parts of an egg. 2. Identify the incubation stages. 3. Candle eggs to determine the incubation stages and viability.	
Time Allotted per Activity	**Instructor Directions, Content, Materials**	**Student Activities**
	Student Learning Objective #1: Identify the interior parts of an egg.	
10 minutes for slides 1 minute for assessment	Open the PowerPoint Pose the question, What do you think some of the parts of the egg might be? Tell students: As we go through this presentation you will be writing the description or function of each part next to the picture. Go through slide by slide, and identify the internal and external parts of an egg with pictures and definitions. Assessment for this objective: Students will reevaluate their cut-out parts of an egg and put them in the correct order from what they did in the interest approach.	Students will fill out the chart with the provided pictures and the description for each picture. Students will put the parts of an egg together with the labels as a formative assessment for this objective.
10 minutes for slides and notes	**Student Learning Objective #2: Identify incubation stages**	Students will be filling out note sheets as we go through each incubation stage. They will write down key differences between

1 minute for assessment	Keep the PowerPoint open from objective 1 and go to the second part of the presentation over the incubation stages. Go through slide by slide describing the incubation stages of the chicken egg from day 1 through day 21. In these slides, students will also be shown an egg that will not hatch or is not considered viable. Assessment for this learning objective: I will put a picture of an egg up on the board and students will tell me which day of incubation they think it is. They can use their notes to help them. They will have to justify why they chose that day.	days. They will write their descriptions next to the pictures. Students will use this as a guide when they candle the example eggs.
13 minutes for candling activity	**Student Learning Objective #3: Candle chicken eggs to determine incubation stage and viability.** At the beginning of class during the interest approach, I showed students how to candle an egg. I will review this process at this point. I will give students verbal directions for the candling activity. Students will be broken into groups of 2-3. A carton labeled 1-10 eggs will be set on the front table. Students will work with their partners to candle all 10 eggs while filling out a chart. Eggs will range in the incubation stage. There will also be at least 2 non-viable eggs. After all 10 eggs have been candled and labeled, students will compare their results with one other group to ensure accuracy.	Students will be candling eggs and filling out a chart. Students will have to identify the incubation stage on the chart as well as the characteristics they see inside the egg that lead them to that conclusion. Students will also collaborate with one other group to compare results.
Time Allotted per Activity	**Review/Summary**	
3 minutes	Have students open their computers and go to their class on Schoology. Students will click on the discussion question posted. Students will answer the discussion question. Question: Compare and contrast 2 different weeks of egg development. Give at least 3 similarities and 3 differences.	

Materials, Supplies, Equipment, Technology Plan, References, and Other Resources
Equipment, Materials, and Supplies: PowerPoint 12 Fertilized eggs 6-10 Candlers Egg Part cut-outs in envelopes Student worksheets Computer Projector Student computers Writing utensil **References/Resources:** **https://www.poultryhub.org/anatomy-and-physiology/body-systems/embryology-of-the-chicken** **https://starmilling.com/how-eggs-are-formed/?scrlybrkr=b6082794** **http://extension.msstate.edu/content/stages-chick-embryo-development**