7th Grade: Experiments in Poultry Science (Embryology)

The Experiments in Poultry Science curriculum aligns with 7th grade Essential Standards—Structures and Functions of Living Organisms and Evolution and Genetics. The Experiments in Poultry Science curriculum was developed in partnership with a number of land-grant universities and Discovery Place. Each lesson is grade-level appropriate and has been correlated with U.S. National Science Education standards.

National Science Standards objectives include:

- The order of Scientific Inquiry
- Reproduction and Heredity
- Structure and Function in Living Systems
- Regulation and Behavior

Also included in the Experiments in Poultry Science curriculum are support lesson plans that allow teachers (volunteers) and students to explore the ethics of scientific research, hierarchal order, and careers in science.

Children have a natural sense of curiosity about living things in the world around them. Building on this curiosity, students can develop an understanding of biology through direct experience with living things, their life cycles and their habitats. Many believe students learn best by interacting with the world – listening, observing, experimenting and applying their knowledge to real-world situations. Each activity within this curriculum follows these steps in the experiential learning model.

Life skills help a person live a productive, and satisfying life. Within this curriculum students will have the opportunity to develop life skills related to science processes, teamwork, keeping records, and planning and organizing.

The Experiments in Poultry Science curriculum is supported through 4-H and the North Carolina Department of Public Health. See the publication Guidelines for Animals in North Carolina Schools when considering using poultry as a lab experiment, avalaivle online at http://epi.publichealth.nc.gov/cd/vph/AnimalsinNorthCarolinaSchools.pdf.

Contact your local Cooperative Extension office and ask the 4-H agent about the Experiments in Poultry Science curriculum.

Structures and Functions of Living Organisms

Essential Standard 7.L.1 - Understand the processes, structures and functions of living organisms that enable them to survive, reproduce, and carry out the basic functions of life.

7.L.1.2 Compare the structures and functions of plant and animal cells, including major organelles (cell membrane, cell wall, nucleus, chloroplasts, mitochondria, and vacuoles).

- ✔ **Poultry Science** - Give Eggs a Break

7.L.1.3 Summarize the hierarchical organization of multi-cellular organisms from cells to tissues to organs to systems to organisms.

- ✔ **Poultry Science** - Daily Embryonic Development
- ✔ **Poultry Science** - Life is No Always What it Seems

7.L.1.4 Summarize the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, and excretion) and ways that these systems interact with each other to sustain life.

- ✔ **Poultry Science** - Warming Up With Eggs
- ✔ **Poultry Science** - Life is No Always What it Seems

Evolution and Genetics

Essential Standard 7.L.2 - Understand the relationship of the mechanisms of cellular reproduction, patterns of inheritance and external factors to potential variation among offspring.

Clarifying Objectives

7.L.2.1 Explain why offspring that result from sexual reproduction (fertilization and meiosis) have greater variation than offspring that result from asexual reproduction (budding and mitosis).

- ✔ **Poultry Science** - The Reproductive System and Fertilization

7.L.2.3 Explain the impact of the environment and lifestyle choices on biological inheritance (to include common genetic diseases) and survival.

- ✔ **Poultry Science** - Developing an Experiment
- ✔ **Poultry Science** - Who Rules the Roost