

# Menagerie Farms Grade 1 Curriculum Ideas

Grade 1- MS State Standards Science

All life is interdependent and interacts with the environment.

## Grade 1 : Interdependence

### Conceptual Strand 1

*Identify the basic needs of plants and animals and recognize that plants and animals both need to take in water, animals need food, and plants need light.*

*Communicate the importance of food and explain how the body utilizes food.*

### Guiding Question

What are some of the basic characteristics that are used to distinguish between living and non-living things?

The distinction between living and non-living is not always crystal clear. Cars, like living things require energy to function properly. They also move. But can they grow or make copies of themselves? To be considered alive, something must display all of the characteristics of living things: made of cells, obtain and use energy, grow and develop, reproduce, and respond and be able to adapt to their environment.

1. Although living things are found almost everywhere in the world, not all things that we see around us are living.
2. Certain kinds of living things tend to be found in particular places.
3. Living and non-living things can be separated into groups depending on certain characteristics.

Ecology is the study of the relationships between the biotic, organisms of different and the same species, and the abiotic, or non-living components of the environment including the air, land, and water. Ecosystem is the name given to the natural unit in which these interactions occur as living things actively compete to obtain energy, shelter, or even a mate.

1. Organisms that live in the same general environment interact including providing food and shelter to one another.
2. Interactions can be beneficial or harmful to one organism or to both.

**TLW Scavenger hunt for living and non-living items. Create a t-chart with group responses. Discuss what the characteristics are of living things. Can an object have been a living thing and now is non-living?**

**TLW sort living things by the environment they need to survive. Take farm walk and look for things that live in the water at lake, pumpkin patch plot, forest area between the lake and pumpkin patch. Make a double bubble graphic organizer for this activity.**

**TLW use the pumpkin patch to determine what it takes for the pumpkin plant to survive. Are these the same needs of the deer that might visit the pumpkin patch? Explore and explain what it takes to be called a living thing with the naturalist in the pumpkin patch.**

**TLW play ecology game Oh Deer! After the game determine why the deer survived or died in that round. Too much or not enough of food, water or shelter.**

**TLW explore worms compare with gummy worms. Discover the benefits of having worms in their flowerbeds and gardens. How can you provide a worm friendly environment?**

**TLW play Birds and Worms tag game.**

**Follow Up Activities at school:**

**A. Play Oh Deer! Game**

B. Play Birds and Worms Game

C. Create worm farm terrariums and use bean seeds to plant in 2 lt. bottles with soil and a night crawler. Teach the scientific process and complete a lab report as you collect data over a week's time.

D. Follow the worm comparison activity provided by State of TN. (attached)

\*Parents transmit inherited information to their offspring in units called genes that are located in the chromosomes of a cell. The nucleus of each human cell contains thousands of different genes found in 23 pairs of chromosomes. A gene is a segment of a DNA molecule that acts like a huge coded information database carrying complete instructions for making all of the materials needed by the cell.

# Grade 1: Heredity

## Conceptual Strand 2

*Chart and compare the growth and changes of animals from birth to adulthood.*

### Guiding Question Strand 4

What are the principal mechanisms by which living things reproduce and transmit information between parents and offspring?

1. What are the life cycles of representative animals?
2. What are some ways that offspring resemble their parents?

### Life cycles

The fundamental life cycle to which all organisms invariably adhere includes birth, growth, sometimes reproduction, and death. Not surprisingly, the details of this cycle vary greatly among different species in terms of the gestation period, number of offspring produced, survival rate of newborns, appearance during different stages, time needed to reach adulthood, and life expectancy.

TLW sequence the life cycles of various animals and plants from the farm.

TLW make human timelines to show the normal lifespan of farm and forest animals. Do wild or domesticated animals live longer? Do all farm animals have the same lifespans? Do chicken

TLW will go on a visual hunt to find animal patterns. Do parents pass characteristics off to their offspring. Does each offspring look like the mother, father or a combination of each? Sketch the items you see similar and different. Are all of the horses at the farm marked the same way in size and coloring?

Follow Up Activities at school:

- A. Do family hereditary project. Research how your family genes determine what you look like. Compare pictures to your parents, siblings, aunts, uncles, grandparents, long lost distant cousins. Do you share any common traits? Eye color, hair color, freckles etc.
- B. Make a parent/offspring booklet. Draw and describe the similarities. This could be done digitally as an iBook where students could collaborate and add their work to make a class book.
- C. Assign each student a parent and offspring to create on index cards to play Match It with as a class game. Make sure students label with the correct names for the animals.
- D. Life cycle projects- Divide paper plates into quarters and design at least four stages of various animals and plants observed at the farm. Label the parts and write about the sequence of events.

# Grade 1 : Biodiversity and Change

## Conceptual Strand 3

*Classify animals and plants by observable features (e.g., size, appearance, color, motion, habitat).*

### Guiding Question

How does natural selection explain how organisms have changed over time?

1. What are some common characteristics of animals and plants found in a particular environment?

An estimated 10 million different species are spread over the Earth, and amazingly, 15 thousand new species are discovered and named each year! Yet, fossil evidence suggests that 95% of the species that ever existed are now extinct. In the distant past, extinctions were caused by rapid and major environmental changes. A sharp drop in biodiversity noted during recorded history seems to be associated with humankind's alteration of plant and animal habitat.

1. Plants and animals can be grouped according to where they live.
2. Different plants and animals have external features that help them to successfully live in certain places.

**TLW discover the things that all living things need to live and survive. (water, food, shelter, clean air)**

**A. Play Oh Deer! Game**

**B. Wildlife Touch Time and Discussion on survival of the animals we share our habitats with.**

**C. Discuss and categorize the plants and animals you would see on the farm and in a temperate forest. Play a yes or no guess game with animal cards taped to the backs of the students. Students may only ask questions of their peers, parents and teachers that can be answered with a yes or no. Students will try to place themselves in the correct habitat according to the**

answers they are given. Students will have 5 min. to gather info and go to the correct Hula Hoop habitat. (lake, field, forest, barn)

D. Look for animal adaptations to help with camouflage. Does this animal use this as a predator or a prey? How has this animal adapted to protect it's young?

E. Discuss eyespots and why birds, fish, insects have these special adaptations.

### Follow Up Activities at school:

A. Play Oh Deer! Game

B. Play

C. Create a mural to show the animals and plants you might see on a farm and those you might see in a temperate forest.

D. Make a class collaborative booklet showing animals that use special adaptations to survive and thrive in their environments.

(Curriculum found at <http://www.mde.k12.ms.us/docs/curriculum-and-instructions-library/2010-science-framework.pdf?sfvrsn=4>)

## **Grade 1 TN Social Studies Standards**

### **Economics**

Understand basic economic concepts and the role of individual choice in a free market economy.

- a. Describe the concept of exchange and the use of money to purchase goods and services.
- b. Give examples of goods and services that people buy and use.
- c. Give examples of the choices people have to make about the goods and services they buy and sell and why they have to make choices.
- d. Identify the specialized roles and contributions of family members in the workplace (e.g., producing, transporting, and marketing goods and services).

#### **Soybeans:**

**Animal Agriculture is a major component of the soybean industry.**

The soybean checkoff helps support animal agriculture, since U.S. poultry and livestock represent the #1 customer of U.S. soybean meal. Poultry represents the largest soy consumer segment of Tennessee animal agriculture, consuming over 12 million bushels of U.S. soybeans a year. Feed manufacturers choose soybean meal, because of its high protein content.

#### **How Does This Affect Me?**

- **There are approximately 78,700 farms or ranches in the state of Tennessee.**
- **Tennessee Agriculture secures more than half a million jobs in the state.**
- **Every year, Tennessee agriculture and forestry generate over \$78 Billion in economic activity.**

<http://www.tnsoybeans.org/ViewPage.asp?sMenu=Education&Page=Animal%20Agriculture>

#### **Cotton:**

The fiber of a thousand faces and almost as many uses, cotton is noted for its versatility, appearance, performance



and—above all—its natural comfort. From all types of apparel...to sheets and towels...tarpaulins and tents...cotton in today's fast-moving world is still nature's wonder fiber, providing thousands of useful products and supporting millions of jobs as it moves year after year from field to fabric.

### What can you make from a bale of cotton?

#### One bale of cotton can make:

- 215 Jeans
- 249 Bed Sheets
- 409 Men's Sport Shirts
- 690 Terry Bath Towels
- 765 Men's Dress Shirts
- 1,217 Men's T-Shirts
- 1,256 Pillowcases
- 2,104 Boxer Shorts
- 2,419 Men's Briefs
- 3,085 Diapers
- 4,321 Mid-Calf Socks
- 6,436 Women's Knit Briefs
- 21,960 Women's Handkerchiefs
- 313,600 \$100 Bills\*



**A bale of cotton weighs about 480 pounds.**

<http://www.cotton.org/pubs/cottoncounts/resources.cfm>

### Corn:

#### Corn is Rooted in Our History

Since ancient times, corn has played an important role in human history. Corn is a grass native to the Americas and is thought to have been first grown in central Mexico 7,000 years ago. Corn was a staple of Native American diets and was used as tools, decorations, and in religious ceremonies. Many eastern American tribes shared their

knowledge of corn production with the early settlers, which saved many of these pioneers from starvation. Corn is now grown all over the world—on every continent except Antarctica. The United States produces more corn than any other country

**TLW discover and discuss the items that farmers and ranchers provide for consumers.**

- A. Pumpkin Patch, corn, soybeans, cotton plants**
- B. Farm Animal Time (chickens, turkeys, sheep, pigs, horses, goats, rabbits, honeybees)**
- C. Sequence the steps of items from farm to table (cotton plant to blue jeans) (cow to milk carton) (apples to apple pie)**
- D. Collect and Cash in Activity (collect eggs and trade for play money)**

**Follow Up Activities at school:**

- A. Wants and Needs Sort Game**
- B. Farmers (Can, Are, Do)**
- C. Flow Chart following items from farm to table**
- D. Match Up Game with natural items and their by product (apple tree/apples, pigs/bacon, potatoes/french-fries, etc)**

Research Possibilities

<http://www.tns soybeans.org/ViewPage.asp?sMenu=Education&Page=Animal%20Agriculture>

<http://www.foodlandpeople.org/>

<http://www.cotton.org/pubs/cottoncounts/resources.cfm>

### **Agricultural Literacy Outcomes**

**Culture, Society, Economy & Geography**

- Discuss what a farmer does

- Explain why farming is important to communities
- Identify plants and animals grown or raised locally that are used for food, clothing, shelter, and landscapes
- Trace the sources of agricultural products (plant or animal) used daily

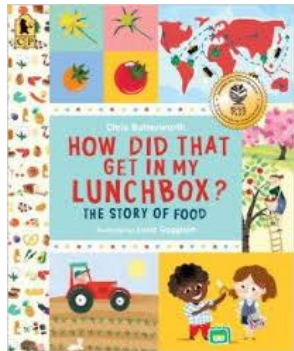
**Food, Health, and Lifestyle**

- Recognize that agriculture provides our most basic necessities: food, fiber, energy and shelter

**Plants and Animals for Food, Fiber & Energy**

- Identify animals involved in agricultural production and their uses (i.e., work, meat, dairy, eggs)
- Identify the types of plants and animals found on farms and compare with plants and animals found in wild landscapes

**How Did That Get in My Lunchbox?**



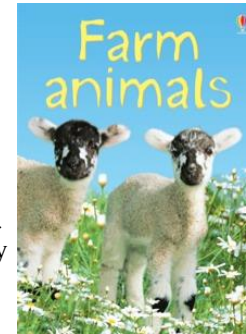
This book teaches the steps of how the food in their lunchbox is produced and processed. Pictures and text illustrate the steps for bread, cheese, tomatoes, apple juice, carrots, chocolate, and a clementine. It also teaches about food groups and making healthy eating choices.

**Author(s)**

Chris Butterworth

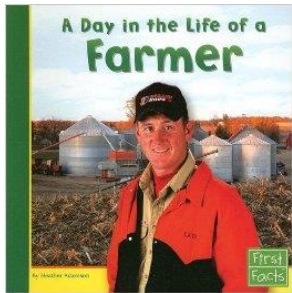
**Farm Animals**

*Farm Animals* is a 32-page book filled with facts to learn about many types of farms and the animals that live there. real-life pictures and color illustrations. In addition to the text, each page includes a fun fact. Readers will learn why animals such as beef cattle, dairy cattle, goats, sheep, chickens, and pigs are kept on farms. They will also learn raise ducks, geese, fish, and ostriches.



The book includes traditional farm why specialty farms

**Author(s)** Katie Daynes



## **A Day in the Life of a Farmer**

This question and answer based children's book shows students what it's like to be a farmer. The book is illustrated with photographs of the daily tasks of a farmer and includes fun farm facts. There is also a clock on each page to represent the time of day the chore is usually done. This book would be an excellent addition to a lesson learning about careers, reading a clock, or learning about farms and farmers.

### **Author(s)**

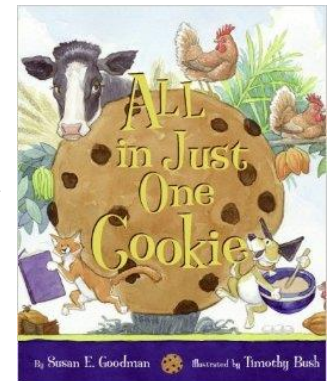
Heather Adamson

## **All in Just One Cookie**

This book takes students on a world-wide exploration to find the source of each of the ingredients used to make chocolate chip cookies. "Visit" a dairy farm for the milk to make butter, Madagascar to find vanilla beans, and even a mine for baking soda and salt, and more.

### **Author(s)**

Susan E. Goodman



**Additional Books that you may want to share with your students before or after your farm visit.**

**Pumpkin Pumpkin by Jeanne Titherington**

**Pigs by Gail Gibbons**

**Wiggly Worm By [Wendy Cheyette Lewison](#)**

(Curriculum found at <http://www.msccivilwar150.com/documents/EducationCurriculum.pdf>)