



ZAP!

Zoo Activity Packet

Indiana Family Farm

*A Teacher's Resource for
Grades PreK-2*

Indiana Family Farm

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A MESSAGE TO THE TEACHER:

The following background information on Indiana family farms has been gathered for your use in relating this topic to your students. So much is available about this topic; only the basics are given here. To dive further into the information, a resource list has been included in the back of this packet. However, don't try to include everything - choose those portions of the material that will fit in with your own lesson plans. You may wish to use some exercises during class time, and leave certain concepts, which are easier to understand by observation, until the actual zoo visit.

The Indiana Family Farm Discovery Box makes a nice extension to this curriculum. Call the zoo at 260-427-6800 to reserve the box. It is available for one or two weeks loan periods free of charge. In addition, there is an Indiana Family Farm Teachers Backpack available. The bag contains more activities for your zoo farm visit. It is available free of charge for the day before, during and after your visit. Call 260-427-6809 to reserve.

Of course, you won't want to miss the *Indiana Family Farm* exhibit at the zoo. All of these educational resources are focused on the exhibit and its animals.

Have fun on your learning adventure!

Indiana Academic Science Standards

This *Indiana Family Farm Zoo* Activity Packet provides opportunities for students in Grades PreK-2 to experience exciting, informative activities about farms and animals while meeting state guidelines for academic science standards. The Indiana Science Standards that can be addressed by using this packet and visiting the *Indiana Family Farm* at the zoo are outlined below. Please keep in mind that additional standards can be applied with a little creativity on the part of the educator. In addition, other academic standards in non science areas can be satisfied by these materials.

Kindergarten

The Nature of Science and Technology

Scientific Inquiry K.1.1, The Scientific Enterprise K.1.2

Scientific Thinking

Computation and Estimation K.2.1, Communication K.2.2

The Living Environment

Diversity of Life K.4.1, K.4.2

Common Themes

Models and Scales K.6.1

First Grade

The Nature of Science and Technology

Scientific Inquiry 1.1.1, 1.1.2, The Scientific Enterprise 1.1.3

Scientific Thinking

Computation and Estimation 1.2.1, Communication Skills 1.2.6, 1.2.7

The Physical Setting

The Earth and the Processes that Shape it 1.3.1, Matter and Energy 1.3.3, Forces of Nature 1.3.4

The Living Environment

Diversity of Life 1.4.1, 1.4. Interdependence of Life 1.4.3, 1.4.4

The Mathematical World

Numbers 1.5.1

Common Themes

Constancy and Change 1.6.2

Indiana Academic Science Standards cont'd

Second Grade

The Nature of Science and Technology

Scientific Inquiry 2.1.1, 2.1.4, The Scientific Enterprise 2.1.5, Technology and Science 2.1.7

Scientific Thinking

Computation and Estimation 2.2.1, 2.2.3, Communication Skills 2.2.5

The Physical Setting

The Earth and the Processes that Shape it 2.3.1, 2.3.2, 2.3.4, Matter and Energy 2.3.5, 2.3.6, Forces of Nature 2.3.7

The Living Environment

Diversity of Life 2.4.1, Interdependence of Life 2.4.2, 2.4.3, 2.4.5, Human Identity 2.4.8

The Mathematical World

Numbers 2.5.1

Common Themes

Constancy and Change 2.6.3

Background Information for the Teacher

The Indiana Family Farm is designed to immerse visitors in the sights, sounds and smells of an authentic farm. From Indiana's family farms come many values that we hold dear: hard work, self-reliance, strength of family, and love of the land. We celebrate these values at the Fort Wayne Children's Zoo in the *Indiana Family Farm*.

Crops

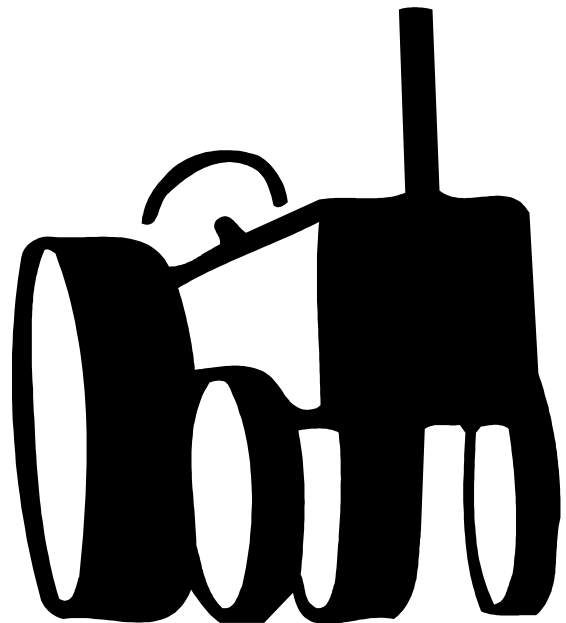
As many early travelers through Indiana noted in their journals and logs, the state's land is fertile and highly conducive to great agriculture productivity. From the beginning of settlement in Indiana, corn has been the primary crop. It is easily grown throughout the state and provides food for both man and animal. The farms of Indiana are also known for the production of wheat, oats, and beans.

Animals

Animals on Indiana farms are very typical of other farms. Over the years, their purpose has evolved. In times gone by, animals were used for the basic sustenance of the farm family. However, with the growth of a market economy, an ever-growing number of farmers began to raise livestock for market. Hogs are now the primary animals owned by Indiana farmers. Cattle, however, is also abundant in Indiana farm life. In the early years, few cattle were kept for purposes other than dairy production. By the 1830s, farmers began to raise cattle to meet growing market demand for beef. Farmers would also use bull calves, or oxen for fieldwork. Horses were kept for transportation and performing chores around the farm. Now, they are used mostly for show and recreation. Sheep are also significant, raised mostly for their wool. Poultry, especially chickens, are common. The farmers use the chickens for eggs and also meat.

Tools and Machinery

Tools and machinery on Indiana farms have obviously changed over the years. Early implements were handmade by the local carpenter, smith or the farmer himself. However, by the 1830s mass produced tools were becoming readily available through stores and dealers. The plow has always been important for the farmer. The plow has evolved from an animal drawn tool to a very complex and expensive piece of machinery. Tractors, combines and reapers are also machines that are now used on Indiana farms. Gas powered machinery, especially the tractor, revolutionized farming. Fields could be prepared, planted and harvested in a fraction of the time and headlights on the tractors allowed farmers to work past dark if needed.



A Tour of the Indiana Family Farm Exhibit

Farm House

The entry to the Indiana Family Farm lies near the old zoo contact area. Walking down the path to the farm will transport you and your students back in time to visit our fictional friends Ben and Sara. Ben and Sara are the young children that live on the farm. By following the signs, you will learn about their farm life in the era of the 1930's & 40's.

Piglets

Hogs are the primary livestock owned by Indiana farmers. They are used as food for the farmer's family and also raised for market.

Chicks

Past the piglets, and on your left, you will come to the location of the chicks. This is a very popular area for children. Feel free to pick up the chicks and allow children to pet them. However, please do not allow children to catch and or hold the chicks.

Tractor

The tractor is a restored John Deere, typical of that found during the era of the farm.

Barn

The barn holds lots of excitement within its doors, the smells and sights of farm life are abundant.

Horse Tack

Inside the barn on the right, the very first thing you will see is the horse tack. Horse tack is the equipment worn by the horses to plow the fields.

Cow

Cows have always played an important role in Indiana farm life providing a steady supply of dairy products and beef. The males were also utilized for fieldwork when necessary. Technically, a cow is a female and a bull is a male. Together, they are cattle.

Calves

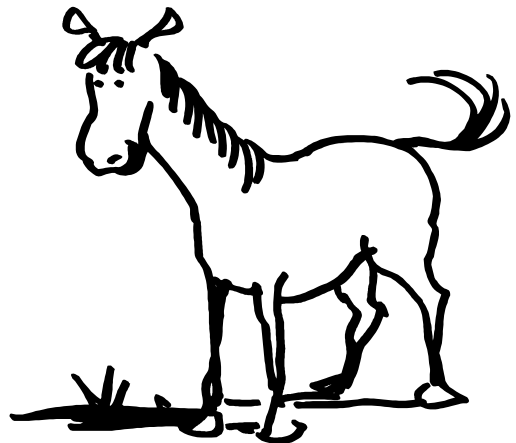
Calves are young cows or bulls.

Sheep

Sheep were kept on the farm for wool in order to make clothing and other articles. Now they are still raised for this product but are also raised for market.

Draft Horse

Draft horses are prized for their size and strength. They can weigh up to 2,000 pounds. They provide a good strong back for farm and field work.



Miniature Horse

Miniature horses were introduced in the 1940's, they are kept more for pleasure than as a tool for fieldwork.

Barn Owl

Barn owls generally live alone or in pairs and roost during the day in farm buildings, hollow trees or caves. At night they emerge to hunt, feeding primarily on small rodents. Owls are farmer's friends, serving as pest removers.

Mice

Mice are typically considered to be a pest on farms. They eat food meant for livestock, contaminate grain and seeds, and create damage around the farm.

Garter Snake

Garter snakes are active during the day and most frequently seen amid moist vegetation where they search for frogs, toads, salamanders, and earthworms. They also eat mice and are appreciated for keeping the pest population down.

Goat Petting Area

Interacting with the goat kids is one of the highlights of a zoo visit for most children. Students can pet them and brush them for free. Or, they can feed them for a minimal cost. Four goat breeds are represented in the *Indiana Family Farm*. They are Toggenberg, La Mancha, Saanen, and French Alpine. Breeds differ in looks, the amount of milk they produce and in the percentage of fat present in the milk.

Chicken Coop

Chickens are kept on farms as a source of eggs and meat. Coops are used to keep chickens protected from predators.

Doghouse

Dogs have always played a large role of companion and guardians on the farm. Although we do not have a farm dog at the zoo, feel free to allow students to climb in and out of the doghouse.

Outside Animal Area

All of the large livestock in the barn has access to these outdoor pens.

Water Pump

In the days before indoor plumbing, people got water with a hand pump. Students can try using a hand pump on their zoo visit.

Outhouse

In the days before running water, there were no bathrooms in homes. The farm family had to visit the outhouse in rain, sleet, snow and sun to do their bathroom duties.

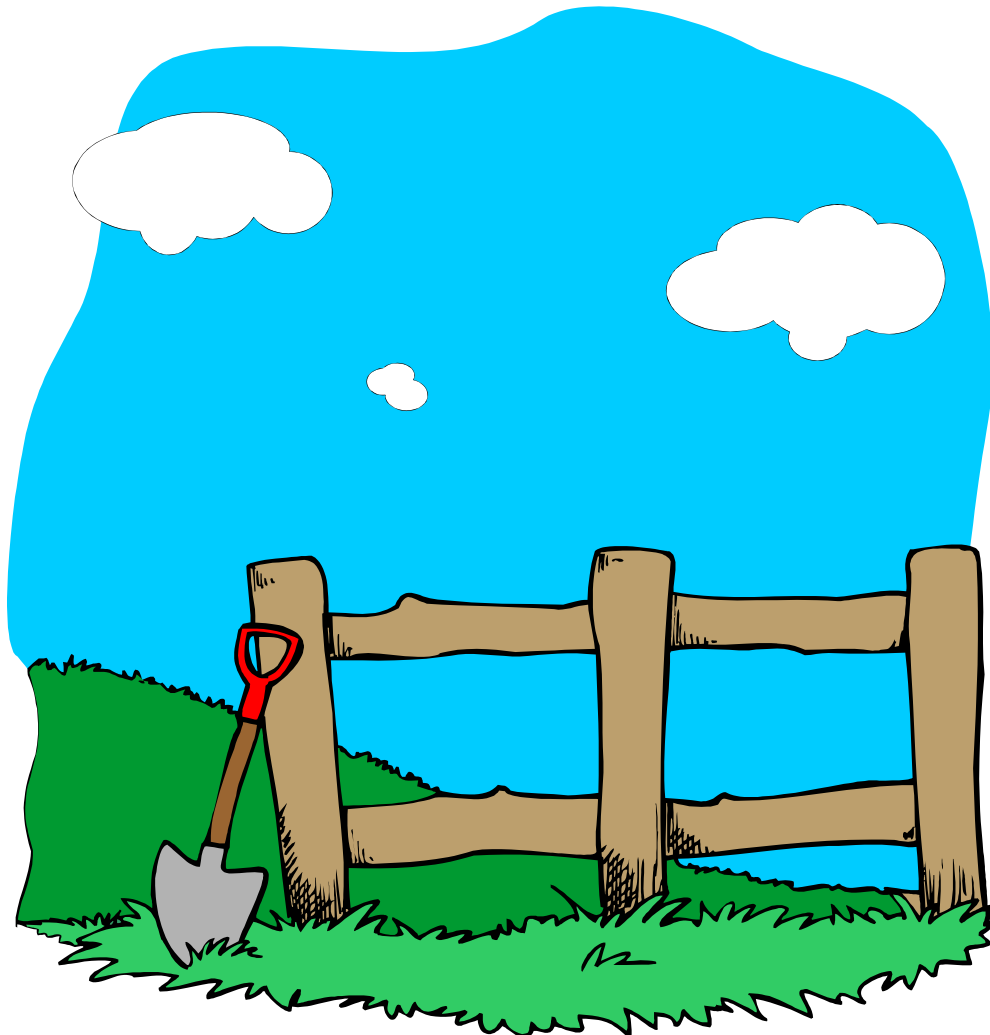


Windmill

Windmills use wind to generate power. In many cases, the power is used to pump water from underground. Windmills are still used on farms all over the United States.

Vegetable Garden

Every family farm has a garden brimming with green beans, tomatoes, and sweet corn. Mom usually tends the vegetable patch, and by late summer the family enjoys a bounty of garden goodies. Surplus vegetables are canned and enjoyed during the cold winter months.



Vocabulary

Barn	where the animals, food, straw, machinery and tools are housed on the farm
Beef	meat that comes from a cow, eaten by people
Bull	a male type of cattle
Calf	a baby cow
Canned	a way of preserving fruits and vegetables
Chick	a baby chicken
Colt	a male horse or pony under the age of four
Cow	a female type of cattle
Crops	food produced on a farm
Doe	a female goat
Foal	a baby horse
Fruit	a fleshy part of a plant that contains seeds and is eaten
Harvest	to pick and gather crops
Hen	a female chicken
Kid	a baby goat
Lamb	a baby sheep
Piglet	a baby pig
Plow	a tool used to turn over and loosen dirt in a farm field
Pony	a horse that stands under 14 hands high, it <u>is not</u> a baby horse
Pork	meat that comes from a pig, eaten by people
Rooster	a male chicken
Scarecrow	a shirt and pants stuffed with straw to look like a person, it is used to scare away birds and other garden pests

Art Activity

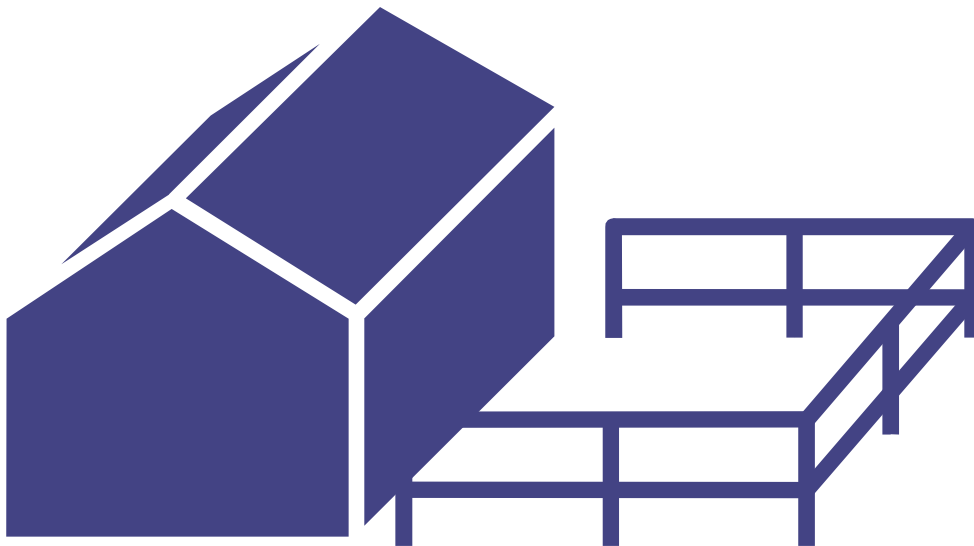
Objective: To identify and name several farm animals.

Materials needed:

1. Large poster board
2. 8 ½" by 11" paper
3. Scissors
4. Crayons
5. Glue or tape

Activity Instructions:

1. Ask the children to tell you what types of buildings are located on a farm. As the children tell you, draw them on the poster board. You may need to give clues to the children such as, "Where does a cow or horse stay when the weather is very cold?" When the children are finished, you should have some of the following buildings: barn, chicken coop, house, pigpen, doghouse, and an outhouse.
2. Have each of the children make and cut out a drawing of an animal that lives on a farm.
3. Have the children glue or tape their animal on the poster paper wherever they would like it to live on the farm.
4. Encourage the children to add other drawings such as fences, haystacks, a garden, woodpiles, tractors, and people to the poster paper.



Animal Food Activity

Objective: To learn that farm animals eat a variety of foods.

Materials needed:

1. Any of the following animal food:
oats, hay, alfalfa, corn, grass, dog & cat food, chicken scratch, etc.
2. Pictures of the animals that eat these foods.
3. Pictures of human food.

Instructions:

Part 1

Have the students match the animal to the type of food it eats.

Part 2

Tell the children what is in each container. Set up the containers so the children can touch and smell the food. (Discourage the children from putting the food in their mouths.)

Have the children put the pictures of human food next to the animal food that contains the same ingredients. The children can see how we use corn, oats, etc. in our food.



Goats Galore

(zoo visit activity)

Objective: Children will learn to collect information and match characteristics.

Materials needed:

Copies of the lower half of this sheet

Pencils

Instructions:

Explain differences of the four goat species living in the farm.

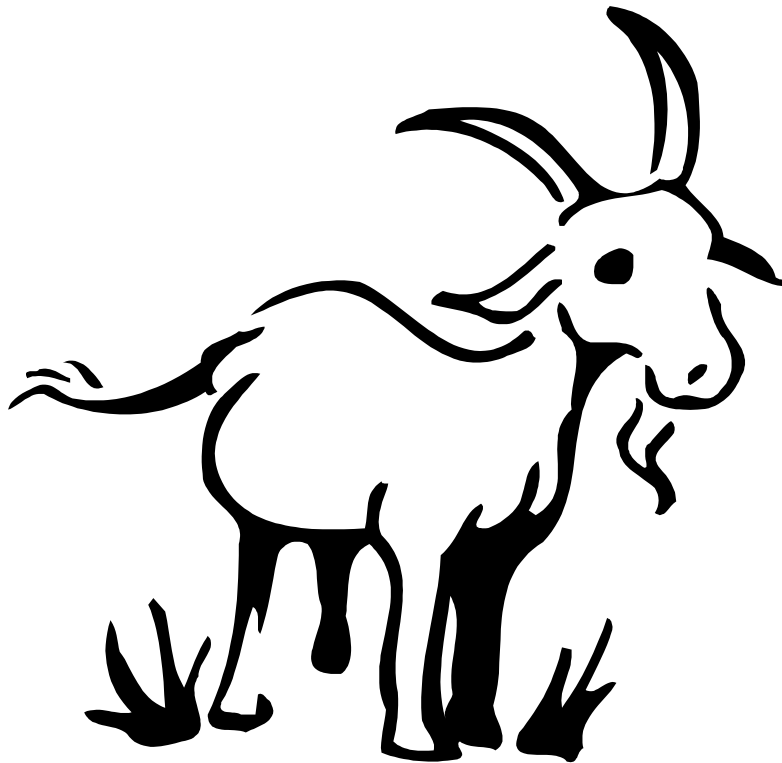
La Mancha Little or no outer ears

Saanen All white with upright ears

Toggenburg Grey to brown with two stripes on the face, upright ears

Alpine Multi-colored with upright ears

Have the children see how many of each type of goat they can find in the yard and record their answers using hash marks. As an alternative, you could do this activity as a group. You may want to talk about estimations and guess what your results will be before you begin.



Barnyard Scavenger Hunt

(zoo visit activity)

Use the animals and signs in the Indiana Family Farm to answer the following questions.

1. How many piglets live on the farm?

2. Name an animal whose baby hatches from an egg on the farm.

3. What color is the tractor on the farm?

4. What is a baby cow called?

5. Is a lamb's wool hard or soft?

6. What day of the week is the wash done?

7. What is a baby goat called?

8. Did you have fun visiting the family farm?

Let's Make Butter

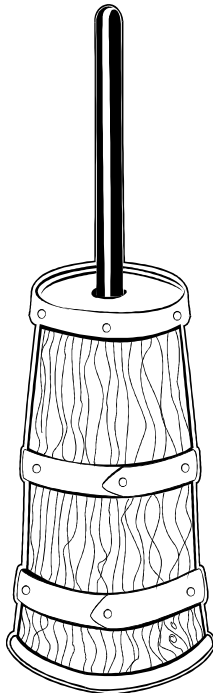
Early farms were entirely self-sufficient. Farm families fed themselves with the meat, dairy and crops they raised. Products could be used as ingredients to create other items. Use this simple recipe to make your own butter.

Materials needed:

- 2 small mixing bowls
- Wooden spoon or paddle
- Salt
- Whipping cream with a minimum butterfat content of 30%
(A ½ pint of cream makes approximately 1/5 cup of butter.)
- Spoons for tasting butter (or a knife to spread it on bread or crackers)
- Small churn or pint jars with tightly fitted screw caps
(Every child can shake & make their own butter if you use baby food jars.)

Instructions:

1. About 20-30 minutes before you begin, remove the cream from the refrigerator. The cream should be at room temperature.
2. Pour the cream into your churn or jars. Fill the container ½ way.
3. Shake or churn your cream until small lumps of butter form throughout.
(For large containers this can take up to 30 minutes.)
4. Pour off the buttermilk into a small bowl.
5. Put the butter in another bowl.
6. Take the remaining buttermilk out of the butter with a wooden spoon or paddle.



Let's Make Ice Cream

Materials needed:

- 3 pound coffee can with lid
- 13 oz. coffee can with lid
- Ice
- Rock salt
- Medium size mixing bowl

Ingredients:

1. One egg
2. 1 1/3 c. whole milk
3. 2/3 c. whipping cream
4. 2 tsp. vanilla extract
5. 1/8 tsp. salt

Instructions:

1. In the mixing bowl, beat egg until foamy. Gradually add sugar and beat until thickened. Add milk, cream, vanilla, and salt. Chill thoroughly.
2. Fill the 13 oz. coffee can about 1/2 full with the chilled mix. Place the lid on the can.
3. Place the 13 oz. coffee can inside of the 3 pound coffee can. Surround the smaller can inside with ice and rock salt (use 4 parts ice to 1 part salt).
4. Place the lid on the outer coffee can.
5. Tip the container onto its side and roll it back and forth briskly 20 to 25 minutes. Children can take turns with the container at two or three minute intervals. (You may have to replenish ice as time passes). Or, have the children sit on the floor in a circle and roll the can back and forth to each other in the group. (However, they may not want to do this for the entire 25 minutes.)
6. Periodically check the consistency of the ice cream, when it is fairly firm, it's ready.
7. Enjoy!



Farming Charades

(Can be an at the zoo activity)

Objectives: The children will learn about different activities that take place on a farm. They will learn how to express an idea without using words.

Materials needed:

List of farming activities (found below)

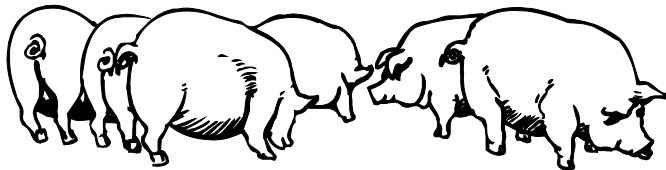
Instructions:

1. Copy each of the phrases or sentences listed below.
2. Divide the class into groups of threes.
3. Hand out one slip of paper to each group with one of the skits on it.
4. Explain the meaning of charades. (Charades: A game in which you act out something. Other people try to guess what you are doing. You cannot use words or sounds.)
5. Allow a few minutes for each group to prepare a skit.
6. Ask each group to perform their skit in front of the class. The class should try to guess what each group is doing.
7. After all groups have completed their skits, discuss other activities that occur on a farm.

List of Farming Skits

1. Milking a cow
2. Feeding the animals
3. Cleaning the barn
4. Planting seeds
5. Watering the crops
6. Harvesting the crops
7. Repairing the farm equipment
8. Saddling a horse
9. Making butter
10. Dressing to go out during a cold winter day
11. Gathering eggs from the chicken coop
12. Chopping and stacking fire wood

Use this page to create and color a farm. The picture has been started for you.



Life on the Farm

Objective: Students will learn about the importance of farming and the responsibilities that a farmer has.

Materials

- Down on the Funny Farm by Alastair Graham and Patrick E. King
- Potting soil
- Green bean seeds
- Styrofoam cups
- Drawing paper and art materials (crayons, markers, paint, etc.)
- Writing paper and pencils

Procedure

Ask students what they know about farms and the job of a farmer. Explain that farmers do more than take care of animals. They must also plant food and help produce dairy products that we drink and eat. Read the story, Down on the Funny Farm. *(This book is about all of the animals you usually see on a farm. One day the farmer goes out to start his daily chores only to discover that all of the animals are acting differently. The cow is acting like a chicken, and the horse is on the roof acting like a rooster. The farmer has to get everything back in order.)*

After reading the story, discuss the events that took place in the book. Ask students to share their comments.

Inform students that they will get a chance to be “farmers” by planting bean seeds. Give each student a styrofoam cup and a bean seed to plant. Over the next six weeks, students can take turns watering and measuring the plants. After six weeks, students can take the plants home.

(Courtesy of: <http://askeric.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Agriculture/AGR0200.html>)

Additional Family Farm Resources

Materials

- *Indiana Family Farm Discovery Box*, Fort Wayne Children's Zoo. Full of videos, crafts, activities, and artifacts about all aspects of the Family Farm. Can be checked out for up to two weeks. No charge. Reserve by calling 260-427-6800.
- *Indiana Family Farm, Teacher's Backpack*, Fort Wayne Children's Zoo. A backpack containing activities for use during a group visit to the Zoo's *Indiana Family Farm*. Can be checked out the day before your visit for review and then returned the day after your visit. No charge. Reserve by calling 260-427-6809.

Books

- *Once Upon MacDonald's Farm*, by Stephen Gammell
- *Whoo-oo Is It?*, by Megan McDonald and S. D. Schindler
- *Winter Barn*, by Peter Parnall
- *Greenbrook Farm*, by Bonnie Pryor
- *Barn Dance*, by Bill Martin Jr.
- *This Old Tractor: A Treasury of Vintage Tractors and Family Farm Memories* by Michael Dregni, Ralph W. Sanders, and Todd R. Berger
- *The American Family Farm*, by Hans Halberstadt
- *Century Farm : One Hundred Years on a Family Farm*, by Cris Peterson and Alvis Uptis
- *Pumpkin Pumpkin*, by Jeanne Titherington
- *Down Buttermilk Lane*, by Barbara Mitchell
- *Farms Feed the World*, by Lee Sullivan Hill
- *Harvest Year*, by Cris Peterson

Tapes

- *Farm Animals*, by Kim Mitzo Thompson and Karen Mitzo Hilderbrand

Videos

- *Animal Farm*, by Hallmark Entertainment
- *Spot Goes to the Farm*, by Disney
- *Winter on the Farm*, by Chris Fesko

Websites

- <http://www2.kenyon.edu/projects/farmschool/>
Learn about family farming, where food comes from, the history of farming, and much more.
- <http://www.fsa.usda.gov/pas/default.asp>
The Farm Service Agency site produced by the USDA

Evaluation Form

Zoo Activity Packet

Dear Teacher:

Please take a few minutes to fill out and return this evaluation form. Your input will help us improve our teacher resource materials in the future.

Return the form in the envelope provided or mail it to Education Department, Fort Wayne Children's Zoo, 3411 Sherman Boulevard, Fort Wayne, IN 46808. If you prefer, you can FAX it to 260-427-6820. Thank you for your time and effort!

SCHOOL or GROUP NAME: _____

GRADE LEVEL: _____ DATE OF VISIT: _____

1. Were the materials and activities appropriate for your grade level?

2. Which worksheets did you use?

3. Which activities did you try? _____

Which of these were enjoyed most by your students?

4. Did you create or modify any activities to supplement this packet? If so, we would appreciate receiving a copy to include in future packets or to distribute to teachers on request.

5. What other materials would you like to see in this packet?

Additional Comments:
