

Rio Grande Heritage Farm Education Guide



Grades 4-5

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GENERAL BIOPARK INFORMATION

Facilities

The Albuquerque BioPark is a gateway to the mystery and diversity of living organisms. Core facilities include: Albuquerque Aquarium, Rio Grande Botanic Garden, Rio Grande Zoo and Tingley Beach. The BioPark has an estimated 6,000 animals, 11,000 plants, 300 staff and 300 year-round volunteers. The Director of the Albuquerque BioPark is Ray Darnell.

The **Albuquerque Aquarium** is a great place to explore aquatic environments by tracing a drop of water from the headwaters of the Rio Grande in southern Colorado to the Gulf of Mexico and out to the oceans of the world. Current exhibits highlight fish of the Rio Grande at Central Bridge, moray eels, invertebrates, coral reefs, floating jellies, sea turtles and lots of toothy sharks. Further construction will develop tanks that highlight species that live in the Pacific Ocean. (Location 2601 Central NW)

The **Rio Grande Botanic Garden** celebrates the miracle of photosynthesis in living color every day. Our state-of-the-art glass conservatories feature plants native to Mediterranean climate zones and xeric plants from North American deserts and other arid regions of the world. A trio of formal walled gardens illustrates Old World design in fountains, tile, herbs and roses. El Jardin de la Curandera is an ethnobotanic exhibit with a beautiful bronze sculpture, and the Children's Fantasy Garden has giant fun for kids of all ages. The PNM Butterfly Pavilion, home to thousands of butterflies, is open May-September. The newest exhibit, the Rio Grande Heritage Farm, opened in the summer of 2004. (Location 2601 Central NW)

The **Rio Grande Zoo**, established in 1927, combines rocky outcrops, grassy meadows, towering cottonwoods, shimmering waterfalls and tranquil pools that create an oasis for exotic and native species. Over a thousand animals of every shape and size receive the best care every day. Exhibits for Backyard Bugs, Tropical American species, zebras, and koalas have opened in recent years. The newest exhibit, Africa, opened in Fall 2004 and features hyenas, chimpanzees, ostriches, and more. (Location 903 Tenth Street NW)

The newly renovated **Tingley Beach** features three fishing lakes that are regularly stocked with Rainbow Trout and are free to the public. All anglers over age 12 must have a current New Mexico fishing license. Tingley Beach park also includes three wetlands areas covering 13 acres. A narrow gauge train leaves from the Tingley Beach Train Station daily (except Thanksgiving, Christmas, and New Year's Day) and travels along the perimeter of the botanic garden and the back of the zoo, stopping at each location about once an hour.

Hours of operation:

9:00am to 5:00pm: Monday-Friday

9:00am to 6:00pm: Weekends in June, July and August

Closed: Thanksgiving, Christmas and New Year's Day

Albuquerque BioPark Mission Statement

The mission of the Albuquerque Biological Park is to enrich the quality of life for all, through education, recreation, conservation and research by providing a comprehensive environmental park consisting of the Albuquerque Aquarium, Rio Grande Botanic Garden, Rio Grande Zoo and Tingley Beach.

For more BioPark information please call (505) 248-8500

BIOPARK GROUP ADMISSION INFORMATION

GROUP REQUIREMENTS:

A chaperone ratio of 1 adult for every 5 students is required. Your group will be charged according to the total number you arrive with, not the number your reservation was made for. Reservations are only scheduled Monday through Friday.

GROUPS MUST ENTER AS A GROUP:

In order to qualify for discount admission, your group must be processed in one transaction. Individual payments will not be accepted at the reduced admission rate. Late arrivals will be required to pay full price admission. Your group will be admitted based on the count on your receipt. Do not pay for members that are arriving late. Remember to wait for your bus driver if he/she wishes to visit with your group.

Chaperones are responsible for group behavior. Please assign a chaperone to a specific group of children. Unsupervised and misbehaving children and their groups will be escorted from the grounds by security and the school principal will be notified. Please attach an identifying name tag to each student. On the name tag, include the student's name, the teacher's name, and the school name. (For the safety of the children and animals, please do not use pins.)

RESERVED GROUP ADMISSION RATES:

Albuquerque Aquarium/Rio Grande Botanic Garden (including Heritage Farm)

Adults	\$2.00
Students	\$1.50

Rio Grande Zoo

Adults	\$2.00
Students	\$1.50

REGULAR ADMISSION RATES:

Seniors (Age 65 and over)	\$3.00
Adults (Age 13-64)	\$7.00
Children (Age 3-12)	\$3.00
Children under 3	Free

The BioPark accepts cash, check, Visa, Mastercard, and purchase orders.

RESERVATIONS: (505) 764-6272

THIS PACKET DOES NOT CONSTITUTE A CONFIRMED RESERVATION. THIS IS FOR INFORMATION PURPOSES ONLY.

General Teacher Tips

Plan a pre-trip visit close to the time you will be bringing your class to Heritage Farm. The farm changes with each season and from year to year, so you will be better prepared for your field trip if you familiarize yourself with the exhibits.

Prepare your class with the pre-trip activities in this teacher packet or with activities you have developed.

Discuss respect for living things with the children before and during your visit to Heritage Farm. Remind students that they need to be aware of how their behavior affects each other, the animals, the plants and other visitors. Tell your group that Heritage Farm is the animals' home, and they need to feel safe.

All the farm animals may be touched (however, watch carefully because the animals can nip), but please make sure students use the antibacterial lotion dispensers located near the animal barn afterwards. The plants are here for people to enjoy and learn about. They can be touched and smelled, but not picked. Groups are allowed to walk through the orchards and vineyard, but please stay on the paths around the other planted areas.

Make copies of the chaperone guide for each of the chaperones accompanying your trip. Students will get more out of their trip if chaperones are prepared to help students during their visit.

Make copies of the student worksheets for students to use while at Heritage Farm. Clipboards are welcome.

Please attach an identifying name tag to each student. On the name tag, include the student's name, the teacher's name, and the school name. (For the safety of the children and animals, please do not use pins.)

On the day of the trip, gather all the lunches together and keep in one place such as a car or school bus. Do not carry food or drinks in individual backpacks.

There are restrooms located in the farm house, but there are no restrooms in the rest of the botanic garden. Consider making a restroom stop in the main plaza before entering the Garden.

Following your visit, review the worksheets with students and discuss their observations.

Use the post-trip activities in this teacher packet or activities you have developed to further enhance the student's learning.

CHAPERONE GUIDE

On behalf of the staff at the Albuquerque BioPark's Rio Grande Botanic Garden, thank you for your support during your child's field trip. Please abide by all the instructions given to you by your child's teacher.

The Rio Grande Heritage Farm

The Rio Grande Botanic Garden's Heritage Farm is situated on 10 acres behind the garden conservatories. The crops and animals on the farm are typical of what would be found on a farm in the Rio Grande valley circa 1925-1935.

As visitors enter the farm, they will pass by a barn from that era that houses a modern cider mill and seasonal exhibit area. The adobe farmhouse is surrounded by a garden of heirloom flower varieties, kitchen vegetables and herbs. The farmhouse contains a living room, demonstration kitchen (with modern appliances) and bathrooms. Behind the farmhouse is a kitchen garden and a vineyard with Mission grapes and three varieties of table grapes.

A heritage orchard (mainly apples, but also pear, plum, apricot and other trees) is planted near the barn in the northwest corner. The field crops contain heirloom varieties of pumpkins, tomatoes, squash, chilies, bell peppers, corn and more. A one-acre field is planted with tall grass. The purpose of the field is to demonstrate the size of an acre and to provide hay for the farm animals.

Finally, an orchard of modern apple trees has been planted in the northwest corner and among the rows of the overflow parking lot. These apples, chosen for their taste, are used to make apple cider. The barn at the center of the exhibit area houses Churro sheep, Alpine goats, a Jersey cow, Hampshire hogs, Dominique chickens, and Percheron draft horses.

Some specific pointers to enhance your visit to Heritage Farm:

If you are responsible for taking a small group independently of the whole class, get to know the children's names and make sure they know who you are and understand they must stay with you at all times. Children learn best when they are in a safe environment, and they will feel safest if you, the adult in charge, stays with them. It is very important that the children respect each other, the adults in their group, other visitors to the BioPark, and the animals and plants they encounter during their visit. Remind them to treat the animals and plants with the same respect they like to have.

Students are generally very excited on field trips. If they move too fast, they miss lots of interesting things. Check the interpretive signs to find answers to the questions on

the field trip worksheet. (Reading signs for younger students can be very helpful.) Try to pace students as they work their way through the exhibits. Focus their energy by asking them observation questions about the animals and plants they see. Get them to sit down quietly and watch the animals when possible. The botanic garden is a great place to slow down and make observations. Have students look for as many different plants as possible and have them watch for pollinators visiting the flowers, like bees, butterflies, and hummingbirds.

Sample questions to stimulate thinking and discussion:

How does this plant get its water, sunlight, and air?

What do farmers do to take care of this plant? How is that different today than it was in the 1920's?

How would this plant or animal be used by a farming family?

Safety of students, animals, and plants:

Remind students that they need to be aware of how their behavior affects each other, the animals and other visitors. Tell your group that the Heritage Farm is the animal's only home and they need to feel safe. The farm animals may be touched (however, watch carefully because the animals can nip), but please be sure students use the antibacterial lotion dispensers located near the animal barn afterwards.

Children love to climb, however, there are places at Heritage Farm where climbing can be dangerous. The plants are here for people to see and learn about. Some can be touched and smelled, but please leave the fruit, vegetables, and flowers so others can enjoy them. Groups are allowed to walk through the orchards and vineyard, but be sure to stay on the paths around the other planted areas.

Leaving the botanic garden with a souvenir can extend the child's experience, but remember that gift shop visits by school groups must be supervised.

The Albuquerque Rio Grande Botanic Garden is a great place to learn. Thank you for helping make your group's experience a great one!

Rio Grande Botanic Garden

HERITAGE FARM

TEACHER BACKGROUND INFORMATION

People are connected to plants and animals in ways that are both subtle and obvious. Plants provide food, fiber, medicine, oxygen, wood, and other products. Animals enhance our lives by pollinating plants, decomposing waste, and entertaining us through wildlife-watching and playing with our pets. But, perhaps the most tangible way animals and plants are connected to our lives is through agriculture. Because few of us actually live on farms, our connection to agriculture can be hard to visualize. The purpose of the Rio Grande Heritage Farm is to reconnect visitors with agriculture. By choosing a historic approach, the farm introduces visitors to a time (1925 to 1935) when agriculture was a central part of daily life.

The Heritage Farm includes many of the features that are typical of a farm from that era. Visitors will see a barn from the era with a modern cider mill, an adobe farmhouse with a kitchen garden, a vineyard, fruit tree orchards, an animal barn, an acre of grain, and an acre of other crops.

Early Agriculture in the Rio Grande Valley

Agriculture is not new in the Rio Grande Valley. Despite the harsh conditions of the desert Southwest, Native Americans have been growing crops here for almost 3,000 years, raising corn, squash, and beans. When the Spanish arrived in the early 1600s, they introduced wheat, barley, cabbage, radishes, onions, lettuce, fruit trees, grapes, and of course, chile.

After the Pueblo Revolt in the late 1600s much of the Indian land was divided among Spanish settlers. Later, the decedents of those landowners further divided the lands through land sales and inheritances. By the middle of the 1800s most landowners lived on very small farms and homesteads. Some of the current landowners in the Rio Grande Valley are the direct decedents of the original Spanish and Mexican settlers.

Farm Life in the 1920s and 1930s

Living on a farm in the 1920s and 1930s barely resembles most of our lives today. Life on a Rio Grande Valley farm was quite different than life in the town of Albuquerque even during the same time period. If you lived on a farm, most likely you had no indoor

plumbing or electricity. Your days would be filled with chores such as plowing and harvesting crops, milking cows, washing clothes, feeding farm animals, and cooking.

Without electricity and indoor plumbing, today's simple tasks took quite a bit of effort. Laundry was done by hand, one piece at a time. Water was heated on a wood-burning stove, then clothes would soak in the hot water before being scrubbed on a metal washboard. Finally, the clothes would be squeezed out with a hand-cranked wringer and hung to dry on a clothesline.

The farm house would have been heated by wood which meant collecting and chopping wood to feed the fire throughout the day. At night, the house would get colder as the fires died down. To use the bathroom, family members would need to leave the house to use an outhouse which they had built themselves. Cleaning, cooking, lighting the house, and bathing all involved many more steps than simply turning on a switch or spigot.

Each season brought a different set of chores and challenges. Fires, drought, floods, and illnesses could dramatically affect a family's fortunes. Some illnesses were treated with herbs that were blended into teas and salves from recipes that had been passed down through the generations. Neighbors helped each other during harvests, natural disasters, and illness.

During the same time period in other parts of the country, farmers were struggling with the economic depression and severe drought. Farmers who were able to produce more food than their families needed, faced depressed market conditions and other economic problems that limited their ability to profit from their crops. Many of those farmers moved West to look for new ways to survive. Because most of the farmers in the Rio Grande Valley owned small farms, they were less affected by global economic changes. Still, they were poor and had to work hard to survive.

The 1930s: A Turning Point

Even though the 1930s were a difficult time for farmers, new technologies were introduced that began to make farm life easier. Some of the major changes included:

- Combines (machines for harvesting and threshing grain)

- Better tractors

- Rubber wheels

- Hybrid seed corn

- Synthetic fertilizer

- New, more effective pesticides

- More access to electricity and indoor plumbing

As farmers scraped together enough money or received money from New Deal programs, they invested in these new technologies.

Irrigation

In a region where rain could not be relied upon, irrigation was critical. Pueblo Indians probably used ditches to irrigate their crops in the Rio Grande Valley. Spanish farmers enlarged and expanded these when they acquired the land.

The Rio Grande was the water source for the irrigation ditches, called acequias. The main acequia (acequia madre) carries water from upstream and smaller ditches branched off from there. Farmers tapped into these smaller ditches to irrigate their fields. Metal or wooden gates were raised and lowered so water can be let onto a particular field or passed onto the next farm. This type of system is still used today.

The irrigation system worked well, perhaps too well. There was no good system to drain the excess water off the fields. Gradually, the soils became waterlogged from irrigation and from natural flooding. By 1925, many acres were no longer usable for either farming or housing. In 1930, the Army Corps of Engineers began a program to drain the land, and developers and farmers began to make use of the landscape.

Crops: Then and Now

Not only was the actual work of farming done differently in the 1920s and 1930s, the crops were very different. Crops back then were more naturally disease resistant and better tasting than the varieties used currently. Seeds were passed among farmers and through generations of families. Modern crops have been chosen for mechanical harvesting, increased production and to look appealing to shoppers.

In their gardens, farmers often grew plants that were used as remedies for various illnesses. Mallow, mint, chamomile, onions, and various other herbs and vegetables were used to treat fevers, pain, and colds.

Before pesticides were available, farmers planted extra crops because they knew some would be lost. Generally, they figured one third of the crops would be eaten by rabbits, another third would be ruined by birds and insects, and the final third could be harvested. They also planted crops in specific arrangements to control insect pests or discourage rabbits from entering the fields.

The orchards in the Rio Grande Heritage Farm include both modern and heirloom (older) varieties of fruit trees. In the northwest corner, the apples, pears, peaches, cherries, apricots, plums are heirloom varieties. The apple trees on the south side of the farm are modern varieties that are used for making cider on site.

Mission grapes were once abundant in the region, but are rarely grown here now. Spanish priests brought the first grapes in the mid-1600s and the wine they made was used mostly for Roman Catholic communions. By the 1800s more than a million gallons of wine was produced in New Mexico. In the Rio Grande Valley, the wine industry came to a halt by the mid 1930s as a series of floods, poorly drained fields, and prohibition combined to close all the wineries. Currently there are numerous wineries in the state, but only one uses mission grapes.

Farm Size

The size of a farm in New Mexico has changed exponentially. The average size of a farm today is over 3,000 acres. In the 1920s and 1930s, it was only a few hundred acres. The Rio Grande Heritage Farm is only 10 acres.

The size of an acre used to be based on the amount of land an ox could plow in one day. Since that amount can vary, today an acre is considered to be 43,560 square feet (640 acres equals one square mile). At Rio Grande Heritage Farm, the grain field behind the animal barn is exactly one acre.

Animals at the Rio Grande Heritage Farm

Percheron Horse:

This large horse breed was favored for heavy work like pulling large wagons. They were brought to the United States in the mid-1800s and became quite popular. By the 1930s, more than 70% of the registered draft horses in the U.S. were of this breed, but once trucks and tractors appeared, they were rarely used. By the middle of the 1950s, there were only 100 Percherons in the U.S. The two males at Heritage Farm came from an Amish farm in Indiana and are used for pulling most of the farm equipment including a disc cultivator, a plow, a manure spreader, a seeder, and wagons.

Hampshire Pig:

These pigs were raised mainly for their meat. The breed came from England and were imported to the United States around 1830. Meat, from pigs and other animals, had to be cured or preserved because there was no refrigeration on most farms.

Jersey Cow:

The Jersey cow is one of the oldest types of dairy cows, originating on an island off the coast of England. Their milk has a high percentage of butterfat and protein, and they generate more milk per pound of body weight than many other breeds of dairy cow. Some farmers in the Albuquerque area sold their excess milk to Creamland Dairy.

Alpine Goat:

Alpine goats were imported to the United States in the early 1900s. This breed originated in France and are tolerant of a wide range of climates. Females are good milk producers.

Navajo-Churro Sheep:

Navajo-Churro sheep were brought by the Spanish conquistadors for their mutton in the late 1500s making them the first domesticated sheep to be introduced to North America. They later came close to extinction when the U.S. Army tried to eliminate the flocks to control the tribes and when farmers replaced them with other breeds. An unusual characteristic of this breed is that males frequently have more than two horns. The wool from this hardy breed is used for Navajo rugs.

Dominique Chicken:

This hardy breed of chicken was common on farms during the 1800s. As new chicken breeds became popular, their population declined. By 1970 there were very few left. They have been designated a Conservation Priority breed, and efforts are being made to increase their numbers.

Spring and Summer on the Farm

Spring was one of the busiest times on a farm. In early spring, farmers prepared the soil for planting. In the Rio Grande Valley, farmers burned the corn stalks that were left in the ground from the prior year to enrich the soil. They also spread manure on the fields to act as fertilizer and plowed the soil. In May and June, farmers planted their crops.

Also in the spring, baby farm animals were born. New lambs, pigs, calves, and horses needed to be fed and protected from unpredictable weather. In addition to the chores children did year round, they were also expected to take care of many of the newborn animals. Farmers trained inexperienced workhorses to wear harnesses and pull farm equipment.

By summer, families were ready to start picking some fruits and vegetables. What they didn't eat right away, they canned, preserved, or baked into pies. Children helped with picking fruits and vegetables, cutting hay to store in the barn, and tending beehives in addition to their usual tasks of gathering eggs, churning butter, feeding animals, and cleaning.

On summer weekends, families sometimes went to town to sell eggs, cream and other farm products. In the evenings, they could stay to watch a movie, concert, or go to a dance. The long summer days also meant children had a little more time for recreational activities such as fishing, swimming, and horseback riding.

Fall and Winter on the Farm

Fall and winter brought a different set of tasks to farm families. After a summer spent tending crops, the last harvesting was completed in the fall. Apples and garden vegetables were gathered, stored and canned for the coming winter. Farmers picked corn for storage in a corncrib where it dries and is then prepared for feeding cows, horses, and pigs.

When children return to school in the fall, their chores continue at home. Before school, most children were expected to milk cows and give food and water to horses, sheep, pigs, and cows. After school, they often repeated these tasks as well as chopping wood, gathering corncobs to be burned in the cook stove, and collecting eggs.

As winter got closer, farmers spent time repairing the buildings on the farm to protect farm animals and people from cold weather. In November, a hog or cow was often butchered, cured, and smoked so it could be eaten throughout the winter.

During winter, many farm chores were done in the dark because the days were cold. Keeping the wood box full and the wood stoves burning in the farmhouse were critical to the family's comfort. The same chores that were straightforward other times of year became more complicated when there was snow on the ground and animal troughs were full of frozen water. With the longer nights, kerosene lamps were depended upon to light the farmhouse. Some families had a battery-powered radio so they could listen to various programs or music. Often neighbors would gather together to socialize, play games or enjoy music.

Pre-Visit Activities

A Log of Daily Activities

Children had different responsibilities and recreation when they lived on farms in the 1920s and 1930s. Before and after school, most of their time was filled with chores. In the summer, they had a little extra time to fish, swim, and horseback ride, but they also helped their parents with the many tasks that came with running a farm. To give your students a way to compare their daily lives with those of children who might have lived on Rio Grande Heritage Farm, have them keep track of their daily activities for one weekday using the "Daily Activities" handout. Save their logs for the activity that follows the visit to Heritage Farm.

Farming by the Numbers

Complete the math problems on the student handout, "Farming by the Numbers" to find some fun facts about farming. Answers are provided in the student handout section.

Plant a Window Garden

Students can get a small taste of what it's like to be a farmer by planting and taking care of their own "crop". Gather together enough small planting containers, potting soil, and seeds for each student to raise at least one plant. (If given enough light, many fruits and vegetables can be started indoors. Check with the nursery for selections that would be appropriate for your classroom.) Follow the planting directions on the seed packet. Keep the containers near a window in the classroom as they sprout and make sure each student has the opportunity to water the plants.

When the plants become large enough to transplant, students can either bring them home for planting or they can be transplanted on a suitable area of the school campus.

Alternatively, students can plant a window herb garden, starting with small plants rather than seeds. Some herbs that work well are basil, oregano, thyme, and cilantro. While the plants grow, students can search for recipes to use for a tasting party when the herbs are ready for harvesting.

Another idea is to plant heirloom varieties of crops. Be sure to describe the differences between heirloom and modern varieties to students (see background information).

Rio Grande Heritage Farm

Field Trip Worksheet

Red Barn and Farm Equipment

When you enter the Rio Grande Heritage Farm, it's as though you are taking a trip back in time. What time period is the farm designed to show?

Look inside the window of the big red barn, then describe what you see.

What were some of the chores farmers and their families did back then?

Farm House

Before entering the gate to the farm house, look at the outside of the house. What is the house made of?

How are traditional adobe bricks dried?

If there is a demonstration at the farm today, describe what you watched below.

Kitchen Garden

The kitchen garden is the small, fenced-in area behind the farm house. Look carefully at the plants to see if you can find any vegetables or fruits that you recognize. List the vegetables and fruits that you see in the garden below.

Why do you think there is a fence around the house garden?

Animal Barn

Watch the farm animals in the animal barn and yard for a while. Name your favorite animal and describe what it's doing.

What is unusual about the sheep on this farm?

List a product or products that come from each of the animals below:

Cow _____

Pig _____

Chicken _____

Sheep _____

The Vineyard

Where were the first vineyards in North America planted?

How did the Spanish settlers use mission grapes?

What happened to most of the vineyards along the Rio Grande?

Heritage Orchard

Why were these apple varieties chosen for Heritage Orchard? Put a check by all the correct answers:

- They live a long time.
- To make applesauce from them.
- They are resistant to disease.
- They are pretty trees.
- They are good for making apple cider.

How Big is One Acre?

Starting at the corner, walk the length of one side of the acre plot while counting your footsteps. Write your number of footsteps here:

Compare that number to the number of footsteps others in your group counted. Why is this not an accurate way to measure something?

In the past, the size of an acre was based on what?

What is an acequia and what is it used for?

Post-Visit Activities

Log Review

If your students completed the daily log from the pre-visit activities, they will have a good idea now how differently farm kids lived in the 1920s and 1930s.

Pass out the completed daily logs to each student. On the chalkboard, draw a blank daily log similar to the chart on the handout. Now, with student's input, fill out the chalkboard log as if they were a child living on Heritage Farm. When would they get up in the morning? What would they do before school? What would they do after school? How would they spend their free time? What would be different in the summer? Do they think their lives are harder? More fun?

Wordsearch

Use the wordsearch student handout to help students learn the spelling of key words from their farm experience.

Harvest Party

Celebrate the foods grown at the Rio Grande Heritage Farm by throwing a harvest party in your classroom.

Based on what your students learned during their field trip, help them generate a list of foods that might be grown and/or harvested during the current season. From the list, select 5 or 6 then divide students into the same number of groups and assign each group one of the foods (squash group, apple group, etc.).

Give each student a 3x5 card. Tell students each of them will need to find a recipe that includes their food as one of the ingredients. They can look for recipes at home, in the library, on the Internet, or by asking family and friends. The recipes should be simple both in the number of ingredients and the time it takes to prepare. (Depending on the type of cooking equipment you have access to at school--hot plates, microwaves, etc.-also inform them of any other recipe guidelines). Give students several days to find recipes and copy them onto a 3X5 card.

Have students gather together in their groups, then collect the cards. Make sure the cards from each group are kept together. Randomly select a group from each card (putting the cards into a box and pulling one out may be a fun way for the kids to

participate). Return the “winning” card to the group. This will be the recipe they prepare for the harvest party.

Give students some time to meet and plan how they will divide up the responsibility for cooking their recipe. Each student can be assigned certain ingredients to bring, one can cut up food, another can stir or mix, etc. On the day of the party bring plates and utensils and enjoy the party!

Farming by the Numbers

Complete the math problems below to find some fun facts about farming.

- 1). $9 \times 4 =$ _____ The number of apples it takes to make a gallon of cider.
- 2). $95 - 88 =$ _____ The number of minutes it takes a pig to run a mile.
- 3.) $12,430 + 31,130 =$ _____ square feet. The size of an acre.
- 4). $2^2 + 2^2 =$ _____ Gallons of milk a dairy cow can produce in a day.
- 5). $525 - 225 =$ _____ acres. The average size of a New Mexico farm in the 1920s and 1930s.
- 6). $18,952 - 15,952 =$ _____ acres. The average size of a farm in New Mexico today.
- 7). $3 \times 5 =$ _____ Pounds of grapes one grape vine can produce each year.
- 8). $80 - 80 =$ _____ The number of bathrooms in a typical farmhouse in the 1920s and 1930s.
- 9). $3552 - 952 =$ _____ pounds. The weight of the Heritage Farm's workhorses. That's more than many cars!
- 10). $132 + 365 =$ _____ Approximate number of fruit trees at _____ Heritage farm.
- 11). $7550 - 4550 =$ _____ The number of years there has been _____ agriculture in the Southwest.

Heritage Farm Wordsearch

D	G	H	E	B	N	E	N	O	W	Q	J	K	A	K	V
S	H	B	C	V	Z	C	I	R	T	A	P	Q	S	A	G
J	V	C	F	F	A	R	M	R	Y	U	C	I	O	P	A
S	D	F	G	H	J	K	L	Z	X	C	V	R	B	N	M
D	P	P	K	H	V	C	Z	Q	S	C	V	B	E	E	Y
U	L	F	V	N	U	W	B	W	N	M	U	E	O	I	J
T	O	H	W	O	C	V	F	L	O	W	E	R	S	Z	L
U	W	T	N	Q	X	Y	W	J	U	O	K	F	G	H	R
Y	I	B	C	A	L	F	E	I	T	M	X	B	W	P	N
T	N	E	V	W	S	Z	U	I	H	S	H	I	V	R	U
E	G	J	O	G	R	N	R	K	O	W	B	H	J	K	W
S	E	R	Y	U	A	C	E	Q	U	I	A	J	F	G	H
X	F	V	G	H	B	D	F	G	S	H	J	K	L	W	E
R	T	Y	U	I	O	P	K	G	E	D	S	A	M	B	V
B	N	M	K	H	G	F	D	A	F	N	T	D	U	N	E
N	J	T	G	R	A	P	E	S	R	M	W	K	V	X	J

acre
acequia
calf

farm
flowers
grapes

outhouse
plowing
planting

Answer Sheets

Farming by the Numbers- ANSWER SHEET

Complete the math problems below to find some fun facts about farming.

- 1). $9 \times 4 = 36$ The number of apples it takes to make a gallon of cider.
- 2). $95 - 88 = 7$ The number of minutes it takes a pig to run a mile.
- 3.) $12,430 + 31,130 = 43,560$ square feet. The size of an acre.
- 4). $2^2 \times 2^2 = 8$ Gallons of milk a dairy cow can produce _____ in a day.
- 5). $525 - 225 = 300$ acres. The average size of a New Mexico farm _____ in the 1920s and 1930s.
- 6). $18,952 - 15,952 = 3,000$ acres. The average size of a farm in New Mexico today.
- 7). $3 \times 5 = 15$ Pounds of grapes one grape vine can produce each year.
- 8). $80 - 80 = 0$ The number of bathrooms in a typical farmhouse _____ in the 1920s and 1930s.
- 9). $3552 - 952 = 2,600$ pounds. The weight of the Heritage Farm's workhorses. That's more than many cars!
- 10). $132 + 365 = 497$ Approximate number of fruit trees at _____ Heritage farm.
- 11). $7550 - 4550 = 3,000$ The number of years there has been _____ agriculture in the Southwest.



