Bee Family Centennial Farm Museum

State Educational Standards

As applied to the

Bee Family Centennial Farm Museum

To enhance a trip with your class to the Bee Family Centennial Farm Museum, we have taken several district/state standards and applied what students will see and hear as you tour the farm. As you and your class travels through time on the farm, you will see a variety of ways data and historical information has been collected. You will follow timelines of not only the people, but the artifacts, buildings, machinery, etc. We are only scratching the surface of the experience you will find. Students will measure, weigh, be surrounded by new words, and have several hands-on experiences that are not only fun, but will tell more of the story.

Science

Standard 2, Life Science
First Grade

Offspring have characteristics that are similar to but not exactly like their parents' characteristics.

Examples: Depending on the season and timing of a classroom's visit to the farm, students may see newborn animals as well as the adult animal and will be asked what they know about:
cow – calf (calf may change colors as it grows)
chicken – chick (chick gets more feathers)
horse – colt (colt may be a similar color as its mother)

Standard 3, Earth Systems Science
First Grade

Earth's materials can be compared and classified based on their properties.

Examples: As students tour the farm, they will hear about the use of wood for the stove (warmth/cooking) and wood for building.

Visit www.beefamilyfarm.org for directions and more information.

Many examples of reuse and recycling can be found at the farm. Some of these would include (i.e. furniture, machinery, and buildings . . .)

Standard 1, Science
Second Grade

Changes in speed or direction of motion are caused by forces such as pushes and pulls.

Examples: Students will experience:
Hands-on activity using a pulley
Talking about machinery that uses simple machines in order to work for the farmer (plows, tractors, harrow, sickle mower)

Standard 2, Life Science
Second Grade

Organisms depend on their habitat's nonliving parts to satisfy their needs.

Examples: Show and talk about the care of farm livestock; feeding, watering (using plants from field and garden). Insects can be useful as well as damaging; i.e. grasshoppers – turkeys eat them – we eat the turkeys but they also eat crops/gardens.

Crops are grown in fields for both people and animals.
Animal manure is used as fertilizer for plants. Fertilizer and water are necessary for plant growth.

Each plant or animal has different structures or behaviors that serve different functions.

Example: How do the plants in the fields get water (rain, irrigation/ using their roots to collect water).

How do the livestock get water (ponds, water tanks) using their mouths/beaks to drink

Plants are fed by the sun, soil, fertilizer, water. Watch the plants in your yard from Spring to Fall, how do they change, or observe the plants in the farm garden.

Standard 3, Earth Systems Science
Second Grade

Weather and the changing seasons impact the environment and organisms such as humans, plants, and other animals.

Example: Talk about how a farmer a hundred years ago knew about the weather (animals react to a change in weather by their actions).

Talk about the seasons (Spring, Summer, Fall, Winter). What changes do we make as the season changes (clothing, transportation, care of animals)?

The Museum has a four season activity talking about how the work of a farmer changes for each season (planting, growing, harvesting).

Standard 2 Life Science
Third Grade

The duration and time of life cycle events such as reproduction and longevity vary across organisms and species.

Example: The chicken and the egg
Both roosters and hens must be part of the process. Chickens kept separate from roosters will still lay eggs, but will not have chicks. It takes approximately 21 days for a chick to grow and hatch from a fertilized egg.

Gestation:
Horses – 114 days = approximately 16 wks, 2 days
Cattle – 281 days = approximately 40 wks, 1 day
Sheep – 148 days = approximately 21 weeks 1 day
Pig – 114 days = approximately 16 weeks, 2 days

Talk about how the newborn looks in comparison with the adult (size, color, feathers/no feathers, etc.) And how they walk/move around, how and what they eat to grow (milk from mother, insects, plants).

There is interaction and interdependence between and among living
and nonliving components of ecosystems.

Example: Cycle of feeding animals, they produce manure which is used for fertilizer, new crops are grown and fed to the animals.

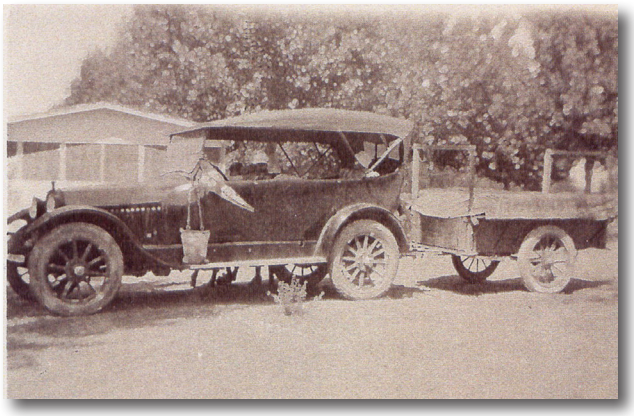
Drought and blizzards are the two major natural disasters that have affected the farm over the years.

The history of irrigation in this semi-arid region is presented and the role that humans played in bringing irrigation to the area.
The importance of rotating the crops to restore the land.

Social Studies
Standard 1, History
First Grade

Describe patterns and chronological order of events of the recent past.

Example: At the museum you will see many samples of the chronological order of the Bee family: (i.e. pictures) even in the study of how the homes changed over a hundred years, the progress and change of farm equipment, etc.



People have influenced the history of neighborhoods and communities

Example: Students will hear about how the Bee family impacted the Wellington community.

They will learn about migrant workers (both Mexican and German) and how they impacted the farm and the communities around the farm (Wellington/Fort Collins).

Standard 2, Geography
Second Grade

People in communities manage, modify and depend on their environments.

Example: Students will hear about how the museum/farm has changed over the years: i.e. the differences that electricity made in the houses, how the fields were used a hundred years ago and how they are used today (CSU) and they will hear about how items at the museum were reused and/or recycled and continue to be useful.

Students will hear about the use and collection of water and how that has changed over the years (water wagon, irrigation, collection of rain).

Standard 1, History
Third Grade

Use a variety of sources to distinguish historical fact from fiction

Examples: Numerous pictures, letters, and artifacts have been left by the Bee Family to document the history of the farm. These are used as interpretation throughout the displays.

People in the past influence the development and interaction of different communities or regions.

Examples: Migrant workers from Mexico and the Germans from Russia both worked on the farm. They impacted the community and, over time, they settled their families in and around the communities of Wellington and Fort Collins, building churches, working in town as well as working on the farms. Many eventually bought and worked their own farms.

Standard 2, Geography
Third Grade

Use various types of geographic tools to develop spatial thinking.

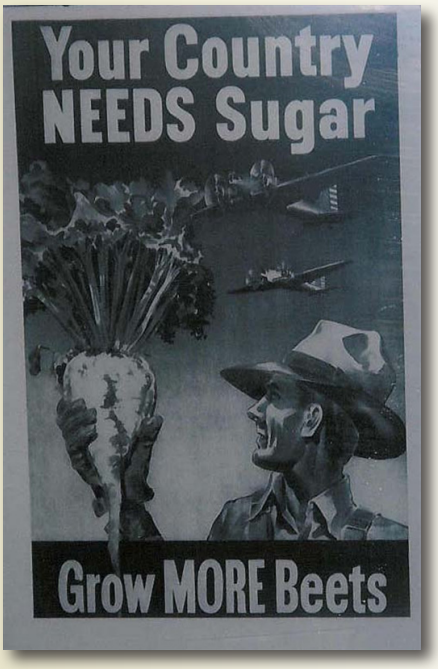
Example: Physical features provide opportunities and challenges to a region. Students will learn how these features affected the development of irrigation. They will learn where the water came from for both crops and domestic use (going to town with the water wagon, irrigation, etc.).

Students will also learn how and why this particular spot was chosen by the family to settle in. Why trees were planted and which crops were raised.

Standard 1, History
Fourth Grade

Organize and sequence events to understand the concepts of chronology and cause and effect in the history of Colorado.

Example: Students will learn about the crops (i.e.sugar beets) that were raised in this area and how they changed the economy. The story of the farmers who raised the crop, the migrant workers who worked the crop, and the sugar beet factories in towns that processed the crop will be told. Sugar beets changed Colorado history.



The historical eras, individuals, groups, ideas and themes in Colorado history and their relationships to key events in the United States.

Example: Students will look at the Bee family timeline which includes not only personal stories, but worldwide events like World War II and how it affects the farm (rationing). Students will learn about how farming has changed over the years; including transportation, tools used to farm, photography, radio/television, household appliances, etc., and how these changes have affected local and world markets.

Connections within and across human and physical systems are developed.

Example: Students will learn about migrant workers from Mexico and Germans from Russia and how they were a vital part in developing this area and why they picked Colorado as the place to live.

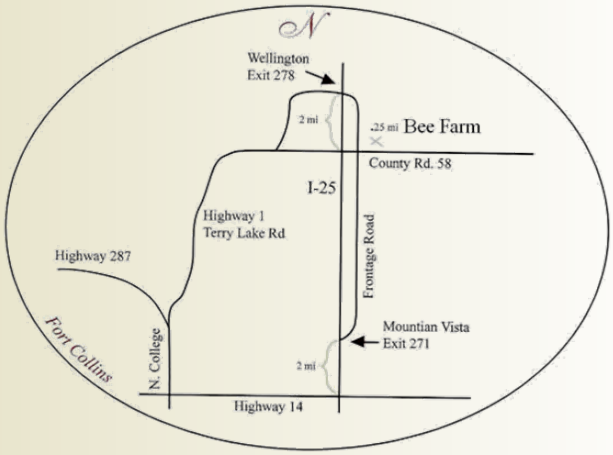
The railroad had a great impact on the farmer; hauling sugar beets to the factories, sheep to and from the train stations.
New and more up-to-date machinery was being developed to make jobs easier. The farm went from horse power to tractor power.

Standard 3, Economics
Fourth Grade

People respond to positive and negative incentives.

Example: The animals at the farm changed from draft horses, lamb feeding, a small dairy, to beef cattle. Each change was influenced by positive and negative economic incentives. The same is true of the different crops raised.

The weather could either be a positive or negative influence on the farm (drought, blizzards, rain, lightening, etc.).



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