

Rural Hill

PRESENTS...



Bring your class out to Rural Hill for a day of fun and excitement they'll be sure to remember! Developing and using their teamwork, creative thinking, and even math skills, your class will attempt to recreate an eighteenth century split rail fence without any prior knowledge of its design features.



Beginning at the Davidson School with a brief discussion of the history of the split rail fence your class will be divided into teams. Who can build the sturdiest fence in the least amount of time? Following the class a brief question and answer session will detail lessons learned. Wrap up your tour with a hayride or picnic lunch under the pecans!



FENCE BUILDING

IN THE EIGHTEENTH CENTURY



CONTACT INFORMATION

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Teachers:

It means so much to us here at Rural Hill that you have chosen us to be the destination of choice for your students. We know that your time and theirs is precious. If there is anything that we can do to make your trip more enjoyable please do not hesitate to let us know. Our programs are designed to fall within grade specific NC Curriculum guidelines but are generally suitable for all ages and can be modified within reason to suit your needs. Please take the time to review the following materials, which serve as an introduction to your trip and program. Again, do not hesitate to contact us with any questions or concerns that you may have.

Thank you so much,
The Rural Hill Staff

Rural Hill is an historic site and working farm owned by Mecklenburg County and operated by Historic Rural Hill, Inc., a non-profit 501c-3. With two hundred and fifty years of history behind it, Rural Hill is a restoration in progress. Enjoy two hundred sixty five acres of magnificent rural vistas, a variety of farm animals and wildlife, a 5k wooded trail that encircles the property, and our historic buildings and reconstructions. With eleven structures in all, we have the perfect setting to provide cultural heritage events, educational programs, self or guided tours, and so much more! We welcome all visitors and students to Rural Hill, where history springs alive!

DIRECTIONS:

From I-77 North:

From I-77 North take Exit 16B, Sunset Road West, traveling 0.2 miles. Merge onto Sunset Road and travel 0.6 miles. Turn Right onto Beatties Ford Road. After traveling 6.5 miles turn Left onto Neck Road. Rural Hill is located 2.1 miles on the right. Pull into the SECOND driveway for parking.

From I-77 South:

From I-77 South take the Exit 23, Gilead Road toward Huntersville, traveling 0.3 miles. Turn Right onto Gilead Road and travel 0.6 miles. Turn Left onto McCoy Road and continue onward for 1.7 miles. Take a Right turn onto Hambright Road, traveling 1.6 miles, then turn Right onto Beatties Ford Road. After 0.7 miles, turn left onto Neck Road. Rural Hill is located 2.1 miles on the right. Pull into the SECOND driveway for parking.

From NC-73 West:

From NC-73 West turn Left onto Beatties Ford Road, continuing 3.6 miles. Turn Right onto Neck Road. Rural Hill is located 2.1 miles on the right. Pull into the SECOND driveway for parking.

From NC-73 East:

From NC-73 East turn Right onto Beatties Ford Road, continuing 3.6 miles. Turn Right onto Neck Road. Rural Hill is located 2.1 miles on the right. Pull into the SECOND driveway for parking.

BEFORE YOU COME:

Please review the following reminders and recommendations prior to your departure:

- Return the enclosed Group Reservation Form with your deposit payment. Please make checks payable to: *The Catawba Valley Scottish Society Inc. (CVSS)*. This will confirm your reservation on our calendar, as well as let us know exactly when you will arrive and how many students to expect.
- Teachers, Parents, and other Adults are free with student groups.
- Please review the page entitled “*Site Etiquette*” with your students prior to arriving to Rural Hill and ensure that they understand what is expected of them.
- We would like you to arrive about 10 minutes early to allow the students plenty of time to check in and group themselves away from the bus(es).
- *Rural Hill is open all year in all weather.* If there are concerns regarding inclement weather and your group, please call ahead to let us know whether you are coming or rescheduling.
- There is no such thing as poor weather, just poor preparation! Please ensure that students are dressed appropriately for the outdoors and the weather at hand. Being one of Mecklenburg County’s highest elevations, Rural Hill is naturally windy. Because of this, it can feel 10-15 degrees cooler here than

where you are. Our historic buildings have no climate control measures, if it is cold outside, it will be cold inside. *Please dress appropriately.*

- The maximum number of students per program is 30. If there is more than this, your group will be divided into two or more groups.

SITE ETIQUETTE:

Rural Hill has over two hundred and fifty years of history on site and the staff here have the obligation to protect it for the future. Please abide by the following written rules as well as any verbal instructions our staff may provide to you during your stay. Students who fail to follow these rules may be separated from the group, asked to hold a teacher / parent's hand, and / or made to leave the site. We request that you obey these rules and honor us as much as we honor your group for spending time with us.

- I. Rural Hill is a working farm. This means live animals and working machines and tools. Please do not chase, yell at, hit, or throw anything at the animals. Do not offer the animals any food unless instructed to do so. Please do not climb on or touch any piece of farm equipment. If a staff member or your teacher tells you to stop, **STOP**.
- II. Do not climb on, touch, step, or jump over fences: They are electric and **WILL SHOCK YOU**.
- III. Be aware that many of the things in and around our buildings are very old and fragile. Do not touch or pick up anything unless you are told its okay.
- IV. For the safety of our guests, do not climb on, in, or jump off any part of our buildings.
- V. Please keep any and all trash on your person until you can locate a proper receptacle. **DO NOT LITTER**.

- VI. No food, drink, or gum is allowed inside any of the buildings. Please finish all snacks prior to entering or leave them outside.
- VII. The entirety of Rural Hill is a Non-Smoking site due to the dry and combustible nature of our land, crop, and buildings.



Fence Building in the 1700's:

(Grades 5-8)

NC Curriculum Standards:

Social Studies Skill Competency Goals K-12: 1.01, 1.02, 1.07, 2.02, 2.04, 3.05

Fifth grade goals:

Science 4.02, 4.04, 4.05, 4.06, 4.07

Math 2.01, 2.02

Language Arts 1.02, 1.03, 1.04, 2.01, 2.02, 2.03, 2.09, 2.10, 3.01, 4.02, 5.04

Sixth grade goals:

Science 1.01, 1.02, 1.03, 1.05, 1.07, 1.08, 2.01, 7.03

Language Arts 1.02, 1.03, 2.01, 2.02, 5.01

Seventh grade goals:

Science 1.01, 1.02, 1.03, 1.05, 1.07, 1.08, 2.01, 6.01, 6.03, 6.06

Language Arts 1.02, 1.03, 2.01, 4.01, 5.01, 5.02,

Math 2.01, 3.01(a)

Eighth grade goals:

Science 1.01, 1.02, 1.03, 1.05, 1.07, 1.08, 2.01

Language Arts 2.01, 2.02, 4.01, 5.01

History 1.01, 1.03

Math 2.01

Primary Sources

...We girdled trees, also felled and split some. Also weeded our garden and fields...
In the corn land we have planted about a third of an acre with beans and raised the fence around it to seven rails.

Records of the Moravians in North Carolina, Volume 1

Throughout the United States all the land that is cultivated is fenced in, to keep it from the cattle and quadrupeds of every kind that the inhabitants leave the major part of the year in the woods, which in that respect are free.... In the Southern states, the enclosures are made with pieces of wood of equal length, placed one about the other, disposed in a zig-zag form, and supported by their extremities, which cross and interlace each other; the enclosures appear to be about seven feet in height.

Francois André Michaux, Travels 1801-1802

[Southern fences] are made out of trees cut or sawed into lengths of about twelve feet, that are mauld or split into rails from four to six inches diameter. When they form an inclosure, these rails are laid so, that they cross each other obliquely at each end, and are laid zig zag... These enclosures are generally seven or eight feet high, they are not very strong but convenient, as they can be removed to any other place... from a mode of constructing these enclosures in a zig zag form, the New-Englanders have a saying, 'when a man is in liquor, he is making Virginia fences.'

Thomas Anburey, Travels Through the Interior Parts of America 1777-1781

The necessary labors of the farms along the frontiers were performed with every danger and difficulty imaginable.... They risked their lives, and often lost them, in subduing the forest, and turning it into fruitful fields... Their sheep and hogs were devoured by the wolves, panthers and bears. Horses and cattle were often let into their fields, through breaches made in their fences by the falling of trees, and frequently almost the whole of a little crop of corn was destroyed by squirrels and

raccoons, so that many families, and after an hazardous and laborious spring and summer, had but little left for the comfort of the dreary winter.

Joseph Doddridge, Notes on the Settlement and Indian Wars of the Western Parts of Virginia and Pennsylvania from 1763 to 1783

Although one does not ordinarily think of the sled as a tool, to the barn builder and the bridge builder too, the sled was a necessary tool. Not the sleds that dashing horses pull in Currier and Ives prints, but the heavy timber sleds drawn by oxen or sometimes the sledges without runners that just slide their burden from one place to another. To lift a one-ton stone into a wagon would be impossible, but to roll it by leverage onto a flat sledge only a few inches high was all in a day's work. Even if it could be got onto a wagon, the wheels would sink into the farmland soil and then even oxen couldn't move it. But with a sledge or a sled, heavy weights could be slid over hard ground and soft, through mud or snow, during all times of the year.

Eric Sloane, American Barns & Covered Bridges

Time Required:

Allow 60-90 minutes for activity.

Location:

Davidson Schoolhouse or Rural Retreat

Materials (to be supplied by Rural Hill)

large and heavy stones

10' poles, hand cut and split

Rudimentary narrow sleds large enough to haul a heavy load.

25' lengths of hemp rope

Pencils

Paper

Protractors

Rulers

Activity

After reading the above passages, it is clear that life in Colonial America wasn't in the least bit easy, but was hard and arduous. Families often homesteaded alone or in tiny communities, and had to rely on teamwork and foresight to quicken the pace of their important work, lest they be passed over by the season at hand and left for want and worry.

Fences were vital to a family's livelihood; they protected both crops and cattle from the numerous threats, both animal and human, that were about in this area. Fences also provided support and shelter to young crops that needed a break from the hot summer sun and bustling spring and fall winds.

- The group is presented with the above materials, all of which were gathered off this land at little to no monetary cost, but great physical labor, as it would be in the 1700's.
- The group will be divided into two teams, competing with the opposing side for the best time at building your fence. *If the group is too small to do this, they will work as together as one team, building a larger fence instead of the usual two.*
- Prior to starting the "race" teams will be given 10 minutes to work with drawings and dowels to plan their approach and produce models. *6th, 7th, and 8th grade science 1.07*
- While in the planning stage, teams should consider the following questions to help guide their process...

- Identify and create questions about these fences... Identify your hypothesis that will be answered through your actions (investigation). *6th, 7th, and 8th grade science 1.01*
- Develop a plan of action (experimental procedure). *6th, 7th, and 8th grade science 1.02*
- What safety hazards do you see in the field? What procedures will you take to nullify them? *6th, 7th, and 8th grade science 1.03*
- Extra Points will be awarded for the fence with the best combination of length and strength. An effective colonist would not speed through the challenge with no consideration to how well their fence would survive a season.
- Teams should be given no additional instructions; all that they need to complete the task is in the reading and on the ground. Assistance will only be given if the group reaches an impasse. *Physical help will be granted if called for.*
- While working, groups should pay attention to how this exercise relates to their modern day school life. How does this exercise reflect the study of math, history, and science?

Conclusion

Congratulations, you built a fence! Now answer the following questions:

Follow-up Questions:

- What was hardest physically about the work?
- What was hardest mentally about the work?
- Was it hard to work as a team?

- What do you think would be more important in the 1700's; a long fence quickly made but not as strong, or a stronger fence, which could be just as long but would involve more material and labor?
- Why was the fence placed on rocks? (Hint- what does moisture do overtime to wood?)
- What are fences made from today?

Fifth Grade Specific Questions:

- What does each of these rails measure in inches, feet, and yards? What is the total length of all the rails combined?
5th grade math 2.01
- Looking at your above answer to guide you, what does each of these rails measure in centimeters, decimeters, and meters?
5th grade math 2.01
- Regarding the intersection, at what angle do you think your fence worked best in terms of length and strength? Estimate this angle with a protractor and record your findings.
5th grade math 2.02
- How easy is it to push or roll the stones on the ground? How easy is it to pull the stones on the sled?
5th grade science 4.02
- How would you explain that an unbalanced force is needed to move the stones and rails?
5th grade science 4.04
- What factors affect the motion of these materials?
5th grade science 4.05

- How did building the model fence first help you build the real thing? Did it help point out some potential problems? What were they?

5th grade science 4.06

- How did colonists use simple machines to solve problems? What simple machines did you use today?

5th grade science 4.07

Sixth Grade Specific Questions:

- Analyze the results (evidence), explain your observations, make inferences and predictions, and explain your results using words and writing.

6th grade science 1.05, 1.08

- How many examples of technology do you see on this farm? Remember that technology has many definitions and can mean different things at different times. *6th grade science 2.01*

- Assuming that your fence would become extended to a great enough length and placed in such a configuration as to “box in” livestock and/or crops, how would this change of habitat help or hurt them?

6th grade science 7.03

Seventh Grade Specific Questions:

- Draw your fence to scale. How would doing this have helped in the beginning?

7th grade math 2.01

- Draw your fence from various views (top, side, front, and corner).

7th grade math 3.01(a)

- Analyze the results (evidence), explain your observations, make inferences and predictions, and explain your results using words and writing.

7th grade science 1.05, 1.08

- How many examples of technology do you see on this farm? Remember that technology has many definitions and can mean different things at different times. *7th grade science 2.01*
- Through your activities, how did you show that simple machines can change force? *7th grade science 6.01*
- How do Newton's Laws impact the motion of these materials in building your fence? *7th grade science 6.03*
- How did the interactions of balanced and unbalanced forces play out in this exercise? *7th grade science 6.06*

Eighth Grade Specific Questions:

- What did increasing the angle of the corners do to the strength of the fence? *8th grade math 2.01*
- What did increasing the angle of the corners do to the length of the fence? *8th grade math 2.01*
- Analyze the results (evidence), explain your observations, make inferences and predictions, and explain your results using words and writing. *8th grade science 1.05, 1.08*
- How many examples of technology do you see on this farm? Remember that technology has many definitions and can mean different things at different times. *8th grade science 2.01*
- How does the geography of this area help and / or hinder settlement? Where would you build your homestead?

8th grade history 1.01

- Why would you want to move here (the Colonial Carolinas) in the 1700's? What would your motivation be?

8th grade history 1.0