Web expands for AITC

Information abounds at the expanded Web site for the Virginia Foundation for Agriculture in the Classroom—www.agintheclass.org. New information includes program highlights and details on awards programs, as well as an updated schedule of teacher workshop opportunities. You can even receive lessons for use in your classroom by registering for a curriculum CD.
Scots-Irish and German settlers left their mark on the Shenandoah Valley’s landscape

It’s no blarney that, even today, bank barns are nestled into the sides of the Shenandoah Valley’s hills, and the landscape is dotted with log cabins, thanks to Scots-Irish (also called Scotch-Irish) and German immigrants who moved there in the mid-1700s.

The current structures resemble those created by immigrants who settled in the area and adapted their customs to the new environment. Both groups changed the landscape by building barns, homes and places of worship that resembled those in their native countries.

When people settle in a new area, they generally change the landscape so it reflects their culture.

The Germans constructed homes made of local timber and limestone, daubing clay, lime, sand and straw into the spaces between logs or stones. They also built bank barns, which were two-story barns with a full loft, partly set into the sides of hills. The lowest level was used primarily to house animals, because it was partly below ground and therefore warm in the winter and cool in the summer. One unique feature of the barns is small, decorative openings cut high on the gable wall. The openings provided homes for swallows, even though they were called owl holes.

The Scots-Irish immigrants were used to living in stone homes, but since stone was not as plentiful in the Shenandoah Valley, they kept the style and used local timber. They have been credited with spreading the “log cabin” style across the American frontier.

These innovative immigrants had arrived in the area via the “Great Wagon Road,” which had been carved out by American Indians and buffalo that once roamed the land in search of food. The Germans and Scots-Irish started out in the northern American colonies in the 1730s and 1740s, but when those colonies became too congested, they decided to move farther inland, where land was more plentiful and affordable.

The path they took meandered from the Great Lakes in New York through Pennsylvania to western Maryland and then continued on the next page
through Winchester to the Shenandoah Valley, with many settling in what are now Harrisonburg, Staunton, Lexington, Roanoke and Salem.

Once they settled in the valley, they established livestock and grain farms.

The Scots-Irish traditionally had grown as much wheat and potatoes as possible on small plots of land, but in America they focused on multi-use crops. They grew corn for human consumption as well as for their hogs and other animals. The Germans—drawing from their culture—preferred to use oxen instead of horses to pull their plows as they worked the land.

Both groups of people became integrated into their new environment, and their influence in the Shenandoah Valley continues to this day.
LESSON PLAN  >>  ELEMENTARY SCHOOL

Settling the Shenandoah

Background knowledge

During the 1700s German and Scots-Irish (also called Scotch-Irish) immigrants began to settle in the Shenandoah Valley. Most traveled along the migration route called the "Great Wagon Road" from Pennsylvania in search of affordable land on which to farm and build their communities. They formed communities of farmsteads and raised livestock and grain. Their heritage can be seen reflected in their architecture. The Germans brought with them their knowledge of log construction and bank barns. German homes were made using the plentiful timber, as well as limestone. The space between the logs and/or stones was then "daubed" using clay, lime, sand and straw. Additionally, German immigrants built bank barns, which were two-story barns built into the slope of a hill.

While the Scots-Irish typically lived in stone homes in their homeland, they adapted this style to the materials available (timber); living in log homes similar to those of the Germans. The Scots-Irish are credited with spreading the "log cabin" style across the American frontier.

Procedure

1. Ask students to imagine that they have been chosen to settle a deserted island. What would their buildings look like?
2. Ask students what factors would influence the building of their houses. Would they want to build something to remind them of home? What resources would they have available?

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available? Discuss with students the fact that they would have to rely on materials of the island.

3. Tell students that the early settlers of Virginia took the same factors into account as they built their homes, barns and other buildings. They brought with them knowledge and customs from their home countries and combined this with the resources that were available.

4. Put a map of the United States on the overhead. Have a student trace the migration route that many Scots-Irish and German settlers took from Pennsylvania to the Shenandoah Valley. Discuss reasons for migration, namely the desire for affordable land.

5. Show pictures and discuss what the homes and barns of the Germans and Scots-Irish looked like (See Background knowledge).

6. Distribute the following supplies to each student: one piece of construction paper, glue, markers, clay and wooden craft sticks.

7. Students will be creating a barn in the style of the German or Scots-Irish. Have students draw a square in the middle of the paper. In the square they are to glue popsicle sticks horizontally, leaving a little space in between each.

8. Next, have students take glue and a little bit of clay to “daub” the spaces between the popsicle sticks.

9. Draw a triangle on top of the square; this is the roof.

10. Next, draw mountains and crop fields around the barn. German barns in particular often were built into the sides of hills (thus, called bank barns) so students may draw this as well.

Extension

- Create a 3-D barn by gluing the sticks and clay to the sides of a tissue box.

References

- Virginia Vignettes: [www.virginiavignettes.org](http://www.virginiavignettes.org)
- Virginia Tourism Corp.: [www.virginia.org](http://www.virginia.org)
LESSON PLAN >> MIDDLE SCHOOL

Plant-based dyes colored colonists’ clothes

Introduction
Throughout history mankind has used natural dyes to adorn clothing. In Colonial times the color of clothing signified class and noted occasions. Roots, nuts and flowers are just a few common natural sources of textile colorants. Early American colonists used (among other things) salt, vinegar, urine and oak galls, which are the lumpy growths found on oak branches where insect larvae distort the normal growth. American Indians used the ashes of burned juniper branches, as well as other wood ash, rusty water and clay.

A number of methods can be used to dye fabric from plants. Plants generally are ground up and added to water, then boiled. Cloth, yarn or wool is then added to the boiling pot. Muslin, silk, cotton and wool work best for natural dyes, and the lighter the fabric in color, the better. White or pastel colors work the best. Time and temperature plays a factor in the intensity of color absorbed by the fabric. Metal pots themselves release metals into the dye baths, so copper, iron and other pots sometimes yield different colors in the dyed product. Some colors permanently affix to the fabric, while others needed a mordant—used to “fix” the color into a fabric. Vinegar and alum often were used for this purpose, with fabrics being treated before and after dyeing.

Using a variety of fabrics and plants, students can develop hypotheses regarding which fabrics take on color the best. In addition, students will have the opportunity to analyze which plant materials yield the most intense dyes. It’s best to use an old large pot as your dye vessel. Wear rubber gloves to handle the fabric that has been dyed; the dye can stain your hands. It’s also important to note that some plant dyes can be toxic. Practice lab safety throughout this or any experiment.

<table>
<thead>
<tr>
<th>COLOR</th>
<th>PLANT</th>
<th>COLOR</th>
<th>PLANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Leaves: red cabbage</td>
<td>Tan/Brown</td>
<td>Leaves: birch</td>
</tr>
<tr>
<td></td>
<td>Fruit: elderberries</td>
<td></td>
<td>Nuts: acorns</td>
</tr>
<tr>
<td></td>
<td>Leaves &amp; stems: tomato</td>
<td></td>
<td>Other: coffee grounds,</td>
</tr>
<tr>
<td></td>
<td>plants</td>
<td></td>
<td>tea bags</td>
</tr>
<tr>
<td>Yellow</td>
<td>Leaves: mint, parsley,</td>
<td>Magenta</td>
<td>Roots: dandelion</td>
</tr>
<tr>
<td></td>
<td>birch, onion skin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flowers: chamomile,</td>
<td>Pink</td>
<td>Leaves: red cabbage,</td>
</tr>
<tr>
<td></td>
<td>dandelion, marigolds,</td>
<td></td>
<td>strawberries, cherries,</td>
</tr>
<tr>
<td></td>
<td>zinnias</td>
<td></td>
<td>roses</td>
</tr>
<tr>
<td>Green</td>
<td>Leaves: carrots, red</td>
<td>Purple</td>
<td>Fruit: wild grapes,</td>
</tr>
<tr>
<td></td>
<td>onion</td>
<td></td>
<td>mulberries, beets,</td>
</tr>
<tr>
<td></td>
<td>Flowers: black-eyed</td>
<td></td>
<td>blackberries</td>
</tr>
<tr>
<td></td>
<td>Susan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leaves &amp; stems: spinach</td>
<td>Red</td>
<td>Roots: madder</td>
</tr>
<tr>
<td>Orange</td>
<td>Flowers: dyer’s coreopsis</td>
<td>Black</td>
<td>Black walnut hulls</td>
</tr>
<tr>
<td></td>
<td>Other: turmeric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold/Brass</td>
<td>Flowers: sunflower</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leaves &amp; stems: cocklebur</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>dock, goldenrod</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seeds: sunflower</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Procedure

1. Each student will create a hypothesis regarding dying medium and dye. "If (independent variable) then (dependent variable)."
2. Students will choose a plant material and grind or cut the material into small pieces.
3. Add plant material and ½ cup of hot water to a container.
4. Add fabric material to container with plant material and hot water.
5. Soak material for 5 minutes.
6. Remove material with tweezers and spread on paper towel to dry.
7. Repeat, adding 1 tablespoon of vinegar as a mordant.
9. Additional trials may be conducted using various plant materials.
10. Record data, including chart noting which plants were tested as dye to which fabrics, and whether a mordant was used.
11. Write a conclusion paragraph including whether the hypothesis was confirmed.

Extension

- Increase the amount of time fabric is soaked in dye; water temperature; and amount of mordant.
- Use a copper pot for dying fabric. The copper produces a chemical reaction that affects dye color.
- Attempt to remove stain from fabric. Discuss what seems to make some stains harder to remove, and how people may have learned which plants make good dyes.

References

- http://www.kidsgardening.com/growingideas/PROJECTS/may03/pg2.html

<table>
<thead>
<tr>
<th>Trial</th>
<th>Material used</th>
<th>Independent variable (dye result)</th>
<th>Dependent variable (dye result)</th>
<th>Colorfast test results</th>
<th>Mordant</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Ex: Cotton</td>
<td>Beet</td>
<td>Light Red</td>
<td>Color bleeds</td>
<td>Without</td>
</tr>
<tr>
<td>#2</td>
<td>Cotton</td>
<td>Beet</td>
<td>Light Red</td>
<td>Holds Color</td>
<td>With</td>
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</table>
AITC Program Highlights

AITC offers grants to improve agricultural literacy

Two grants offered by the Virginia Foundation for Agriculture in the Classroom help educators make the most of their AITC training.

Community organizations interested in supporting literacy will want to apply for a Book Partnership grant. The grants provide volunteer organizations with funds to purchase and provide agriculture-themed books for school libraries.

Students and teachers who have an opportunity to read agriculturally accurate books will develop a better understanding and appreciation of the industry. And books about corn, wheat, cotton, dairy cows, bees and other agricultural topics are a fun and easy way to teach about the industry and support Virginia’s educational standards.

Teams of teachers interested in growing school gardens can apply for Instructional Garden Grants. Recipients can receive up to $500 to purchase non-consumable supplies for their gardens.

School gardens come in all shapes and sizes; they can be as small as a few pots of herbs on a windowsill or as large as a half-acre plot of vegetables in a schoolyard.

For applications and details, including a list of the partnership grant books, visit www.agintheclass.org today.

Get free information on putting ag in your classroom

Free workshops for elementary and middle school educators who want to incorporate agriculture into their classroom activities are offered by the Virginia Foundation for Agriculture in the Classroom.

Middle school workshops feature selected hands-on activities and resources that support Virginia standards for science and civics, and participants will receive complimentary resource kits. Elementary workshop participants will receive the new AITC curriculum CD, along with personalized resource kits.

Contact us at aitc@vafb.com or call 804-290-1141 to plan a workshop for your school today.

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