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Level: Grades 3-5

Subjects: English Language Arts, Math, Science, Social Studies

Skills: Listening, following directions, cooperating, collaborating, comparing similarities, explaining, observing, creating, developing vocabulary

Lesson 5: A Colorful Life

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You have probably noticed that if you fall onto grass or soil while you are playing outside, you often have green or brown stains on your knees when you get up again. If you are wearing light-colored pants when you fall, the grass or soil stains might never wash out. And if you scrape your knee as you fall, that blood stain might stay on your pants, as well.

Nowadays, television commercials for laundry detergent try to convince us to do whatever we can to get rid of plant, soil, or blood stains from our clothes. But for thousands of years, the only way people could create colorful clothing or baskets was by using such plant juices, animal blood, or rocks and soils to color their fibers. Berries, leaves, roots, or bark would be crushed to release juices. Fiber, yarn, or cloth could then be soaked or boiled in these juices to take on gold, green, pink, brown, or other colors. Soils, rocks, and even some seashells or insects could be ground to fine powder and then mixed with liquid to tint fibers and fabrics with purples, reds, and other shades.

These ancient methods of dyeing fiber were still in use during Colonial days in Maine. But there were some interesting choices that a farm girl could make, as she decided how to create a colorful piece of cloth. A sheep could be sheared and its fleece washed to remove the lanolin. Then the clean fleece could be simmered in a dye bath to give it a beautiful color. If the fleece was dyed this way, before spinning, it was called “dyed in the wool.” If the fleece was spun into yarn, then washed and dyed, it was called “dyed in the yarn.”

When a weaver came to town, the colorfully dyed yarn could be used alone or in combination with plain white, brown, or grey yarn to create a variety of patterns in the woven cloth. If, for example, a family wanted the weaver to make a fancy cloth – perhaps a colorful bedspread for a daughter who was getting married – they could look in the weaver’s pattern book and choose a special design. Then the weaver would line up two or more colors of dyed warp yarns and use colorful weft threads to complete the chosen stripe, plaid, or flower design.

Just like the stains on your pants, some of these dye colors would last for a long, long time. Others would fade or change. Often they were unpredictable, since one batch of dye might be very different from the next batch made from the same ingredients.



Some dyers learned that soaking cloth in a special liquid before dyeing it, or adding ingredients during the dye process would help the color last. These added substances are called *mordants*. They react with the natural chemicals in the dyes to make them stronger and longer lasting. You might be surprised to learn that urine was one of these mordants! In big towns, a dyer's assistant might push a cart from house to house each morning. Servants would come out carrying the family chamber pots, and dump the pot of urine into a big collecting barrel on the cart. The urine was an especially important addition to blue dye used for military uniforms.

By the time the American Revolution and the Civil War had both ended, modern science had made it possible to make chemical dyes that didn't fade and that looked the same from batch to batch.

Still, some people in Maine and around the world continue to use ancient techniques and natural materials to color their fiber, yarn, and cloth.

