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**Using Fall To
Design Activities**

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IN THE CLASSROOM

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Using Fall to Design Activities

There are so many changes going on during the months of the fall season. Squash and pumpkins are ripening, apples are abundant, and trees are beginning to shed their leaves in readiness for the coming winter. Why not use the things around you to enlighten your students about their rich and varied environment.

Ask a child why a leaf is green, and the child will say it's because of chlorophyll, a green pigment in the leaf that takes water, air, and nutrients and changes them into food for the plant. They know about chlorophyll, but what about the other pigments in the leaf. Children are unaware that pigments such as anthocyanin and xanthophyll are also in leaves. During the fall, we begin to see that something other than chlorophyll is in a leaf. As chlorophyll leaves the leaf, so does its green hue which has masked the other pigments during the spring and summer.

The children can see what these pigments contain by doing a simple chromatography experiment. Have the children cut up yellow leaves into very small pieces and put them in a small jar. Then add one tablespoon of alcohol to the leaves and shake vigorously. Leave the jar in the sun for a few hours. The alcohol will extract the yellow pigment from the leaf. Leave the jar open for a while to allow most of the alcohol to evaporate. This will make the mixture of alcohol and pigment more concentrated. Have the children repeat this using both red and green leaves in separate jars. Next, cut up a large coffee filter into one-inch wide strips. In pencil, one inch above the bottom, draw a horizontal line across each strip of filter paper. Just above the pencil line, place one drop of the yellow pigment. On two other strips place a drop of green and red pigment, respectively. Let all three strips dry by hanging them from a pencil. Inside an emptied milk container, place a small amount of ace-



tone (nail polish remover) on the bottom. Allow the bottom edge of the filter paper to touch the liquid.

Capillary action will cause the acetone to rise up the paper toward the pencil from which the paper hangs. As it passes the pigment, it will dissolve the pigment and carry it up the paper. The acetone will cause the pigments to break up into colored streaks. Comparing and analyzing the strips will show the children that the pigments are different and therefore are made up of different chemicals.

Counting Pumpkin Seeds

Ever wonder if there is a relationship between the amount of seeds inside a pumpkin and the number of lines on the outer skin of the pumpkin? Why not find out! Cut up a pumpkin. Clean, dry, and count the seeds. Through this experiment the children can tabulate results and learn to graph their results. Discard the pumpkins? Never. Students can carve designs or paint the pumpkins.

Corn is a very serviceable and beneficial product. Every part of the plant is useful. Husks can be turned into craft items, cobs can become animal bedding,



stalks can become food for cattle, and of course, the corn itself becomes food for the human population. In addition, corn is now being used in the production of ethanol gasoline. Corn plants grow from the yellow seeds we call kernels; but was corn always yellow? Did the Indians, in fact, eat yellow corn at the original Thanksgiving meal? Children have seen the colored corn we call "Indian corn." Will these blue, purple, and orange seeds yield plants with ears of these colored kernels?

Have the students take the seeds from the ears of Indian corn and soak them in water. Upon sprouting, plant them in a soil medium. Place the plants in a sunlit area of the classroom. As the plants grow, they can be transplanted into larger containers. The children will be interested to see this "farm" plant growing in the classroom during the winter months. Children can make hypotheses about the colored kernels and the plants they may yield. Observations, drawings, and results will take the children through the various steps of the scientific method.

Scaring Crows

In the past, farmers have found that birds, while being useful animals, can

sometimes be a nuisance on a farm. In order to keep the birds from eating up the corn, farmers erect scarecrows in their fields. As a fall activity, you may wish to have the children work in groups to build scarecrows around different themes.

You could even have a scarecrow contest in the school. If you do, however, you should make up some criteria for

winning; that is, if you want winners or any competition at all.

There are so many great activities to do during the fall that will bring the natural environment into your classroom. These types of hands-on activities will increase a child's observation skills, and will make the children more aware of the changes in the environment around them. ☛

ABOUT THE AUTHORS

In the Classroom

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