

Nature Printing KIN Backpacks

Next Generation California Standards

5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water. [Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]

Lesson Plan: Nature Printing

Objective: Students will gain an introduction to leaf morphology and the process of photosynthesis. Students will compose an original abstract work of art on a backpack they will use on field trips throughout the year.

Materials: Hemp nature bags, many colors of washable fabric paint, fabric marker or paint pen, presses, a variety of different shapes and sizes of leaves, tablecloths, squares of plexi-glass, small paint rollers and brushes, newspaper(preferably blank), clothespins, nearby sink, iron (note: larger, smoother leaves work best)

Preparation: Set up two tables with table cloths. Lay out one table with plexi-glass squares and paint rollers or brushes.. Drip a dabble of each color of paint on each of the squares. On another table lay out a diverse mix of freshly collected leaves. Line up the presses on the ground nearby.

Introduction: Ask students if they know the important functions of leaves. *Leaves are like the plant's "food factories", since they are the main sites of photosynthesis. Photosynthesis is the process by which plants make their food by using sunlight to convert water and Co2 into sugar and o2. Why are there so many different sizes and shapes of leaves? Sizes and shapes of leaves are adaptations to a particular environment.* Discuss the characteristics of leaves that botanists use for identification and classification of plants (i.e. venation, shape, leaf margin, etc.) and how those characteristics are adaptations to particular environmental conditions.

Procedure: Lay out the open presses with layers of newspaper to keep paint off of the presses. (note: prepare bags with a square of newspaper on the inside to prevent bleeding of paint) Place the bags on the presses with the sides to be printed facing up. First, use a washable fabric marker to write students names on the inside of their bags. Have the students choose leaves, one at a time, and paint them with the roller or brush. (note: Painting a thin, even layer on the side with visible venation works best) Place the painted leaves, paint side down, onto the bags. Once all of the student's leaves are painted and placed in the desired position, cover with another layer of newspaper and close the press. Press firmly or stand on the press to make sure all of the leaves are properly printed on the bag. Open the press and remove the newspaper and leaves, exposing the fresh nature print. Using clothespins, hang the bags on a fence or clothesline to dry. When dry, the bags can be ironed to permanently set the paint into the fabric.

Conclusion: Allow some time for clean-up. This activity can be messy. Let students wash off before continuing to their next lesson.

Notes: In the rotation schedule at CCBER (first visit), where there is one more station activity than there are groups of students allowing a break for each station, it has been suggested to give this station their break last to allow extra time for clean-up.