



Some artists use the way paint moves on a surface to produce interesting shapes and designs. Many artists paint on canvas, a type of fabric that is very absorbent. Before painting on canvas, most artists treat it so it does not absorb as much liquid. The artist Helen Frankenthaler did not prepare her canvas in this way. Frankenthaler used the absorbent property of canvas to create interesting shapes and patterns. To make a painting, she would tack a canvas onto the floor and pour the paint directly onto the surface. She would let the way the paint moved over the canvas help decide what the picture would be.

In this activity, painting with water over marker designs on coffee filters will produce different shapes and beautiful works of art.

Materials

- 2 circular white coffee filters
- 1 pipe cleaner
- Water-based markers (various colors)
- Scrap paper (do not use newspaper)
- Paintbrush
- Paper towel
- Cup of rinse water

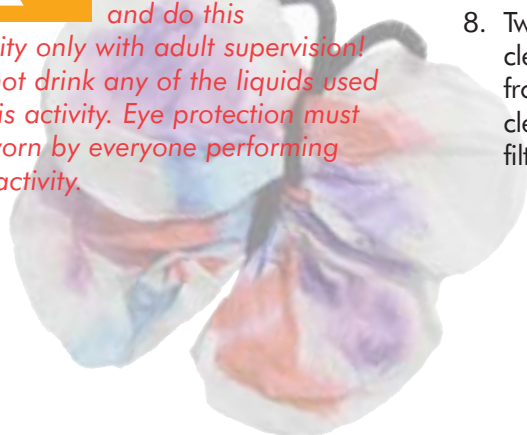
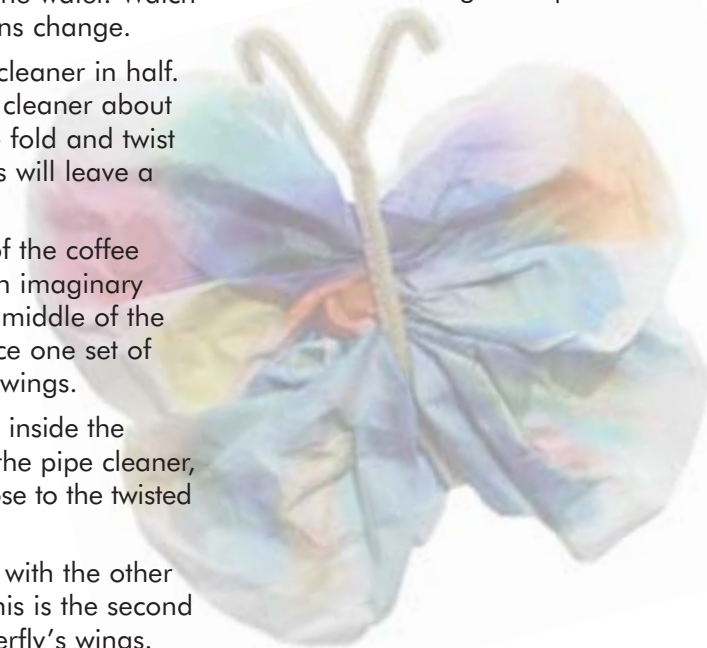
SAFETY! SAFETY: Be sure to follow Milli's Safety Tips and do this activity only with adult supervision! Do not drink any of the liquids used in this activity. Eye protection must be worn by everyone performing this activity.

Procedure

1. Place the coffee filters on top of a piece of scrap paper. Use several different color markers to create a design or pattern on each coffee filter. Please note that this design will be changed when the directions in Step 3 are carried out.
2. Place both coffee filters on another piece of scrap paper.
3. Dip the paintbrush in the water and paint over the designs with the wet brush. Be certain to rinse the brush in the water several times while you are painting with the water. Watch how the designs change.
4. Fold the pipe cleaner in half. Hold the pipe cleaner about 2 cm from the fold and twist two times. This will leave a small loop.
5. Scrunch one of the coffee filters along an imaginary line down the middle of the filter to produce one set of the butterfly's wings.
6. Place this filter inside the open ends of the pipe cleaner, centering it close to the twisted end.
7. Repeat Step 5 with the other coffee filter. This is the second set of the butterfly's wings. Place it above the first filter, inside the open ends of the pipe cleaner.
8. Twist the two pieces of the pipe cleaner together about 4 cm from the open end of the pipe cleaner. This will hold the two filters in place.
9. Turn down the ends of the pipe cleaner to look like antennas.
10. Thoroughly clean the work area and wash your hands.

Where's the Chemistry?

The filter is made of a special type of paper that absorbs water easily. Paper towels are made of a similar type of paper. The colors in the markers dissolve, or are soluble in, water. When the water is painted onto the coffee filter, the colors dissolve in the water. As the paper filter absorbs the water, the dissolved colors move with the water and create the resulting color patterns.



The American Chemical Society develops materials for elementary school age children to spark their interest in science and teach developmentally appropriate chemistry concepts. The *Activities for Children* collection includes hands-on activities, articles, puzzles, and games on topics related to children's everyday experiences.

The collection can be used to supplement the science curriculum, celebrate National Chemistry Week, develop Chemists Celebrate Earth Day events, invite children to give science a try at a large event, or to explore just for fun at home.

Find more activities, articles, puzzles and games at www.acs.org/kids.

Safety Tips

This activity is intended for elementary school children under the direct supervision of an adult. The American Chemical Society cannot be responsible for any accidents or injuries that may result from conducting the activities without proper supervision, from not specifically following directions, or from ignoring the cautions contained in the text.

Always:

- Work with an adult.
- Read and follow all directions for the activity.
- Read all warning labels on all materials being used.
- Wear eye protection.
- Follow safety warnings or precautions, such as wearing gloves or tying back long hair.
- Use all materials carefully, following the directions given.
- Be sure to clean up and dispose of materials properly when you are finished with an activity.
- Wash your hands well after every activity.

Never eat or drink while conducting an experiment, and be careful to keep all of the materials used away from your mouth, nose, and eyes!

Never experiment on your own!

For more detailed information on safety go to www.acs.org/education and click on "Safety Guidelines".

