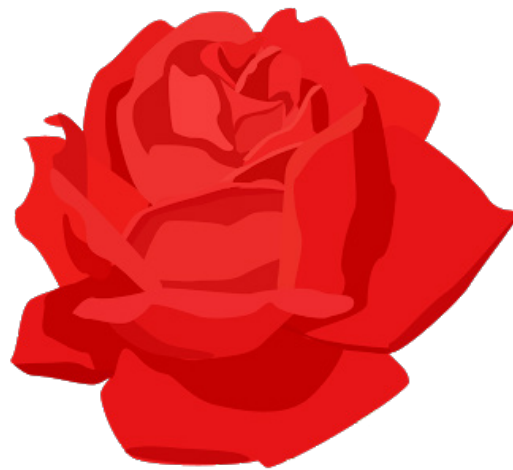


# Chromatography Roses

Celebrate National Red Rose Day by 'growing' your own beautiful roses using chromatography.



## Materials:

- Coffee filters
- Cup
- Warm water
- Washable markers
- Pencil or pen
- Scissors
- Pipe cleaners

## Create the colors.

1. Place a coffee filter on a flat surface. Draw a thick circle around the center of the coffee filter with a marker.
  - For more realistic colored red roses, use shades of red and orange markers.
2. Fold the coffee filter in half and then in half again to create a cone shape.
3. Fill the cup with warm water so there is just enough to touch the tip of the coffee filter.
4. Place the cone inside the cup of water; make sure the water does not touch the colored circle.
5. Let the filter sit for a few minutes and watch as the water starts to flow up the filter.
6. Take the filter out of the cup, unfold it, and let it dry.

## Make the roses.

7. After the coffee filter is dry, draw a spiral in pencil or pen that covers the entire filter. Use scissors to cut out the spiral following the line.
8. Starting at the outside of the filter, roll up the spiral. The center of the spiral will become the bottom of the rose.
9. Finish the rose by pushing a pipe cleaner through the center and twisting it close to create a stem.

## How does it work?

Chromatography is a way to separate mixtures and other substances into their different components. In the case of the marker and coffee filter, the ink from the marker dissolves in water and slowly moves across the solid surface of the coffee filter. Different molecules in the ink have different sizes and solubility. This means that certain colors may travel farther than others. Look at the colors of the markers and compare them to the colors on the roses. Did any colors surprise you?

# Let's science



/marylandsciencecenter



/mdsciencecenter



/mdsciencecenter