








# Plant Chromatography

6th - 8th  
Grade

## Materials

-  Coffee Filter
-  Spinach leaf
-  Penny
-  Nail polish remover
-  Pencil
-  Tape
-  Cup

Students will identify plant pigments by separation and isolation using thin layer paper chromatography.

## Brief Overview

Paper chromatography is a useful technique in the separation and identification of different pigments. In this experiment, the coffee filter will come in contact with a solvent (nail polish remover) and, as it is absorbed by the coffee filter, will move across the pigments from the spinach leaf and carry the dissolved pigments along with it. These pigments will be carried along at different rates because they are not equally soluble.

## Directions

1. Grab a coffee filter and cut it into a strip that is about 1 inch wide.
2. Draw a line horizontally across the filter with a pencil about half an inch from the bottom. Place a spinach leaf on the line and roll a penny over it so that you get a line of green pigment on the paper. Use a different part of the leaf and roll the penny again until you have a line that is dark.
3. Pour some nail polish remover into a cup until you have filled it up about a half inch. If you do not have nail polish remover, isopropyl alcohol can be used.
4. Tape the top of the coffee filter to the middle of a pencil and place the pencil over the top of the cup. The bottom of the coffee filter strip should be touching the nail polish remover. **Note:** the line you made should be above the liquid.
5. Observe what happens over the next 20 minutes!

