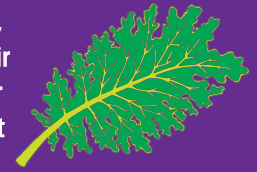


KALE CHROMATOGRAPHY EXPERIMENT

Plants use light energy from the sun to produce the food they need to survive. This process is known as photosynthesis, and it relies on special chemicals called pigments that capture sunlight. The pigment responsible for giving leaves their green color is called chlorophyll. Chlorophyll appears green because it reflects green light while absorbing all the other colors. But plants have even more colors to capture the light that chlorophyll misses. In fact, some leaves have different amounts of these pigments which is why Red Russian kale leaves are red! In this experiment, we'll use a technique called chromatography to see the different color pigments in kale leaves!



MATERIALS:

Kale leaves, coffee filters, coin, rubbing alcohol, jar, scissors, tape, pencil, aluminum foil

1

Take a coffee filter & cut a 1 inch wide strip. Cut one end into a point.



2

Grab a kale leaf & place it about an inch from pointed end of the strip. Roll the coin over your kale to transfer a line of leaf pigments onto the paper. Repeat step 1 & 2 using different color kale leaves. Let strips dry.



3

Pour rubbing alcohol into a jar to a depth of 1/2 inch.



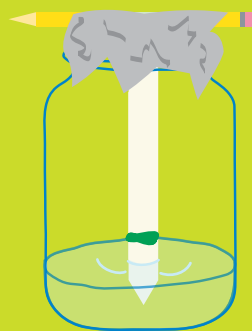
4

Tape the top of the strip to a pencil. Only the tip of the pointed end should touch the rubbing alcohol. The band of leaf pigments should not touch the alcohol.



5

Cover the jar with aluminum foil to prevent evaporation of the alcohol.



6

Observe. Over the next 15 - 20 minutes the alcohol will travel up the paper & the pigments should separate. How many different colors can you see?



BONUS!

Allow the strip to dry. The finished strip is called a chromatograph. Cut a 1 inch strip of construction paper & glue your chromatograph on for a handy bookmark!

Note: try several varieties of kale like red russian!