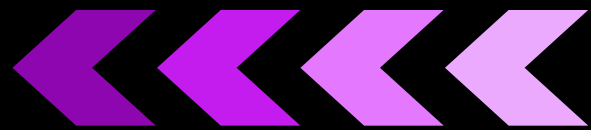




**COFFEE TABLE EXPERIMENTS**



**FLOWER  
POUNDING**

**COFFEE TABLE  
SCIENCE**

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Delaware

# FLOWER POUNDING



## OBJECTIVE:

*To observe the science of flower pounding & to create prints using plants and flowers as dye.*

## MATERIALS NEEDED:

1. A pair of scissors
2. Plant materials (flowers and leaves or other plants)
3. A hammer to pound the plant materials
4. A workspace such as a picnic table, tree stumps, or even a concrete floor
5. Some pieces of fabric/cloth or heavy paper
6. **Optional:** Rolling pin
7. **Optional:** Flat plate

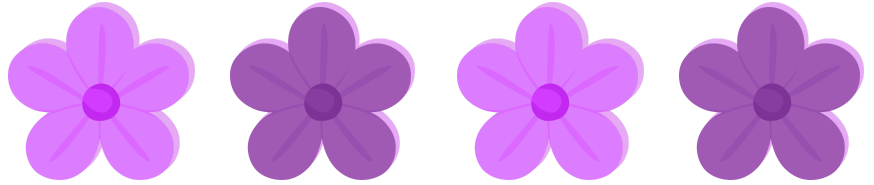
## BACKGROUND:

All plants contain cells with structures inside that have specific jobs such as holding pigment. Plant pigment, or color, helps plants grow, absorb light and participate in photosynthesis. Chlorophyll (green color) plays a major part of photosynthesis which uses sunlight to turn carbon dioxide and water into carbohydrates and oxygen. This is what feeds plants, allowing them to grow and flourish. Other colors such as yellows and orange (carotenoids) and reds and blues (flavonoids) can also be found within plant cells.



## SAFETY NOTES

- **Adult supervision required**
- **Hot iron (optional)**



## PROCEDURE

1. **Place** your **fabric** or **paper** on a **hard, flat surface**.
2. **Layout** your **flowers** and **leaves** into a design.
3. **Cover** the design with another piece of **fabric** or **paper**.
4. **Carefully tap** the fabric or paper with a **hammer** or **rock** until all of the plant material has been tapped and the color is transferred.
5. **Gently remove** the top piece to reveal your beautiful design!
6. *Optional (adults):* If you used fabric, allow it to air dry, then use a hot (dry) iron to "fix" the colors permanently. Use a barrier between the iron and fabric, like parchment paper or another cloth.

## OPTIONAL EXPERIMENT EXTENSIONS

1. Use a **rolling pin** to **roll** flowers on paper or fabric— did it work better? Was there a difference in the images created?
2. What happens if you use a **plate** to **push down** on the flowers instead of a rolling pin or hammer?
3. Try using a different plant like **grass**— did this work better or worse than a flower?

## OBSERVATIONS

 **TO MAKE:**

DID COLORS  
CHANGE OR  
STAY THE SAME?



WHAT PLANTS  
WORKED THE  
BEST?



WHAT COLORS  
TRANSFER THE  
BEST?



## WHAT'S HAPPENING?

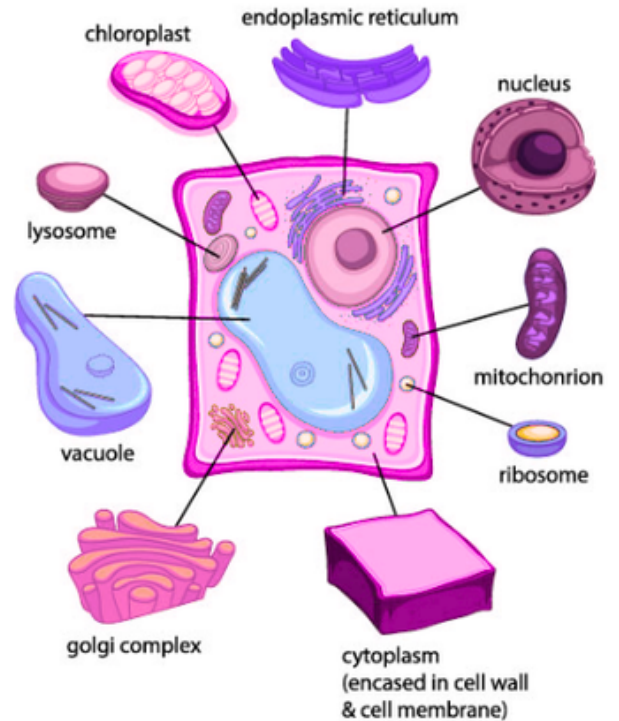
To access the pigments in plants, the **cells must be broken** apart to release them. This can be done using a rock or rolling pin, which breaks open the cells and cell components.



The components like the **chloroplasts** contain the green pigments. Other components like **vacuoles** contain purple, blue and red pigments. When performing the art of flower pounding, you are breaking open plant cells, releasing the pigment.



## Plant Cell Components



## WHAT'S PIGMENT?

Plant pigment, or color, helps plants grow, absorb light, and participate in photosynthesis. It's a need for every plant to grow and flourish.

**RECORD YOUR  
OBSERVATIONS  
IN YOUR  
RESEARCH  
NOTEBOOK!**



## EXTENSION EXPERIMENT QUESTIONS

1. What happens if a **rolling pin** is used instead of a rock? What about a **plate** to push down on flowers instead of a rolling pin? **Which one worked better? Why do you think one may work better than the others?**
2. Did other **plants** work better than a **flower**? Is more **pigment** better? **What do you think?**

## WANT TO BE FEATURED ON OUR WEBSITE & SOCIALS

Send us an email with a picture of your flower pounding design & let us know what you thought of this experiment!

**Contact us:**  
admin@nerveco.org



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