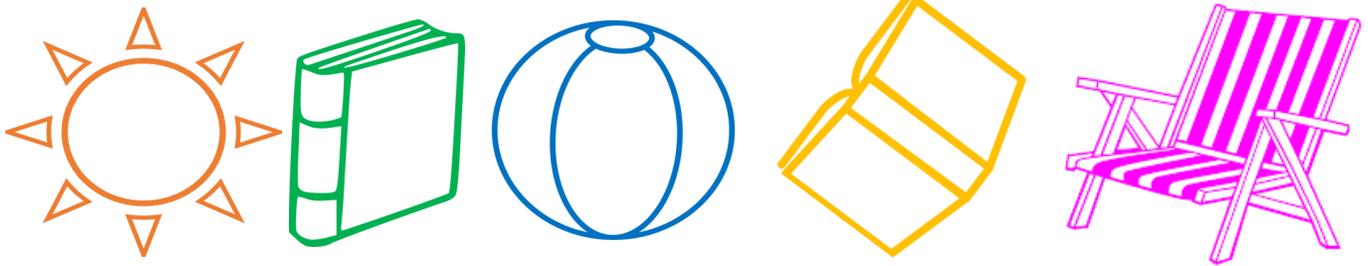


Princeton Public Library

“Staycation” Summer Reading Program



Live Video Chat Craft Instructions: Tattoo A Banana

This is a fun project, because it combines art, science, and a snack!

Here's the Science:

Everyone has seen bananas turn brown. But why does that happen?

It all has to do with a series of chemical reactions that take place as the banana ripens.

This process is called “enzymatic browning.” As the banana ripens, the membranes in the cell start to weaken.

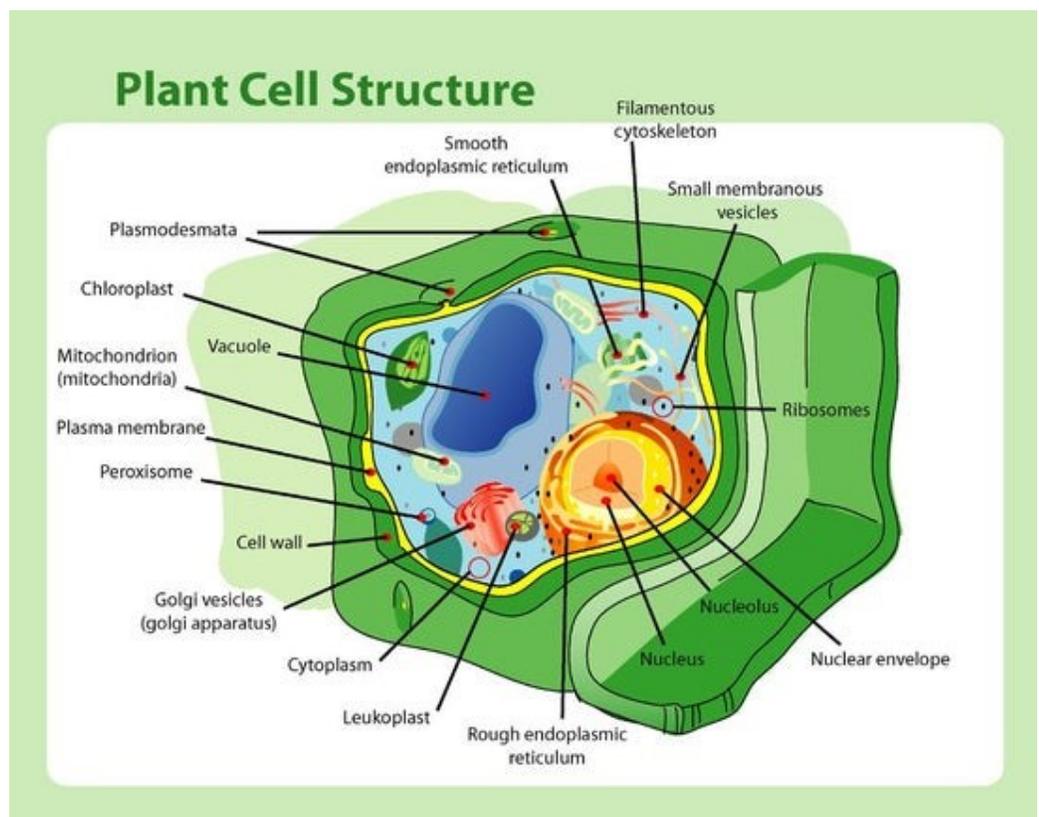
This lets the phenolic compounds in the cell's vacuole come in contact with enzymes like polyphenol oxidase.

The enzymes cause the phenolic compounds to quickly oxidize.

This reaction produces melanin which gives the ripening banana its brown spots.

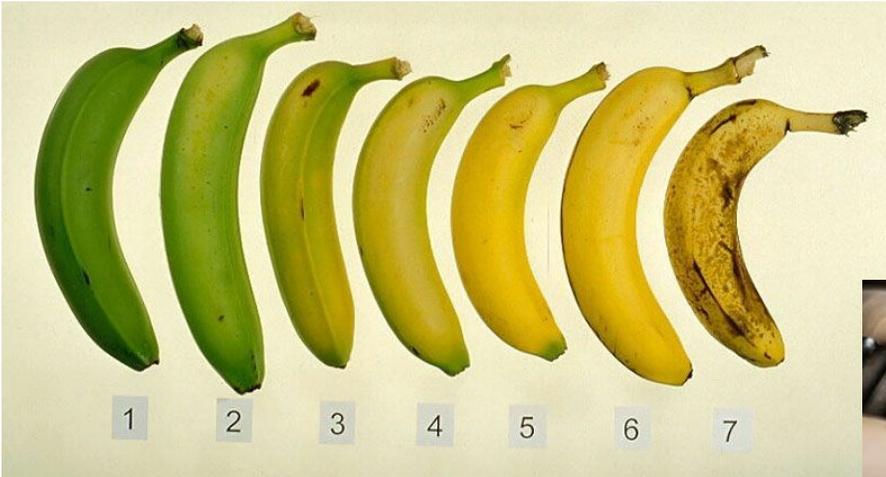
(Melanin is the same thing that give our skin color. The more melanin we have in our cells, the darker our skin.)

The more ripe the banana is, the more oxidation takes place, and the more melanin there is.



Here's the Art:

You can control how the melanin looks on a banana, to create cool tattoo art. First, you need a banana. You'll want one that's about a 5 on the ripeness scale:



Now you'll need a toothpick or a sewing needle. This will be your "tattoo gun!" Real tattoo guns have a motor that makes the needle go up and down very quickly. We don't have motors, so you have to do the poking by hand!



You can make big dots or little dots, and dots that are closer together or further apart.

Big dots are harder to make, but they will turn darker faster. If you put a lot of dots close together, the area will look darker. You want dots that are close together to make lines (or you can try dragging or needle in lines).

If you aren't good at drawing, don't worry! You can tape a picture over your banana and use it as a stencil. Use your needle, toothpick, or other tool to punch through the paper along the outline. Later you can take off the paper and add dots to fill in the lines. You can also add dots wherever there is shading (darker areas).

Let it Ripen

After you're done tattooing your banana, let it sit for a day or two. The longer you leave it alone, the darker your design will get. Don't let it get too ripe if you still want to eat it though!

