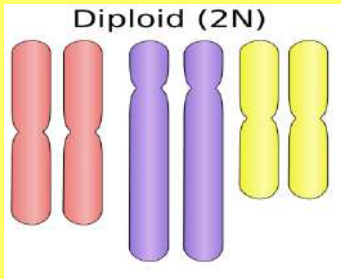
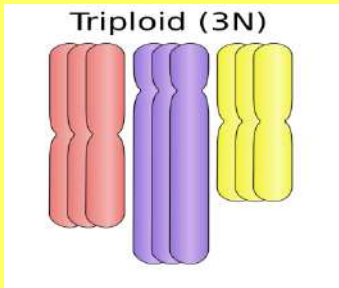


# BANANA DNA EXTRACTION

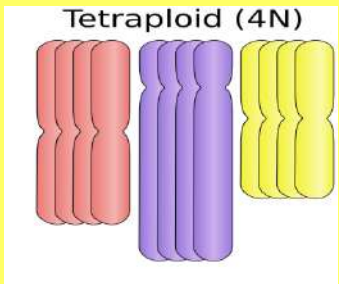
# Many plants are polyploids



- Triploid (3n) crops:  
apple, banana, watermelon



- Tetraploid crops (4n)  
apple, cotton, potato, peanut



- Hexaploid (6n) crops:  
kiwi
- Octaploid crops:  
strawberry, sugar cane, pansies

Mix bananas with  $\frac{1}{2}$  C distilled water in a food processor .



Crushing the bananas separates cells and exposes them to the soap and salt

[http://herbadmother.com/wp-content/uploads/2011/09/kitchen\\_aid\\_blender.jpg](http://herbadmother.com/wp-content/uploads/2011/09/kitchen_aid_blender.jpg)

<http://teachers.egfi-k12.org/wp-content/uploads/2011/01/Bananas.jpg>

Use a plastic cup:

Add 1 teaspoon of shampoo

Add  $\frac{1}{4}$  teaspoon of salt

Stir to mix



Add 2 Tablespoons distilled water.

Stir **GENTLY** until soap and salt are dissolved. ***Avoid creating foam***

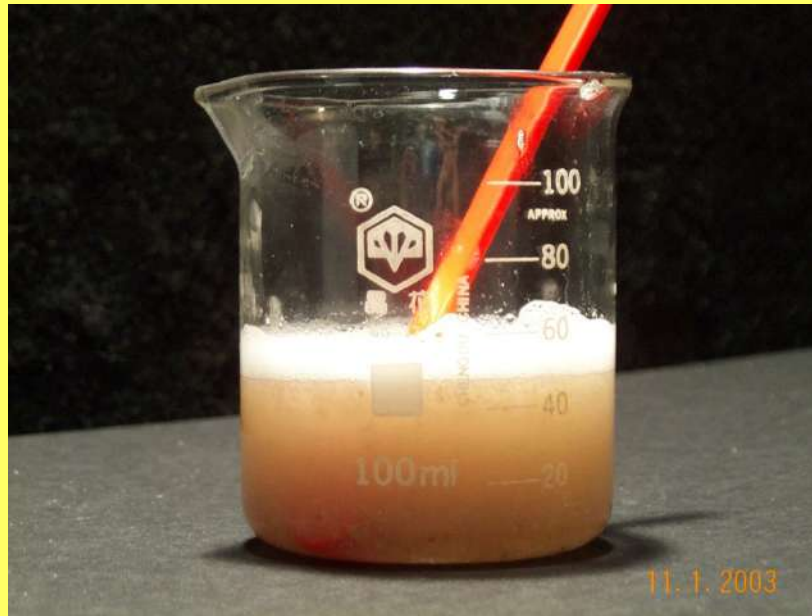
Soap -helps break down cell membranes and release DNA

Salt helps bring DNA together



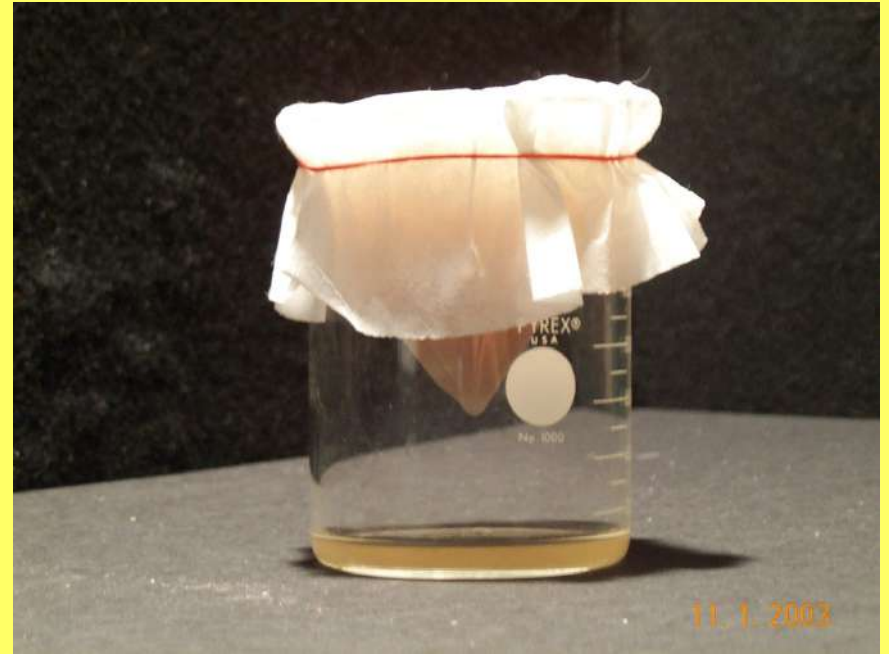
Add 2 Tablespoons of the banana mixture.

Use spoon to stir **GENTLY** for *at least 10 minutes*.



Place coffee filter into a clean plastic cup so it does not touch the bottom of the cup.

Pour the banana mixture into the filter.



The liquid (called filtrate) will collect in the bottom of the cup.

Gently stir the mixture in the filter being careful not to poke a hole in the filter paper.

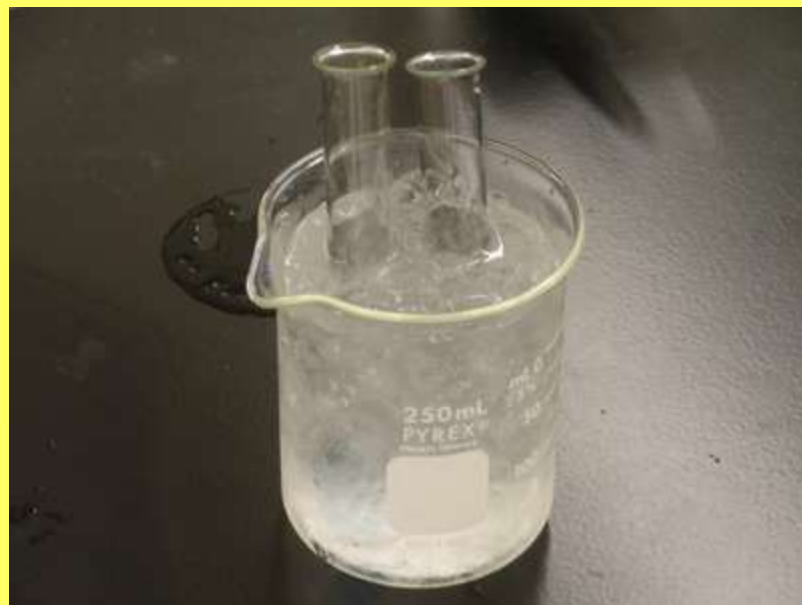
Let sit for a few more minutes.



Remove filter and set aside.

Obtain a tube containing  
91% isopropyl alcohol.

Keep the alcohol as cold as possible  
by placing it in the cup of ice.





Use a pipette (eyedropper) to collect your filtrate and **SLOWLY** drop it down the inside of the tube containing cold alcohol

**DON'T MIX  
THE LAYERS !**



*Place tube on ice*

*Let sit UNDISTURBED  
for 4 minutes*



Cold alcohol helps the DNA precipitate and come out of solution so it can be collected.

Dip the loop into the tube, slowly rotating  
it to spool out the banana's DNA

Place in microtube containing alcohol

Seal top with Superglue

