

# Extracting DNA from a in 10 Easy Steps

Before you begin - Make sure the alcohol (isopropyl alcohol) is in the freezer getting cold and check each box after you complete each step.



Remove the banana peel and mash half of the banana in the zip bag for 1 minute.



Fill a cup with the hot water (1/2 cup) and salt (1 teaspoon). Stir until the salt is dissolved.



Add the saltwater to the bag and close it. **Gently** mash the water and banana for 45 seconds. *The salt will help the DNA stick together once it is out of the cells.*



Add the dishwashing soap into the bag and **gently** mix, trying not to make it foam up. *The soap breaks apart the cell membrane and the cell parts that hold the DNA.*



Place the coffee filter in a clear glass cup, securing the top of the filter around the lip of the cup.



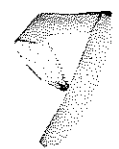
Pour the mix into the filter a little bit at a time to avoid breaking the filter. Let it sit until all of the liquid drips down into the cup. This can take a while.



Remove and throw away the used coffee filter.



Tilt the glass and **slowly** add cold alcohol down the side of the cup. You want the alcohol to all stay on top of the banana mix in a layer that is 2.5 to 5 cm (1 to 2 inches) thick.



Wait for 8 minutes. You may see some bubbles and cloudy material moving around in the alcohol. *DNA doesn't dissolve in alcohol, so this step helps DNA clump to form.*



Using the wooden stirrer, poke the cloudy stuff in the alcohol layer and then spin the stirrer in place to start gathering the cloudy stuff. The stuff on the stirrer is DNA!

## Questions to think about after extracting banana DNA (write you answers below).

What did the DNA look like?

Do you think you used one ingredient that was more important than the others? Why?

Name five things that would not have DNA.

If you could take all the DNA out of your body, would it fit on a plate? If not a plate, what would it fit in?

