

I am sure there will be many families celebrating Thanksgiving this weekend. It is always so hard to please everyone when it comes to planning the meal; making sure there is something for everyone. One thing that I am sure many of you out there do not want to eat is your green leafy vegetables – who wants that for Thanksgiving?? Well, I thought of another way we can make it disappear before the cook puts it on the table on Monday! This week we are going to extract DNA from spinach. Let's get started!

**\*Remember to always ask an adult before doing any science experiment.\***

### **Materials**

fresh spinach  
salt  
meat tenderizer  
dish soap  
rubbing alcohol  
ice cold water  
clear glass measuring cups  
measuring spoons  
strainer  
blender  
fresh spinach (more if you are trying to get rid of it!)  
ice cold water  
salt  
stirring spoon  
goggles

### **Procedure**

1. Put your goggles on.
2. Measure out 125mL of fresh spinach and place in the blender (if you REALLY do not want it for Thanksgiving, you could add a bit more to make it disappear entirely!!).
3. Measure 250 mL of ice cold water and add to the blender.
4. Add 1 mL of salt.
5. Blend very well – it should look like green slime.
6. Carefully pour the mixture through a strainer and into the clear glass measuring cup.
7. Add 30 mL of dish soap.
8. Stir gently until well mixed and set aside for about 10 minutes.
9. Add 1mL of meat tenderizer and carefully mix in.
10. Slowly pour the mixture into another clear glass cup so you can get an exact measurement.
11. Observe how much of the green liquid you have.
12. Measure exactly the same amount of rubbing alcohol as you have of the spinach mixture.
13. Wait for about 5 minutes.
14. You will see a cob web like substance forming.

### **Explanation**

What you are observing is DNA! DNA stands for Deoxyribonucleic acid and it contains genetic instructions that play an important part in the development and functioning of every living organism. By blending up the spinach so finely you broke it down to its simplest cellular structure. The soap helped the process along and the alcohol made the strands adhere to one another so you could see them very clearly.

If you had fun with this experiment, be sure to join us at the Family Science Olympics on Saturday, October 26 in the Richard E. Taylor Science Wing at Medicine Hat High School for more hands on science experiments!

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