SEE YOUR DNA LAB

Purpose – To extract DNA from your Buccal (cheek) cells

Materials – You list them

Procedure -

1. Use a triple beam balance, filter paper, and a spatula to mass out 1g of salt. Make sure you include the mass of the filter paper in your total mass!
2. Use a beaker or a graduated cylinder to measure out 100mls of water
3. Pour this water into a plastic cup
4. Add the gram of salt to your cup to create a 1% salt solution
5. Swirl some salt water around in your mouth for at least 30 seconds. Throw any extra salt solution down the sink
6. After 30 seconds, spit the salt water from your mouth back into your empty cup. Remember, the more Buccal cells you get in your spit, the more DNA you will get.
7. Use a graduated cylinder to measure 1.5mls of liquid detergent (Do NOT use hand soap)
8. Create a 25% soap solution by adding 4.5mls of water to the cylinder with detergent (You should have total of 6mls in the cylinder now)
9. Put 5ml of your spit water into your test tube
10. Add 5ml of your soap solution to your spit in the test tube
11. Put a cap on the tube
12. Turn the tube on its side and hold the left side of the tube with your left hand and the right side of the tube in your right hand.
13. Slowly rock the tube on its side for 2-3 minutes. Do not be too vigorous or you will break your DNA into tiny pieces!
14. Add 5mls cold Ethanol to the top of your tube. Do not mix, stir, or turn your tube. Keep the Ethanol at the top of the tube.
15. If you are successful, you should see DNA show up!

Calculations and data -

1. Describe your DNA sample/what you see in your test tube
2. Make a sketch of your test tube or include a picture - label the DNA, the ethanol, and the soap.

Lab Question- Answer in complete sentences

1. Describe the molecular structure of DNA. What is it made up of and how is it arranged?
2. What is the role of SDS or the liquid detergent in this experiment?
3. What is the role of 95% ethanol in this experiment?

4. Most cells your body have DNA in the nucleus. Which cells in your body do NOT have DNA or a nucleus? Why not?
5. What is the purpose of using this technique in a laboratory? Why is it so important for forensic serologists?

Don't forget your Final Summary/Conclusions – Do NOT just repeat the procedure here. Give some specific scientific conclusions, relate to the real world, discuss the concepts etc. Prove to me what you know!