

DNA Extraction

All living things have DNA. Does our specimen have DNA? Find out by trying to extract DNA. Do you remember what DNA looks like when you extract it? If not, take a minute to re-read “Michelle’s Investigation” on your science skills activity page.

Materials

• Rubbing alcohol	• Specimen
• 10 mL graduated cylinder	• 250 mL Beaker
• 50 mL graduated cylinder	• Stir stick
• Water	• Detergent
• Plastic cup for specimen	• Test tube and holder
• Meat tenderizer solution	

Procedure

1. Use the graduated cylinder to measure 50 ml of water; then pour it into your beaker.
2. Place 10g of specimen mixture into your beaker and swirl gently to stir.
3. Add approximately .5 ml of detergent, and stir gently with your stir stick for 1 minute. If there are cells, this will break apart the cell membrane and allow the DNA to be released. (Some measurements really need to be precise. This one does not. Just use the very end of your stir stick as if it were a tiny spoon. Take a small “spoon” of the detergent, and stir it into your specimen mixture.)
4. Add 10 drops of meat tenderizer solution and stir gently 3 times around.
5. Let solution rest for 2 minutes.
6. Pour a small amount of the specimen solution into a test tube. (Only fill the test tube about 1/3 of the way.)
7. Use your graduated cylinder to **slowly and gently** pour 5 ml of rubbing alcohol down the side of the test tube forming a layer on top of the specimen solution.
8. Examine closely. What do you see? Record your data.

Data

Describe what you see in the test tube. (Don’t say what you think it is yet; that goes in the conclusion. Here, just describe the characteristics and location of what you see.) A labeled drawing or photo would also be helpful.