

Classroom Activities

10 Big Questions - How did life evolve on Earth?*

Banana DNA Extraction

Measure 100ml of warm water (50-60 degrees Celsius) into a cup or small heat-proof jug. Add 1/2 tablespoon of mashed banana to the cup and stir well. Add 1/2 teaspoon of regular dishwashing detergent and stir for one minute. The solution will become thick as the detergent separates the DNA from the banana cells.

Add 1/4 teaspoon of meat tenderizer (available in most supermarkets) and 1/2 teaspoon of baking soda to the mix. The meat tenderizer keeps the DNA intact and the baking soda keeps the solution from being too acidic. Stir this slowly for 1 minute and then let the solution settle and cool for 4-5 minutes.

Pour the top half of the liquid through a strainer and funnel into a test tube. Add ice-cold alcohol (available from most pharmacies) to the tube by pouring gently and let it sit for 1 minute. The DNA separates from the alcohol and moves to the bottom half of the tube. You should slowly see small filaments of DNA appear. Use a bent paperclip to collect the DNA. You can store your DNA in alcohol in sealed containers or test tubes.

This classroom activity was suggested by Associate Professor Grant Booker, School of Molecular and Biomedical Science, University of Adelaide.

* To find out more about the 10 Big Questions, go to:
<http://www.sciences.adelaide.edu.au/learning-teaching/10bq/>

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