

DIYBio for the Bio Curious

Jo Leng at ASMbly

18th Sept 2013

DIYBio

- A club that helps people explore biology as a hobby.

"is an organization dedicated to making biology an accessible pursuit for citizen scientists, amateur biologists and biological engineers who value openness and safety".

- Often combines with the Maker community.
- Some people may work in biology but most do not.
- Part of Frugal Science and use Open Source Innovation

Words and Meanings

- DIYBio:

<http://en.wikipedia.org/wiki/DIYbio>

- Citizen Science

<http://www.scientificamerican.com/citizen-science/>

- Open Source Innovation

<http://openpcr.org/>

- Frugal Science

<http://www.newscientist.com/article/mg21929334.400-frugal-science-gets-diy-diagnostics-to-worlds-poorest.html>

Manchester DIYBio

- <http://www.flickr.com/photos/madlabuk/sets/>
- And London
- <http://www.artscatalyst.org/experiencelearning/detail/labeasy/>

DNA Extraction

1. Chop your kiwi fruit into tiny pieces to expose more of the cells.
2. Add a pinch of salt and slightly cover the mixture with warm water – salty as a sports drink. The salt will help the DNA stay together during the mashing process.
3. Mash the mixture with a fork making sure the mixture is not too runny.
4. Pour the mixture into a shot glass through the strainer (if you have one). You want the glass to be about half full.
5. Add a some drops of pineapple juice or meat tenderiser.
6. Add washing up liquid and gently stir the mixture. You should try not to create bubbles when stirring. The soap helps to break-down cell membranes to release the DNA.
7. Carefully pour very cold rubbing alcohol down the side of the glass stopping near the top.
8. Wait for 5 minutes to allow the DNA to separate from the solution.
9. Use the toothpicks to extract the DNA that floats to the surface. It will be long and stringy.