Strawberry DNA

Activity

We have talked a lot about DNA and how it is fundamental to our biological processes. DNA in your cells carries all the instructions for how your body should work, and it is contained in all cells. But did you know that you can see DNA without a microscope? With a few simple household things, you can extract DNA from a strawberry.

Materials

- 1 Strawberry
- Sealable sandwich bag
- 5 teaspoons of water
- 2 teaspoons of washing up liquid
- 1 teaspoon of salt
- 10 ml Surgical spirit or Rubbing alcohol
- Sieve
- Beaker
- Wooden stirrer

Method

1. Remove the leaves from the strawberries and put one into a food bag. Remember to seal the bag.
2. Gently squash them for about two minutes until there no large pieces and only pulp left.
3. Carefully open the bag and add in 5 teaspoons of water, 2 teaspoons of washing up liquid and 1 teaspoon of salt. Remove as much air as possible and seal it.
4. Gently squeeze the mixture together for 2 minutes. Try to minimise the amount of bubbles you make.
5. Pour the contents of the bag through the sieve into the beaker – use a spoon to press the strained bits of strawberry against the sieve, forcing even more of the solution into the beaker.
6. Very carefully pour 10ml of surgical spirit down the side of your beaker – this will form two different layers.
7. Do not touch your beaker – THESE TWO LAYERS MUST NOT MIX. Leave the beaker to stand for up to 10 mins.

Can you see a white stringy material floating between the two layers? Try to lift it out with your wooden stirrer…

This is the strawberry DNA!

Things to think about

1. Each step of the experiment is important. What is the purpose of adding surgical spirit and washing up liquid in this experiment? What do they do?
2. Why do you think we used strawberries for this experiment? (Hint: you may want to look up what diploid and octoploid mean.)
3. Do you think you could do this with other fruit? What fruit do you think would work well?

If you don't know the answers to these questions, do some research!