

Information for teachers / parents

Extracting DNA from fruit



Why do this version rather than others available online?

There are plenty of other online versions of this one. They're all pretty similar TBH! Mine comes from years of doing this in schools with classes of 30 at a time, so I like to think that I've got the instructions clear & best sorted for children with the least mess.

You will need:

Tablecloth or towel to cover the work area

Fruit – 2-3 strawberries, or ½ a ripe kiwi fruit, or ½ a ripe banana per pupil

Small 'sandwich' bag – ideally transparent, ideally grip seal top

Water – approx 90ml if measuring, ~4 tablespoons if not

Table **salt** – 1 teaspoon

Washing up liquid – 10ml if measuring, 2 teaspoons if not

Filter – scrap of **muslin** is ideal or old tea towel. Folded kitchen roll works with care. Fold over and pop inside a **funnel** ideally. Small fine sieve (the sort you use for dusting icing sugar) Coffee filter is a bit too fine & runs v slow. 3 small **transparent beakers or cups**.

Wooden stick – cocktail stick, skewer or coffee stirrer. It's the slightly rough texture that's needed.

Alcohol – **At least 70%** (vodka won't work!). Meths works but stinks: use outside and under STRICT supervision. Surgical Spirit (isopropyl / rubbing alcohol) works if concentrated enough: ask for it at pharmacy counter as it's not on open display. Some hand sanitisers work too if they're runny enough not a gel. **Keep it in the freezer** until you need it.

Step-by-step points

General point – Work neatly & tidily to minimise the risk of anything being knocked. If working as a class, do it step-by-step, all at the same time. Nothing to be eaten or drunk in this session.

Allergies – In a classroom group, check for any pupils with allergies. Strawberry & kiwi allergies are pretty common, so change the practical to suit. If you have complete freedom, strawberries do give a more reliable result.

Squashing the fruit – Get excess air out of the bag so that it doesn't pop open. Squeeze & crush, rather than bash & bang. Get it as smooth as possible.

Mixing in the water – rub it to blend it together, but try to keep bubbles to a minimum.

Filtering – The mix will run through some filters faster than others. Banana tends to be v slow. It takes as long as it takes!

Alcohol pouring – ideally an adult does this. **KEEP AWAY FROM EYES**. Pour **SLOWLY** so that it **floats on top** of the mix. Get the child(ren) to observe carefully. You're pouring in a transparent & colourless liquid. They should see cloudy strands / streaks / jelly appear.