

July 30 – Fruit Flies

I am going to warn you now, this experiment is not for the faint of heart. Nor is it for the squeamish, or those that do not like bugs. So if you like rotten stuff, read on. My roommate in university did this experiment by accident. It took us almost a month to find out where the bugs were coming from.

****Always ask an adult before performing any science experiment****

Materials:

- large clean jar (like a pickle jar)
- banana
- open area
- a pair of old tights or pantyhose
- elastics or string

Procedure:

1. Peel the banana and put the peel in the compost.
2. Place the unpeeled banana in the pickle jar. Leave the jar in an open space for a couple of days.
3. Continue observing your jar. When you notice some fruit flies hanging around the banana and trap them in the jar by stretching the tights over the top of the jar and securing with elastics or the string. Make sure you are using a part of the tights that do not have holes!
4. After the fruit flies have been hanging around your banana for a couple of days, take the jar outside and release the fruit flies. Do this outside, or you mom will get really upset.
5. After releasing the adult fruit flies, replace the tights on the top of the jar. Keep the banana in the jar.
6. Observe your jar for 8-10 days.

Explanation:

Congratulations, you have just grown some fruit flies! If you were a keen observer of your jar, you should have noticed the flies went through a number of life cycle stages. The banana you left in the jar attracted the parent fruit flies. This is because they like to eat fruit as it is ripening.

Once you caught the fruit flies, they mated and laid eggs. It was at this stage that you would have let the adults go outside. Thankfully, baby fruit flies don't need their parents to survive. The adults like to lay their eggs in fruit that is rotting. This ensures that the young fruit flies have food to grow.

One full day after the eggs are hatched, the fly larva will emerge from the egg. This stage of a fly is also called a maggot. This is when they look like little worms. They will spend a lot of this time eating, so they can grow into adults.

The next stage of the fly life cycle you should have seen is the pupa stage. Your fruit fly larva should have encapsulated itself into a pupa. It is similar to what caterpillars do to turn into butterflies. If the larvae didn't have enough food, they won't be able to

encapsulate themselves. After a couple of days as larvae, the adult fruit flies will emerge and the lifecycle will start all over again.

The fruit fly might seem like a really simple and annoying organism, but it is very important in science. A lot of what researchers (and the general public) know about genetics and mutation are from fruit flies. Because their lifecycle happens so fast, it is easy to do experiments on them and get results quickly. In a two month period, you can look at the effects of a mutation on the fourth generation. In people, you would have to wait almost 100 years to see that. So while fruit flies are really annoying to have at your house, they are really quite fantastic in the lab.

After you have finished your experiment, release your fruit flies outside. Please do not leave them in your house, as they can be really difficult to get rid of, as my roommates and I found out.

Happy Experimenting!

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