

Introduction

Flesh Eaters is a new piece of science software, developed specially for Science Year. Its aim is to make learning about enzymes more exciting, by harnessing pupils' enthusiasm for TV series like the X-Files. There, the investigators use the same process to unravel their case as pupils do in a school science investigation e.g. they think up hypotheses, test them, and analyse results. We hope Flesh Eaters will show pupils that science is also about solving fascinating mysteries.

Pupils take the role of MI5 Special Projects agents. They will:

- Watch video sequences to set the plot, and develop it later, in dramatic ways
- Do multimedia activities: collect/analyse clues, and solve puzzles (built in assessment)

Do a hands-on experiment in the laboratory to test for 'flesh eating properties'

Requirements (for each group)

2 petri dishes, filled with 'flesh' (see below) , with lids
2 small beakers
2 dropping pipettes
1 marking pen
1/2 a plastic straw
1 ruler
1 toothpick
2 test tubes, holder and rack
Bunsen burner, and ceramic mat
Access to 'tunnel water' and 'slime solution' (see below)

Requirements (for the class as a whole)

'flesh' (this will make 30 petri dishes worth – 2 each for 15 pairs)

- The flesh is basically raspberry jelly, or gelatin with red food colouring added. Buy enough to produce 1.5 litres when made up with water (approx 3 supermarket packets of jelly)
- You can add a few drops of milk to make the flesh more realistically opaque.
- Leave the 'flesh' to set for 3-4 hours to set in a fridge

'cave water' (in a large conical flask)

- This is simply a solution of a protease enzyme. Make up 1% protease solution, with tap water. You can purchase it cheaply from chemical suppliers e.g. Philip Harris sells 100g for £8.35. The colour of the solution will be appropriately cave-water brown.
- If you are using 'old' solution, it is a good idea to test that it still works well.
- Alternatives to protease are: pineapple juice from fresh pineapple, 'Bold Aqua Biological' tablets (or other enzyme-based detergents). You could add tea/coffee solution to give these a more authentic colour. Their effects may be less dramatic than protease.

'slime solution' (in a large conical flask)

- This is basically just ordinary tap water, but make it look more authentic.
- You could add green food colour and flour to give it the appearance of slime.

Safety

- Pupils should wear eye protection for the flesh eating experiments, particularly when heating.
- They should be told not to eat any of the flesh (jelly)
- They should ensure that hands are washed after the experiment