

Analysing pesticides in the environment using GC-MS (gas chromatography with mass spectroscopy)

Teacher notes

The experiment can be run over a number of lessons – about 3-4 hours in total - but can be condensed by just doing key activities. Some of the preparatory work could be done at home.

The preparatory work pages cover the necessary background material, and are designed for self-study. Alternatively, the content can be presented by the teacher in the classroom.

Preparatory pages:

- Analysing pesticides in the environment using GC-MS (gas chromatography with mass spectroscopy)
- Water is precious
- The problem of pesticides
- What you'll be doing in this investigation
- The chemical structure of pesticides
- Getting into the laboratory – Gas chromatography
- Differences between compounds – size of molecules and polarity
- Gas chromatography in practice continue
- Mass spectroscopy

[Teacher notes for 'Your task' page](#)

The sampling plan could either be without restriction, leaving to pupils to decide what is sensible, or ask them to select three sampling sites (due to budget constraints!).

[Teacher notes for 'Analysing samples from the bay' page](#)

Each sample should be taken at least twice, and the average of peak areas used.