

## Ants fight back

### Education in Chemistry

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**Chemists and biologists are using ants from around the world to try and fight disease. Read the article on how they are doing this and the fascinating chemistry which ants are capable of, then answer the questions below.**

### Worksheet

- The questions below are about how ants use chemicals. Look back at the article when answering the questions.
  - What is a CHC?
  - How do ants use CHCs?
  - Where do ants produce their chemical pheromones?
  - What do leafcutter ants do to protect their fungus gardens?
  - The formula for pyrazine is  $C_4H_4N_2$ . Is it an element or a compound?
  - Which atoms are present in a molecule of pyrazine and how many of them are there?
- The questions below show the connection between biology and chemistry. It will help if you have studied food chains and webs, but it is not necessary to have done so.
  - How do *Large blue* caterpillars 'sneak' into ant nests?
  - Why would it be bad for ants to have *Large blue* caterpillars in their nests?
  - Why is it beneficial for ants to have adapted to release certain chemicals when they are killed?
- Finish the sentences below. The first question has been done for you.
  - Scientists want to study ants because *they hope that by understanding them they can make medical advances.*  
Scientists want to study ants but *there is much they still don't understand.*  
Scientists want to study ants so *they have to transport them very carefully.*
  - Leafcutter ants take leaves back to the nest because...  
Leafcutter ants take leaves back to the nest but...  
Leafcutter ants take leaves back to the nest so...
  - Some animals take advantage of the ants because...  
Some animals take advantage of the ants but...  
Some animals take advantage of the ants so...
- A scientist claims that ants are not scientifically important, and researchers should not spend their time looking at them. Write a speech to be delivered at a conference explaining the different ways in which humans can use their knowledge of ants to make important medical advances.