

Land, water and bees – don't take us for granted: Bees and their pollinating partners

Technician notes

The issue

The Earth's resources are limited, but the human population is growing fast. How can we ensure food security – adequate safe, healthy food – for everyone?

Bees are vital in many ecosystems, including those on which humans rely. In recent years bee populations in this country and around the world have declined. Data is vital if we are to preserve them. This practical investigation involves collecting data on bees locally, with the opportunity to compare results from schools in other areas or in other seasons.

Investigation: surveying local bee numbers



Planning

Teacher: Check whether any students have allergies to bee or wasp stings. Check school policy on administering medicine to students, whether this is a student's own adrenalin injector for life-threatening allergy, or antihistamine cream for trivial stings.

Make sure that students are reminded a day in advance to bring sunscreen and/or a peaked cap.

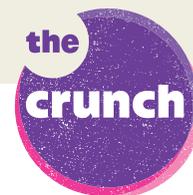


Safety

Teacher: As above, check whether any students have allergies to bee or wasp stings. Check school policy on administering medicine to students, whether this is a student's own adrenalin injector for life-threatening allergy, or antihistamine cream for trivial stings. (CLEAPSS guidance leaflet PS 87 *Bees and beekeeping* may be helpful. In Scotland, consult the Biology Health & Safety section of the SSERC website.)

Visit the site in advance to assess hazards (terrain, water, toxic plants, litter, etc.) and plan accordingly. Check school policy on excursions if you plan to leave the school grounds.

Make sure that students are reminded a day in advance to bring sunscreen and/or a peaked cap.



Equipment

(per pair of students)



- ID/tally sheet for bee identification and counting (in student activity sheet, page 30, or download from The Crunch website, thecrunch.wellcome.ac.uk/schools)
- tape measure (at least 1 m) and four markers (e.g. pebbles, wooden blocks)
OR quadrat (0.5 × 0.5 m)
- stopwatch (optional – students may use a watch)
- pen

Preparation

This survey requires a dry day and will yield highest bee numbers if carried out on a sunny day in spring or summer.

The teacher will pick an area in advance that has plenty of flowering species – depending on the season and the area, the flowers of flowering currant, lavender, cotoneaster, clovers, buddleia, common knapweed or ivy are all popular with bees. Ideally two different areas will be surveyed, one sunny, one shady, or with different types of vegetation. The teacher will assign a separate area of 0.5 × 0.5 m to each student or pair of students; the areas may be chosen by a randomising method.



Method

See the student activity sheet for a description.