Create a buzz around bees!

Create a buzz in your setting by supporting native bees of all kinds. You can encourage learners to take an active part in improving local habitats and biodiversity with a range of easy-to-implement actions - all designed to make life a bit easier for these very important insects.

Bees are very popular invertebrates, and they can be easy to spot with their distinctive markings. Learners are often aware of their importance, but many species of bee are in serious decline and need our help.

How many kinds of bee are there?

While learners may be familiar with bumblebees and honeybees, they might not realize the staggering diversity of bees in the British Isles. There are over 250 distinct species, with only the native honeybee (Apis melifera) and the 24 species of UK bumblebees forming colonies. This rich variety underscores the importance of our efforts to protect and support these crucial pollinators.

Colonies of social bees have a single female queen (she lays all the eggs), many worker bees (all female but unable to reproduce), and male drones (only produced at certain times of the year to mate with queen bees). The worker bees have various roles within the colony, including caring for the queen and the larvae, guarding the colony, and foraging for nectar and pollen.

Why are bees so important?

The foraging behaviour of bees is the key to their importance as pollinators. When collecting nectar and pollen for food, bees often brush against the reproductive structures of flowers; as bees move between flowers, they transfer pollen from the anthers of one flower to the stigma of another (see photos below). If the pollen is transferred to a flower of the same species, pollination can occur – potentially leading to fertilisation and the formation of seeds, often within fruits. These seeds contain genetic information from both parent plants. Over time, fruits and seeds have become an important food source for humans and other animals.

Many plants rely upon bees for pollination; without bees, there would be fewer food crops available to us. Examples of economically important crops that rely on insect pollination include raspberries, apples, pears, beans, tomatoes and almonds.

What are the reasons for declining numbers of bees?

Possible reasons include:

- Loss of food sources - such as flower meadows – often due to changes in agriculture.
- Lack of suitable places to make a nest.
- A rise in parasites - including mites.
- Climate change – flowers may not be available when food is needed most.
- Use of pesticides.

What can we do to help?

Learners can get involved in practical activities to encourage pollinators of all kinds – including bees.

Grow plants for pollinators

Pollinating insects prefer simple, open flowers, allowing easy access to pollen and nectar. Aim to grow a variety of plants that will be in flower throughout the year - with various flower shapes, sizes and colours. >>

Ivy forms a valuable food source, as do dandelions and many other garden "weeds" – so try to resist cutting back plants until after they have flowered. "No Mow May" is a campaign to encourage lawn owners not to cut their grass during the month of May - to benefit wildlife. For a list of plants for pollinators, visit: Plants for Pollinators advice and downloadable lists/RHS Gardening Gardens and planted areas provide a vital habitat for pollinators: How gardeners can help our declining bees and other pollinators/RHS Gardening.

Try making seed balls

These are dried balls of soil or shredded paper containing wildflower seeds. When the ball of seeds reaches suitable growing conditions, the seeds will germinate, the plants will grow, and flowers should follow. You can watch a SSERC film showing you how to make simple seed balls here: Bee Bomb.mp4 (sharepoint.com)

Do not introduce the seed balls into wild places - keep them restricted to gardens and cultivated areas. Always wash your hands after handling soil and compost.

Provide places for bees to nest

Cavity-nesting bees like the Common Masked Bee and the Wool Carder Bee nest in holes in wood and hollow plant stems. You can increase the number of potential nest sites by bundling together hollow sticks and stems. Tuck the bundles into sheltered places around the outside areas in your setting. Learners can make elaborate "hotels" for solitary bees by placing hollow sticks and stems into containers such as paper cups or pots. Look out for evidence of these habitats being used. SSERC and the Young STEM Leaders from Linlithgow Primary School produced a "live lesson" about ways to make simple bug hotels part of the Great Science Share for Schools. Watch the film here.

Take a look at SSERC's Room for Wildlife guide here.

See one of SSERC's STEM by the Book resources here.

Bee spotting

Once learners have made the environment a better place for bees, they might like to go bee spotting to find out which bees have been attracted by the changes they have made. How many different kinds of bee visit your outdoor areas? A field guide is really useful when it comes to identifying bees - British Bees Identification Guide | FSC Bee Guide for Great Britain & N.I (field-studies-council.org).

Get involved in a citizen science project

You might like to participate in the UK Pollinator Monitoring Scheme (UKPoMS) – spending 15 minutes counting pollinators. The count runs from April – September each year and there is full guidance at FIT Counts: help us monitor pollinators | PoMS (ukpoms.org.uk). <<

Find out more...

Other on-line resources to support you with further ideas:

- How to help bees | Conservation | Scottish Wildlife Trust
- Curriculum resources for schools - Bumblebee Conservation Trust
- Plants for Primary Pupils Booklets - Overview - Science & Plants for Schools (saps.org.uk)
- Bee Friendly Schools | British Beekeepers Association (bbka.org.uk)
- Bees need food up to a month earlier than provided by recommended pollinator plants - Royal Entomological Society (royensoc.co.uk)