Bees For Educators: Things To Do With Insects On Flowers

This information sheet describes simple educational things to do with bees and flower-visiting insects. All you need is a sunny day and flowers, which could be in a park, garden, field, or waste land. Bees will be there—no hive required!

Biodiversity Observe flower-visiting insects on several plant varieties. How many insect types can you see? How numerous are the various types? Are bees the most common? You may see honey bees, bumble bees, other bees, wasps, hover flies, other flies, butterflies, beetles, and other insects. Bumble bees are generally easy to recognize by their stocky bodies and large size, with different species having different colours. Honey bees vary in colour from black to tan but are all the same size. There are many species of bees that are not honey bees or bumble bees, and they vary in size and colour. However, most are clearly bees.

Mimicry Many hover flies mimic bees and wasps, but generally have larger eyes, shorter antennae, and no waist. Some beetles and even moths also mimic wasps.

Ecology: Which Flowers Are Most Attractive? Count insects on different varieties. Are some types more abundant on particular varieties? Do some varieties have more insects? Measure patch sizes. How many insects are there in "snapshot" counts per square metre in full bloom per variety: 10 is very good.

Behaviour: Busy Bees & Flower Constancy Follow an individual insect. How many flowers does it visit in one minute? Do this for several types and several insects per type. Bees are usually "busier" than other insects, with bumble bees busier than honey bees. Busiest is the humming bird hawk moth, which can visit one flower per second. Does a foraging insect go from one variety to another or is it constant to one? Honey bees are very flower constant; butterflies and flies less.

Nectar & Nectar Guides, Pollen & Pollen Collection, Pollination Observe how insects insert their tongues into flower nectaries. Butterflies have very long tongues. Honey bees and bumble bees have moderately long tongues. Most flies have short tongues. Female bees take pollen to their nests to feed larvae. Honey bees and bumble bees carry pollen in pollen baskets on the hind legs. Other bees carry pollen in other places, including the base of the hind legs or the underside of the abdomen. Hairs help pollen collection. Many honey bees gather only nectar, but many gather both pollen and nectar at the same flowers. Many flowers have nectar guides. These markings help the insect position its body to access the nectar. The flower is generally arranged so that the foraging insect picks up and deposits pollen, transferring pollen from one flower to another.

Some LASI Research on Flower-Visiting Insects

* Diversity and Attractiveness doi.org/10.1111/1365-2435.12178
* Busy Bees doi.org/10.1155/2015/134630

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LASI does research and on honey bees & social insects, trains students, & provides outreach. This Information Sheet was written by Prof. Francis Ratnieks © 2018 & sponsored by the Eva Crane Trust.
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