



Brighton & Hove environmental education

## Teachers' notes

### Year 5 - Lifecycles

The new science curriculum requires teachers to:

- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- Describe the life process of reproduction in some plants and animals.

It emphasises the need to look to pupils' local environment to raise and answer questions about local species in the local environment.

This resource is not designed to teach the topic of lifecycles – there are plenty of resources already to do this. It aims to add a local dimension to your work, illustrating concepts using examples of species that are particularly important in Brighton & Hove, either because they are endangered or because we have a strong population which we are working hard to maintain and protect. These species are known as BAP (Biodiversity Action Plan) species. Notes are added emphasising why these species are under threat and what we can do to help their survival.

The three species are:

- The white letter hairstreak butterfly
- The hornet robberfly
- The short snouted and long snouted seahorse

This resource has been adapted from the BHee PowerPoints 'What's so special about the habitats of Brighton & Hove?' and 'What's so special about the species of Brighton & Hove?' These are also available to download from the BHee website ([www.bhee.co.uk](http://www.bhee.co.uk)) and contain more detailed information about the above. Further information on the BAP species can be found on [www.citywildlife.org](http://www.citywildlife.org)

### The lifecycle of the white-letter hairstreak butterfly

This is a rare small brown butterfly with a white 'W' letter on the underside of its wings. It is dependent on the elm tree for most phases of its lifecycle. Many of the country's elms have been victim to Dutch Elm Disease - for this reason the butterfly is rare in most parts of the country. However Brighton & Hove council monitors all the elm trees in the city very carefully and actively manages the disease to avoid it spreading through all the trees in the city. We hold the National Elm Collection - there are over 70,000 elm trees in the city. The white letter hairstreak butterfly can be seen in June and July throughout the city, near to elm trees.

The butterfly lays its eggs on the twigs of an elm.

The egg hatches into a green caterpillar which looks a little like a folded leaf. The caterpillar eats the blossom, flowers and young leaves of the elm.

It attaches itself on an elm leaf or twig to pupate.

The butterfly emerges a few weeks later and feeds at the top of an elm tree on the sticky honeydew produced by aphids or on flowering bushes close to the elm tree.

BHee offers a 1 hour pupil workshop on elms and the white-letter hairstreak. For details contact Katie Eberstein: [katieeberstein@sussexwt.org.uk](mailto:katieeberstein@sussexwt.org.uk)

## The lifecycle of the hornet robberfly

The hornet robberfly is the largest fly found in the UK. It is only found in Southern England and Wales and can be found in Brighton around the Racehill near Bevendean. It feeds on bees, wasps, grasshoppers and beetles, taking up to half an hour to suck the inside of its prey dry!

It needs to live near open pasture places; where horses graze is ideal as the adult fly lays its eggs in or beneath horse dung.

When the eggs hatch, the fly larva live in the soil around the dung, feeding off the invertebrates living on the dung. The larva then bury themselves into the ground where they will pupate into the adult hornet robberfly. The slide shows the skin case (exuvia) of a hornet robberfly larva which has transformed into a hornet robberfly.

The fly is endangered as both the larva and the adult fly feed off invertebrates found in and around horse dung. Most horses are routinely 'wormed'. Many of these wormers remain active in the dung, killing off both the larva and the food source of the adult fly. Conservationists are working carefully with farmers to look for alternative ways of worming horses without endangering the hornet robberfly.

## Reproduction in seahorses

Two species of seahorse can be found in the waters off Brighton & Hove: the long snouted seahorse and the short snouted seahorse. They can live in shallow water estuaries and in both rocky and weedy areas, such as eel grass beds. They wrap their tails around the eel grass to protect themselves from marine currents and rough weather (see slide 7). In winter they move to deeper waters to escape the rough weather.

There is a colony of long and short snouted seahorses at Brighton Marina – this is now a part of the new Marine Conservation Zone which runs from the marina to Beach Head. It is important to protect the seahorses' habitat from scallop trawling (fishing) - this can ruin the eel grass (see slide 8). Seahorses are also threatened by pollution, water-sports and fishing.

Seahorses are unusual as it is the male that 'gives birth'. The female releases her eggs into the sea where they are fertilised by the male's sperm. The male incubates the eggs in his sack-like pouch and gives 'birth' to live young.

